

**ADDENDUM NO. 1**

**TO THE BID DOCUMENTS**

**E. Bunnell Ave./Charles Way Water & Sewer Main Extension**

**CITY OF HOMER, ALASKA**

**Addendum Issue Date:** December 9, 2022

**Bid Submittal Date:** January 10, 2023

**Previous Addenda Issued:** None

**Issued By:** Janette Keiser, PE  
Public Works Director  
City of Homer

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**Notice to Bidders:**

Bidders must **acknowledge receipt of this addendum** by including the Addenda Acknowledgement Form with the bid.

Bidders are required to acknowledge each addenda separately on the Addenda Acknowledgement Form. Any bids received without acknowledgment of addenda may be rejected prior to evaluation.

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The Bid Documents for the above project are amended as follows (all other terms and conditions remain unchanged):

Much of the project schedule has been pushed back. Attached are revised versions of the portions of the bid package which show the new project schedule.

- 1. The attached SWPPP titled “Storm Water Pollution Prevention Plan For Old Town Homer Water & Sanitary Sewer System Exp. E. Bunnell Avenue, Allen Way & Charles Way Homer, Alaska 99603” is part of the Bid Documents.**

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# Storm Water Pollution Prevention Plan

## For

Old Town Homer Water Main & Sanitary Sewer System Exp.  
E. Bunnell Avenue, Allen Way, & Charles Way  
Homer, Alaska 99603

### Operator(s)

City of Homer  
Janette Keiser  
3575 HEATH St  
Homer, Alaska 99603  
(907) 235-3170  
jkeiser@ci.homer.ak.us

### SWPPP Contact(s)

Bishop Engineering LLC  
Shannon Cefalu  
PO Box 2501  
Homer, Alaska 99603  
360-317-3975  
scefalu@bishop-engineering.com

### SWPPP Preparation Date

11/18/2022

#### *Estimated Project Dates*

<b>Start of Construction</b>	<b>Completion of Construction</b>
5/1/2023	8/31/2023

**APDES Project or Permit Authorization Number:**

**Enter Permit Authorization Number**

## RECORD OF SWPPP AMENDMENTS

Date of Revision	Section	Description

# OPERATOR PLAN AUTHORIZATION/CERTIFICATION/DELEGATION

(To be signed by Responsible Corporate Officer)

I state that based on my review this SWPPP meets the minimum requirements of the Construction General Permit and that the **Janette Keiser** has day-to-day operational control of the project site. **Janette Keiser** is responsible for the maintenance and implementation of the SWPPP including inspections, documentation, and application of the Best Management Practices at the site.] **Janette Keiser** will notify all subcontractors of the requirement of this SWPPP. **Janette Keiser** has operational control over the project specifications, including the ability to make changes to the project specifications.

I hereby designate **[Insert Responsible Person(s) Name]**, SWPPP Administrator as my authorized representative. This designee is responsible for the overall operations of the site and will be responsible for the implementation of the Storm Water Pollution Prevention Plan, compliance with the Construction General Permit, selecting and implementing additional Best Management Practices as conditions warrant, and signing all inspection reports required.

I certify under penalty of law that this document and all attachments were prepared under direction of **Janette Keiser** in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Janette Keiser

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Title

**Storm Water Pollution Prevention Plan (SWPPP)**

Old town Homer Sanitary Sewer System Exp.

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- B. BMP Details
- C. Project Schedule
- D. Supporting Documentation:
  - TMDLs
  - Endangered Species
  - Other Permits or Requirements
- E. Delegation of Authority, Subcontractor Certifications
- F. Permit Conditions:
  - Copy of Signed Notice of Intent
  - Copy of Letter from ADEC Authorizing Coverage, with ADEC NOI Tracking Number
  - Copy of 2021 Construction General Permit
- G. Grading and Stabilization Records
- H. Monitoring Plan (If Applicable) and Reports
- I. Training Records
- J. Corrective Action Log
- K. Inspection Records



**Storm Water Pollution Prevention Plan (SWPPP)**

Old town Homer Sanitary Sewer System Exp.

DATE: **11/18/2022**

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## Storm Water Pollution Prevention Plan (SWPPP)

Old town Homer Sanitary Sewer System Exp.

DATE: **11/18/2022**

### 1.0 PERMITTEE (5.3.1)

Identify permittee and any subcontractors.

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

Operator Information				
Organization: City of Homer		Name: Janette Keiser		Title: Public Works Director
Phone: 907-235-3170		Fax (optional):		Email: jkeiser@ci.homer.ak.us
Mailing Address:	Street (PO Box): 3575 Heath St			
	City: Homer		State: Alaska	Zip: 99603
Area of Control	Day-to-day operational control of those activities at a site which are necessary to ensure compliance with a SWPPP or other permit conditions.			

Owner/Operator Information				
Organization: City of Homer		Name: Janette Keiser		Title: Public Works Director
Phone: 907-235-3170		Fax (optional):		Email: jkeiser@ci.homer.ak.us
Mailing Address:	Street (PO Box): 3575 Heath St			
	City: Homer		State: Alaska	Zip: 99603
Area of Control	Operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications.			

#### 1.2 Subcontractors

Subcontractor Information				
Organization: TBD		Name:		Title:
Phone:		Fax (optional):		Email:
Mailing Address:	Street (PO Box):			
	City:		State:	Zip:
Area of Control				

## **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):

- Storm Water Lead (5.3.2); person updating the SWPPP (5.3.2.2); Person(s) Conducting Inspections (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.

<b><u>Qualified Personnel</u></b>	<b><u>Responsibility</u></b>
<b>Storm Water Lead</b> City of Homer Janette Keiser 3575 Heath St Homer, AK 99603 907-235-3170 jkeiser@ci.homer.ak.us	Authority to stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit.
<b>SWPPP Preparer</b> Bishop Engineering LLC Shannon Cefalu PO Box 2501 Homer, AK 99603 360-317-3975 scefalu@bishop-engineering.com	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.
<b>Storm Water Inspector</b> City of Homer Janette Keiser 3575 Heath St Homer, AK 99603 907-235-3170 jkeiser@ci.homer.ak.us	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.
<b>Monitoring Person (If Applicable)</b> 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.
<b>Active Treatment System Operator (If Applicable)</b> 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.

### 3.0 PROJECT INFORMATION (5.3.3)

This section gathers all relevant site data together to assist with filing for permit coverage.

#### 3.1 Project Information

Project Name: Old Town Homer Water and Sanitary Sewer System Expansion			
Location Address:	Street: E. Bunnell Avenue, Allen Way, & Charles Way	Borough or similar government subdivision: Kenai Peninsula Borough	
	City: Homer	State: Alaska	Zip: 99603
	Latitude (decimal degree, 5 places): 59.63936	Longitude (decimal degree, 5 places): -151.54230	
	Determined By: <input type="checkbox"/> GPS <input checked="" type="checkbox"/> Web Map: GIS Information <input type="checkbox"/> USGS Topo Map, Scale: Enter Text <input type="checkbox"/> Other: Enter Text		

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

**Instructions:**

Briefly describe the existing site conditions, including:

- Mean annual precipitation based on nearest appropriate weather station (5.3.3.1). Precipitation data for Alaska weather-recording stations are available at the Western Regional Climate Center Internet website: <https://xmacis.rcc-acis.org/>.
- Soils, topography, drainage patterns, approximate growing season, and vegetation.
- Evidence of site contamination.

**Mean annual precipitation based on nearest weather stations (inches):** The project is located in Homer, Alaska nearest weather station 503664, Homer WSO Airport, Alaska. Homer has an annual mean precipitation of 24.64 inches and average total snowfall of 54.9 inches during months October through April. (<http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?akhome>)

Predicted rainfall intensity for 2-year 24-hour storm at the project latitude and longitude is 1.63 inches. Rainfall intensity information is from NOAA Atlas 14. NOAA link: [http://hdsc.nws.noaa.gov/hdsc/pfds/pfds\\_map\\_ak.html](http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_ak.html).

**Soil Type(s) and Slopes** (*describe soil type(s) and current slopes; note any changes due to grading or fill activities*): This project site consists of gravel roading and native soils. The native soils consist of 100% Beluga Silt Loam, 0-4% slopes. This soil type consists of 0 to 5 inches of moderately decomposed plant material underlain by 5 to 32 inches of silt loam, 32-60 inches of silty clay loam.

Trenching will take place through gravel road structural section and native soils. Trench backfill will consist of Class B Bedding around the water main and Type II Classified Fill for the remaining backfill per City Standard Construction Specifications.

<https://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>

**Landscape Topography:** Topographies of the work areas vary across existing roadways. Allen Way slopes gently southwest, E Bunnell Ave slopes eastward, and Charles Way slopes east-southeast.

**Drainage Patterns** Current drainage consists of roadside ditches conforming to roadway topographies and culverts in roadside ditches passing underneath driveways. This project should not cause any change to the drainage patterns.

**Approximate Growing Season:** Cook Inlet Basin growing season lasts from May 8<sup>th</sup> through October 5<sup>th</sup> for. Grow season is per Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region, September 2007. USACE  
link: [http://www.usace.army.mil/portals/2/docs/civilworks/regulatory/reg\\_supp/erdc-el\\_tr-07-24.pdf](http://www.usace.army.mil/portals/2/docs/civilworks/regulatory/reg_supp/erdc-el_tr-07-24.pdf).

**Type of Existing Vegetation:** The majority of project activities will take place in developed roadways with no existing vegetation. The project area is bounded by mesic herbaceous vegetation to the north and south, and wetland herbaceous vegetation to the east and southeast.

**Historic site contamination evident from existing site features and known past usage of the site:** A review of contaminated sites on the State's online map identified that no active sites are located within 200 feet of this project.

## 4.0 NATURE OF CONSTRUCTION ACTIVITY (5.3.4)

### 4.1 Scope of Work

*Describe the general scope of work for the project, major phases of construction, etc.*

The project consists of water and sanitary sewer main extensions with services to individual parcels.

The water main extension consists of extending two segments of water main. Both segments will consist of 6-inch HDPE pipe rated for 125 psi minimum service pressure. The E. Bunnell Avenue extension will connect to the end of the existing DIP main with a mechanically restrained joint with 8-inch HDPE pipe. An 8-inch valve will be installed immediately east of the connection to the existing main, and then the pipe will be reduced to 6-inch for the remainder of the 420-foot extension. A fused cap termination with nearby Hydrant for flushing and sampling will be installed at the new termination. Four 1-inch diameter service connections will be installed for the four lots requiring new water services and two existing services will be reconnected to the new main. Water service through this extension leg is anticipated to begin within 30 days after the water main installation.

The Allen Way and Charles Way water main extension will connect to the existing 8-inch DIP main with a flanged 8x8x6 stainless steel tapping sleeve. A 6-inch valve will be installed immediately adjacent to the tapping sleeve. A fused cap termination with nearby Hydrant for flushing and sampling will be installed at the new termination. Total main installed will be 360 feet in Allen Way and 1,140 feet in Charles Way. Fifteen 1-inch diameter service connections will be installed for the fifteen lots requiring new water services and one existing service will be reconnected to the new main. Water service through this extension leg is anticipated to begin within 30 days after the water main installation.

The water main extension will be installed using open trench excavation except at the Beluga Place crossing, where directional drilling will be used to avoid disturbing the road. Additionally, the new crossovers will consist

of cased sections of water main and therefore open trenches will be excavated in two locations to install these casings. The testing and possible repair of existing AC transit sewer pipe to meet ADEC requirements is not considered economical as an alternative to casing the waterline.

The second part of this project consists of two separate sanitary sewer extensions. The first segment will include an extension of the existing 2-inch HDPE pressure sewer located in E. Bunnell Avenue. The existing sewer main terminates 225 feet east of the intersection of E. Bunnell Avenue and Beluga Way. The extension will consist of fused 2-inch HDPE SDR 11 pipe for an additional 160 feet allowing the connection of 4 parcels to new sanitary sewer service. The main extension will terminate with flushing valve.

The second of the two separate segments will include a new extension of the sewer main in Allen Way south approximately 189 feet to Charles Way with an additional 811 feet of main extension east to the termination located at the eastern end of Charles Way. The components of this main extension include a 50-foot section of 6-inch DIP pipe to replace a series of 4" ABS schedule 40 main that was installed in the 1990's and early 2000's. The 50-foot DIP main extension will be coupled via compression coupler to the existing 6-inch AC pipe that directs wastewater north to E. Bunnell Avenue. A new sewer manhole will be placed at the southern end of the DIP main replacement segment where the outfall of the pressure main extension from Charles Way will be connected. The pressure sewer main in Charles Way and the portion of Allen Way from Charles Way to the new sewer manhole will consist of 2-inch HDPE SDR 11 pipe. Thirteen new service connections will be installed to parcels and two existing services must be reconnected to the new main.

The sewer main extension will be installed using open trench excavation except at the Beluga Place crossing, where directional drilling will be used to avoid disturbing the road.

Trenching for both the sewer and water mains will take place through asphalt surfacing, gravel road structural section, native silty sands and sandy silt material. Trench backfill will consist of Class B Bedding and Type II Classified Fill for the remaining backfill per City Standard Construction Specifications.

#### 4.2 Project Function (5.3.4.1)

Briefly describe the function of the construction activity (e.g., low-density residential, shopping mall, subdivision, airport, highway, etc.).

The first portion of the project consists of extending one leg of the City water main 420 feet eastward in E. Bunnell Avenue to provide new water service to four parcels and reconnect two parcels fronting E. Bunnell. A second leg will be extended southward 360 feet in Allen Way and 1,140 feet eastward in Charles Way to provide new water service to two parcels and reconnect one parcel fronting Allen Way and provide new water service to thirteen parcels on Charles Way.

The second portion of the project consists of extending one leg of the City sanitary sewer main 160 feet eastward in E. Bunnell Avenue to provide new sanitary sewer service to four parcels. A second leg is extended southward 189 feet in Allen Way and 811 feet eastward in Charles Way Avenue to provide new sanitary sewer service to one parcel and reconnect one parcel fronting Allen Way and provide new sanitary service to thirteen parcels on Charles Way.

### 4.3 Support Activities (As Applicable)

Support activities for this project are:

<u>Support Activity</u>	<u>Location</u>	<u>Dedicated</u>	
		<u>Yes</u>	<u>No</u>
Concrete Batch Plant		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asphalt Batch Plant	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Equipment Staging Yards	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Material Storage Areas	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Excavated Material Disposal Areas	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Borrow Areas	TBD	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

Briefly describe the intended sequence and timing of activities that disturb soils at the site.

Period of soil disturbance will extend over nine weeks. The limits of open trenching at any given time is 400ft. Location of soil disturbance within the project limits will vary over the nine week period at the discretion of the contractor.

### 4.5 Size of property and total area expected to be disturbed (5.3.4.3)

- Estimate the area to be disturbed by excavation, grading, or other construction activities, including support activities described in CGP Section 1.4.2.3 (e.g., concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and/or borrow areas).
- Calculate the percentage of impervious surface area before and after construction.
- Calculate the run-off coefficients before and after construction.

The following are estimates of the construction site:

Total Project Area:.....	Acres	2.10
Construction-site area to be disturbed: .....	Acres	1.25
Percentage impervious area BEFORE construction: .....	Percentage	75%
Runoff coefficient BEFORE construction: .....	enter value	0.70
Percentage impervious area AFTER construction: .....	Percentage	75%
Runoff coefficient AFTER construction:.....	enter value	0.70

**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:**

Sediment Generating Activity	Location of Potential Discharge
Grubbing	Site exit
Unclassified excavation	Site exit
Utility Excavation & Installation	Site exits, drainage outlet locations
Drainage structure excavation	Culvert outlets

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

**Insert Text or use Table below**

Trade Name Material	Storm Water Pollutants	Location
Diesel	Hydrocarbon	Onsite equipment & Service truck
Gasoline	Hydrocarbon	Onsite equipment & Service truck
Lube Oil	Hydrocarbon	Onsite equipment & Service truck
Gear Lube	Hydrocarbon	Onsite equipment & Service truck
Hydraulic Fluid	Hydrocarbon	Onsite equipment & Service truck
Antifreeze	Glycol	Onsite equipment & Service truck



## 5.0 SITE MAPS (5.3.5)

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:

- North arrow and bar scale
- Property boundaries
- Locations where earth-disturbing activities will occur, noting phasing
- Location of areas that will not be disturbed and natural features to be preserved
- Location of all storm water conveyances including ditches, pipes, and swales
- Locations of storm water inlets and outfalls, with a unique identification code for each outfall
- Locations where storm water and/or authorized non-storm water discharges to waters of the U.S. (including wetlands) or a Municipal Separate Storm Sewer System (MS4).
- Direction of storm water flow and approximate slopes anticipated after grading activities
- Locations where control measures will be or have been installed
- Locations where exposed soils will be or have been stabilized
- Locations where post-construction storm water controls will be or have been installed
- Locations of support activities
- Locations where authorized non-storm water will be used
- Locations and sources of run-on to the site from adjacent property that may contain quantities of pollutants which could be exposed to precipitation.
- Locations of all waters of the U.S. on-site (including significant wetland areas  $\geq 10,000$  ft<sup>2</sup>) and those within 2,500 feet of the site boundary
- 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 project area. *(The DWPA's 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>.)*
- Sampling point(s), if applicable
- Areas where final stabilization has been accomplished
- Staging and material storage areas (construction materials, hazardous materials, fuels, etc.)
- Dumpsters
- Porta-potties
- Concrete, paint, or stucco washout areas
- Stabilized construction exits

**Include a general location map in Appendix A of this SWPPP. (5.3.4.4)**

General location map included in Appendix A.

**Include site maps in Appendix A of this SWPPP. (5.3.5)**

Site map included in Appendix A.

## 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 this permit

and does not comply with the requirements of this general permit, 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 this permit (5.3.8).
- Identify all allowable sources of non-storm water discharges to be used at the site (5.3.9).

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

There are no other industrial storm water discharges within the project limits.

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

Allowable non-stormwater discharges on the project site may include water for dust control and landscape irrigation.

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

If the permittee is discharging into a water body with an EPA-established or approved Total Maximum Daily Load (TMDL), the permittee must implement measures to ensure the discharge of pollutants from the site is consistent with the assumptions and requirements of the TMDL. Refer to the CGP for additional requirements.

The SWPPP must include documentation supporting a determination of permit eligibility with regard to waters that have a TMDL.

### **7.1 Identify Receiving Waters (5.3.3.3)**

Instructions:

- List any water bodies that would receive storm water from the site, including rivers, streams, lakes, coastal waters, and wetlands. Describe each as clearly as possible (e.g., Noyes Slough, a tributary to the Chena River, etc.).
- Indicate location of all water bodies on site map.
- Note any stream crossings, if applicable.
- List storm sewer and/or drainage systems into which storm water from the site could discharge and water body(ies) the system(s) ultimately discharge to.

**Description of receiving waters:** The eastern boundary of the project is adjacent to the boundaries of the Beluga Slough wetland complex, which feed directly into Kachemak Bay. Additionally, the Kachemak Bay water line is approximately 300 feet southwest of the intersection of Allen Way and Charles Way.

**Description of storm sewer and/or drainage systems:** Current drainage consists of roadside ditches conforming to roadway topographies and culverts in roadside ditches passing underneath driveways. This project should not cause any change to the drainage patterns.

**Other:**

## **7.2 Identify TMDLs (5.6.1)**

Determine whether the project may discharge into a water body with an EPA-established or approved Total Maximum Load (TMDL) for turbidity or sediment.

**Instructions:**

- See ADEC web site for a listing of impaired water bodies: <http://dec.alaska.gov/water/water-quality/impaired-waters>.
- Look through all impaired water body categories -- 4a, 4b, and 5.

**Is an EPA-established or approved TMDL published for the receiving water(s) listed in Section 7.1?**  Yes  No.

If YES, list the TMDL(s) here. Include a summary of consultations with state or federal TMDL authorities. Include correspondence or other supporting documentation in Appendix D.

**TMDL:** NA

**Summary of consultation with state or federal TMDL authorities (5.6.2):** NA

**Measures taken to ensure compliance with TMDL (5.6.3):** NA

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

The SWPPP must include documentation supporting a determination of permit compliance with regard to the Endangered Species Act.

**Instructions:**

- Determine whether endangered or threatened species or their critical habitats are on or near your site.
- Attach any correspondence for any stage of the project planning between the USFWS, EPA, National Marine Fisheries Service (NMFS), or others and the permittee regarding listed species and critical habitat, including any notification that delays the permittee’s authorization to discharge under this permit (Appendix D).

### **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:**

The U.S. Department of Interior Fish and Wildlife Service identifies threatened, endangered and proposed species, designated critical habitat and some candidate species within a proposed project limit through their

iPAC system. This fulfills the requirements of the USFWS under Section 7(c) of the Endangered Species Act of 1973.

<https://ecos.fws.gov/ipac/location/index>

Will species or habitat be adversely affected by storm water discharge?  Yes  No.

Describe the species and/or critical habitat, if species or habitat will be affected by storm water discharge. Include any agency correspondence in the SWPPP (5.7.4).

Provide summary of necessary measures (5.7.5): NA

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

A permittee must ensure storm water control measures implemented at the site are consistent with all applicable federal, state, tribal, or local requirements for soil and erosion control and storm water management.

**Instructions:**

Describe applicable federal, state, tribal, or local requirements, if any.

This SWPPP was prepared in accordance with the Alaska Department of Environmental Conservation Alaska Pollutant Discharge Elimination System 2021 permit and 2021 SWPPP template.

The project Owner has not provided any permits for the project. A review of the requirements for federal, state, tribal and local regulations and permits deemed that there are no additional permits needed.

This SWPPP shall be updated as necessary to reflect any revisions to applicable federal, state, tribal and local regulations that would affect the storm water controls that were implemented at the site.

## Control Measures

### Instructions:

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 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 disturbed area (preserve native topsoil, phase construction activities) (4.2.2)*
2. *Maintain natural buffer areas (4.2.3)*
3. *Control storm water discharges and flow rates (4.2.5)*
4. *Protect steep slopes (4.2.6)*
5. *Storm drain inlet protection measures (4.3.1)*
6. *Water body protection measures (4.3.2)*
7. *Down-slope sediment controls (4.3.3)*
8. *Stabilized construction vehicle access and exit points (4.3.4)*
9. *Dust generation and track-out from vehicles (4.3.5, 4.3.6)*
10. *Stockpile Management (4.3.7)*
11. *Authorized Non-Storm Water Discharges (4.3.8)*
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. *Any additional BMPs*
  - Note the location of each BMP on your site map(s).
  - Any structural BMPs should have design specifications and details referred to in Appendix B.
  - For more information or ideas on BMPs, see the ADEC Alaska Storm Water Guide: <http://dec.alaska.gov/water/wastewater/stormwater/guidance/>

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

Use this section to describe the types and locations of control measures and BMPs to be installed and maintained in accordance with Section 4.0 of the CGP.

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 to be included in Appendix B.

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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 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.

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

#### Instructions:

Describe the areas that will be disturbed with each phase of construction and methods (signs, fences, etc.) you will use to protect those areas that should not be disturbed.

Describe natural features identified and how each will be protected during construction activity.

Describe how topsoil will be preserved.

#### Construction Sequence

**BMP Description:** Plan excavation and classified backfill to minimize silty soil exposure.

<b>Source:</b>	No BMP manual or publication was used for the design or selection of this BMP. SWPPP preparer recommendation.
<b>Installation Schedule:</b>	Plan prior to beginning excavation work.
<b>Maintenance and Inspection:</b>	The area will be inspected per the inspection schedule to ensure exposed silty soil is minimized, kept in depressed areas (tank basal area) and backfilled with a layer of clean gravel shortly after base compaction.
<b>Responsible Staff:</b>	Storm Water Lead

#### Preserve Existing Vegetation & Root Mat

**BMP Description:** Existing vegetation outside the work area will be preserved. Vegetation within the work limits will not be cleared until necessary. Preservation/work limits will be delineated by flagging. Vehicles and equipment will stay within the work area limits.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-1
<b>Installation Schedule:</b>	Flagging prior to beginning piling, boring and excavation work.
<b>Maintenance and Inspection:</b>	The area will be inspected per the inspection schedule to ensure equipment or vehicles have not encroached on the preservation limits. If barrier has been damaged or removed, replace barrier so that visibility is restored. Repair or replace damaged vegetation.
<b>Responsible Staff:</b>	Storm Water Lead

(Copy and pasted exactly. This all sounds reasonable?)

### 10.2 Maintain Natural Buffer Areas (4.2.3)

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

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

### **Fiber Rolls**

**BMP Description:** Fiber rolls (wattles) may be utilized on the down-grade side of areas to be disturbed or at project limits. Fiber rolls may be used for localized discharge and to protect excavation, ditches or slopes from sheet discharge.

Fiber rolls consist of rolled tubes of erosion control blankets (8 inches in diameter minimum) and bound at each end with jute-type twine. Install fiber rolls in shallow trenches dug 3 to 5 inches deep for soft, loamy soils and 2 to 3 inches deep for hard, rocky soils. Fiber rolls will be staked at 3 foot (maximum) intervals. For design specifications and installation, see Appendix B.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-8
<b>Installation Schedule:</b>	Fiber rolls will be installed as needed.
<b>Maintenance and Inspection:</b>	Fiber rolls will be inspected per the inspection schedule during construction activities for undercutting, sediment loading and proper seating flush with the ground until dense cover of vegetation had been established. Fiber rolls will be re-pinned flush to the grade if they come loose. If sediment load is greater than one-half the wattle height, the sediment will be removed for behind the wattle. If undercutting is noted, the location of failure will be re-graded, seeded and the fiber rolls re-installed.
<b>Responsible Staff:</b>	Storm Water Lead

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

### **Instructions:**

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.).

### **Fiber Rolls**

**BMP Description:** Fiber rolls (wattles) may be utilized on the down-grade side of areas to be disturbed or at project limits. Fiber rolls may be used for localized discharge and to protect excavation, ditches or slopes from sheet discharge.

Fiber rolls consist of rolled tubes of erosion control blankets (8 inches in diameter minimum) and bound at each end with jute-type twine. Install fiber rolls in shallow trenches dug 3 to 5 inches deep for soft, loamy soils and 2 to 3 inches deep for hard, rocky soils. Fiber rolls will be staked at 3 foot (maximum) intervals. For design specifications and installation, see Appendix B.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-8
<b>Installation Schedule:</b>	Fiber rolls will be installed as needed.

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<b>Maintenance and Inspection:</b>	Fiber rolls will be inspected per the inspection schedule during construction activities for undercutting, sediment loading and proper seating flush with the ground until dense cover of vegetation had been established. Fiber rolls will be re-pinned flush to the grade if they come loose. If sediment load is greater than one-half the wattle height, the sediment will be removed for behind the wattle. If undercutting is noted, the location of failure will be re-graded, seeded and the fiber rolls re-installed.
<b>Responsible Staff:</b>	Storm Water Lead

### **Silt Fence**

*BMP Description:* Silt fence may be utilized in lieu of fiber rolls on the downgrade side of grading and excavation areas or at project limits.

Silt fence will be installed by excavating 12-inch deep trench along the line of proposed installation. Wooden or metal posts supporting the silt fence will be spaced up to 8 feet apart and driven securely into the ground; a minimum of 18- inches deep. The silt fence will be fastened securely to the posts with wire ties spaced every 24 inched at the top, mid-section and bottom of the post. The bottom edge of the silt fence will extend across the bottom of the trench and the trench will be backfilled and compacted to prevent storm water and sediment from discharging underneath the silt fence. Sand bags may be utilized in lieu of trenching.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-18
<b>Installation Schedule:</b>	Silt fence will be installed as needed.
<b>Maintenance and Inspection:</b>	Silt fences will be inspected per the inspection schedule during construction activities to ensure it is intact and that there are no gaps where the fence meets the ground or tears are found during inspection, the fabric will be required or replaced immediately. Accumulated sediment will be removed from the fence base if it reaches one-third the height of the silt fence and hauled offsite for disposal. If accumulated sediment is creating noticeable strain on the fabric and the fence may fail from a sudden storm event, the sediment will be removed more frequently. Before the fence is removed from the project area, the sediment will be removed.
<b>Responsible Staff:</b>	Storm Water Lead

### **10.3.1 Protect Steep Slopes (4.2.6)**

**Will steep slopes be present at the site during construction?**  Yes  No.

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

NA



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

**Instructions:**

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.

NA

### 10.5 Water Body Protection Measures (4.3.2)

**Instructions:**

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

**Fiber Rolls**

**BMP Description:** Fiber rolls (wattles) may be utilized on the down-grade side of areas to be disturbed or at project limits. Fiber rolls may be used for localized discharge and to protect excavation, ditches or slopes from sheet discharge.

Fiber rolls consist of rolled tubes of erosion control blankets (8 inches in diameter minimum) and bound at each end with jute-type twine. Install fiber rolls in shallow trenches dug 3 to 5 inches deep for soft, loamy soils and 2 to 3 inches deep for hard, rocky soils. Fiber rolls will be staked at 3 foot (maximum) intervals. For design specifications and installation, see Appendix B.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-8
<b>Installation Schedule:</b>	Fiber rolls will be installed as needed.
<b>Maintenance and Inspection:</b>	Fiber rolls will be inspected per the inspection schedule during construction activities for undercutting, sediment loading and proper seating flush with the ground until dense cover of vegetation had been established. Fiber rolls will be re-pinned flush to the grade if they come loose. If sediment load is greater than one-half the wattle height, the sediment will be removed for behind the wattle. If undercutting is noted, the location of failure will be re-graded, seeded and the fiber rolls re-installed.
<b>Responsible Staff:</b>	Storm Water Lead

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

**Instructions:**

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

**Fiber Rolls**

**BMP Description:** Fiber rolls (wattles) may be utilized on the down-grade side of areas to be disturbed or at project limits. Fiber rolls may be used for localized discharge and to protect excavation, ditches or slopes from sheet discharge.

Fiber rolls consist of rolled tubes of erosion control blankets (8 inches in diameter minimum) and bound at each end with jute-type twine. Install fiber rolls in shallow trenches dug 3 to 5 inches deep for soft, loamy soils and 2 to 3 inches deep for hard, rocky soils. Fiber rolls will be staked at 3 foot (maximum) intervals. For design specifications and installation, see Appendix B.

<b>Source:</b>	Alaska SWPPP Guide, DOT&PF, 2-2011, BMP AK-8
<b>Installation Schedule:</b>	Fiber rolls will be installed as needed.
<b>Maintenance and Inspection:</b>	Fiber rolls will be inspected per the inspection schedule during construction activities for undercutting, sediment loading and proper seating flush with the ground until dense cover of vegetation had been established. Fiber rolls will be re-pinned flush to the grade if they come loose. If sediment load is greater than one-half the wattle height, the sediment will be removed for behind the wattle. If undercutting is noted, the location of failure will be re-graded, seeded and the fiber rolls re-installed.
<b>Responsible Staff:</b>	Storm Water Lead

**10.7 Stabilized Construction Vehicle Access and Exit Points (4.3.4)**

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

NA

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

Describe control measures to minimize the generation of dust and off-site vehicle tracking of sediment.

NA

**10.9 Soil Management (4.3.7)**

Will soil stockpiles be at the site during construction?  Yes  No.

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.

Any soil stockpiles onsite will be temporary spoils during excavation. Stockpiles will be removed from site, stabilized or backfilled on a daily basis. No BMP is necessary.

**10.10 Authorized Non-Storm Water Discharges (4.3.8)**

Describe any measures taken to minimize any non-storm water authorized by this permit.

No non-storm water discharges are authorized.

### 10.11 Sediment Basins (4.3.9)

Refer to CGP Section 4.3.9 to determine if a sediment basin is required for your site.

Will a sediment basin be required during construction?  Yes,  No.

If YES, provide a brief description of the sediment basin here. Append detailed design information in Appendix B (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.

NA

### 10.12 Dewatering (4.4)

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

Will dewatering be conducted during construction?  Yes,  No.

Will excavation dewatering be conducted within 1,500 feet of a DEC mapped contaminated site found on the following website?  Yes,  No. <http://www.arcgis.com/home/item.html?id=315240bf84aa0b8272ad1cef3cad3>

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

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

**BMP Description:** NA

**Installation Schedule:** NA

**Maintenance and Inspection:** NA

**Responsible Staff:** NA

### 10.13 Soil Stabilization (4.5, 5.3.6.3)

A permittee 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 Section 4.5 for specific requirements.

**Deadline to Initiate Stabilization.** Stabilization of disturbed areas must, at a minimum, be initiated immediately whenever any clearing, grading, excavating, or other earth disturbing activities have permanently ceased on any portion of the site or temporarily ceased on any portion of the site and will not resume for a period exceeding:

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- Seven (7) calendar days for those areas of the state with a mean annual precipitation of forty (40) inches or greater; or
- Fourteen (14) calendar days for those areas of the state with a mean annual precipitation less than forty (40) inches.

Note: In the context of this provision, “immediately” means no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased.

**Deadline to Complete Temporary Stabilization Activities.** As soon as practicable, but no later than 14 calendar days after the initiation of soil stabilization measures consistent with Part 4.5.1.1, the following are required to be completed:

- For vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized; and/or
- For non-vegetative stabilization, the installation or application of all such non-vegetative measures.

**Instructions:**

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

Describe temporary stabilization control measures and sequence of installation.

Describe final stabilization control measures and sequence of installation.

**BMP Description:**

**Topsoil & Seeding**

*BMP Description:* Topsoil and seeding will be applied for slope stabilization immediately after the final design grades are achieved on slope reconditioning section but no later than 14 days after construction in that work area ceases. Seed mix per the project specifications will be utilized to establish vegetative cover on exposed soils outside the road and pad surface.

	<input checked="" type="checkbox"/> Permanent	Temporary
<i>Source:</i>	EPA Menu of BMPs	
<i>Installation Schedule:</i>	This project will be dormant seeded. Seeding will be in conjunction with surface roughening.	
<i>Maintenance and Inspection:</i>	All seeded areas will be inspected per the project schedule during construction activities for failure until 70% vegetative coverage has been established. If failure is noticed at the seeded area, the area will be reseeded, fertilized and mulched immediately. After construction is completed at the site, permanently stabilized areas will be monitored until final stabilization is reached.	
<i>Responsible Staff:</i>	Storm Water Lead	

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

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 Section 4.6 are met.

Will treatment chemicals be used to control erosion and/or sediment during construction?  Yes,  No.

If YES, comply with CGP Section 4.5 and complete the following subsections.

### 10.15 Treatment Chemicals (4.6.1)

Describe what chemicals will be used, including information required by CGP Section 4.6.1.

NA

#### 10.15.1 Treatment Chemical Use Procedures (4.6.2)

Describe training for employees using treatment chemicals at the site. Document this training in either Appendix E (Employee Qualifications) or Appendix G (Training Records).

NA

#### 10.15.2 Application of Treatment Chemicals (4.6.3)

The application of treatment chemicals shall be in combination with appropriate physical control measures to ensure effectiveness of treatment chemical.

**Instructions:**

Briefly describe treatment chemical application procedures to be used. Append detailed treatment chemical application procedures to this SWPPP in Appendix B.

NA

### 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 (as defined in the CGP Appendix C) must submit information required by the ADEC 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, briefly describe the ATS process below and submit information required by CGP Section 4.6.7 to the ADEC.

NA

### 10.17 Good Housekeeping Measures (4.8)

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

Consult the ADEC Storm Water Guide or other resources for more information or ideas on BMPs. See also the EPA's National Menu of BMPs at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater>

**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 Section 4.8.1.

NA

**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.

If YES, describe the control measures to be implemented to comply with CGP Section 4.8.2.

NA

**10.17.3 Staging and Material Storage Areas (4.8.3)**

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?  Yes,  No.

If YES, describe control measures to be implemented to comply with CGP Section 4.8.4.

**BMP Description:** NA

**Installation Schedule:** NA

**Maintenance and Inspection:** NA

Responsible Staff: NA

### 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,  No.

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

Material Name: NA

BMP Description: NA

Installation Schedule: NA

Maintenance and Inspection: NA

Responsible Staff: NA

### 10.18 Spill Notification (4.9)

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 Section 4.9 for permit requirements.

Spill prevention and control procedures shall be implemented once construction begins onsite. All personnel shall be instructed, during tailgate training sessions, regarding the correct procedures for spill prevention and control. Notices that state these practices shall be posted at the office and the individual who manages day-to-day site operations shall be responsible for seeing that these procedures are followed.

1. Employee Training: All employees shall be trained via weekly tailgate sessions.
2. Vehicle Maintenance: Major vehicles and equipment maintenance shall be conducted offsite. All vehicles and equipment, including subcontractor vehicles, shall be checked for leaking oil and fluids. Vehicles leaking fluids shall not be allowed onsite. Containment vessel shall be placed under vehicles and equipment while being serviced and while parked overnight.
3. Hazardous Material Storage: Hazardous materials shall be stored in accordance with federal, state and local regulations.
4. Spill Kits: Spill kits shall be kept onsite, in the maintenance shop, and service vehicle.
5. Spills: All spills shall be cleaned up immediately upon discovery. Spent absorbent materials shall be stored at the project staging area in sealed containers until they can be removed from site. Spills large enough to discharge to surface water shall be reported to the National Response Center at 1-800-424-8802.
6. Material safety data sheets, a material inventory and emergency contact information shall be maintained at the Contractor office.

In case of fuel spill, hazardous materials encounter or other contamination to soil or water, cease work in the area of contamination. The extent of the area of contamination will be determined and area will be isolated from the balance of the project with flagging and or barricades. A contamination clean-up contractor may be contacted at this point, depending on the extent of contamination and habitat impacted. A clean-up and disposal plan will be developed under the direction of the Contractor representative and regulatory agency representative. The plan shall be in compliance with Chapter 75 of Title 18 of the Alaska Administrative Code and Title 46 of the Alaska Statutes.

A licensed operator will do disposal of any contaminated material at an Alaska Department of Environmental Conservation approved facility. Small quantities of sorbent materials will be disposed of through the Kenai Peninsula Borough Solid Waste program.

ADEC placards on reportable quantities and notification are included in Appendix D.

**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 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 Sections 4.8.3, Staging and Material Storage Areas, and 4.8.6, Storage, Handling, and Disposal of Construction Waste.

**Waste Materials**

*BMP Description:* All trash and debris materials shall be collected and disposed of at the South Peninsula Landfill. No construction debris shall be buried onsite. All personnel shall be instructed regarding the correct disposal of trash, construction debris and waste materials.

<i>Source:</i>	No BMP manual or publication was used for the design or selection of this BMP. SWPPP preparer recommendation.
<i>Installation Schedule:</i>	Proper waste handling shall begin when the project begins.
<i>Maintenance and Inspection:</i>	Dumpsters, trashcans and other waste containment will be collected and disposed of on an as-needed basis. The project site will be inspected for improper waste management according to the inspection schedule during construction activities.
<i>Responsible Staff:</i>	Storm Water Lead

**Storage and Labeling**

*BMP Description:* Hazardous waste materials such as petroleum products and equipment maintenance fluids shall be labeled and stored at the project staging area in shipping containers or stored in a fuel and lubricant truck until prior to use onsite. No hazardous waste materials such as oil filters, petroleum products, paint and equipment maintenance fluids shall be stored onsite. Shipping containers and product containers shall be placarded for the products they contain.



## Storm Water Pollution Prevention Plan (SWPPP)

Old town Homer Sanitary Sewer System Exp.

DATE: 11/18/2022

<i>Source:</i>	No BMP manual or publication was used for the design or selection of this BMP. SWPPP preparer recommendation.
<i>Installation Schedule:</i>	Proper hazardous material storage and labeling shall begin prior to the project.
<i>Maintenance and Inspection:</i>	The project site shall be inspected according to inspection schedule during construction activities for potential hazardous waste.
<i>Responsible Staff:</i>	Storm Water Lead

### **Disposal**

*BMP Description:* All hazardous waste shall be disposed of in accordance with local, state and federal regulations disposed of at the Homer Solid Waste Facility, which takes small quantities of hazardous waste. If quantities exceed these limitations, Emerald Alaska shall be utilized for disposal. All personnel shall be instructed regarding the correct procedures for hazardous waste disposal.

<i>Source:</i>	No BMP manual or publication was used for the design or selection of this BMP. SWPPP preparer recommendation.
<i>Installation Schedule:</i>	Proper hazardous waste material handling shall begin when the project begins.
<i>Maintenance and Inspection:</i>	The project site shall be inspected according to inspection schedule during construction activities for potential hazardous waste.
<i>Responsible Staff:</i>	Storm Water Lead

## **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.
- The person(s) identified in Section 2.0 will be responsible for conducting inspections. Reference or attach the inspection form to be utilized.
- 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.
- Document repairs and maintenance you undertake as a result of your inspections. These actions can be documented in the corrective actions log described in Section 11.3 below.
- See suggested inspection form in Section 11.2.
- Retain inspection records in Appendix K.

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

- Refer to CGP Part 6.1 for inspection frequency requirements.
- Required inspection frequency is based on mean annual precipitation for the site. Refer to SWPPP section 3.2 for annual precipitation data.

- A permittee may reduce the inspection frequency as described in the CGP Part 6.2. Document the justification for a reduction in inspection frequency, if applicable.
- Identify dates of winter shutdown, if applicable. Refer to CGP Appendix C for definitions of Winter Shutdown, Fall Freeze-Up, and Spring Thaw.
- A permittee must allow an authorized representative of ADEC, EPA or the MS4 operator to conduct a site inspection in accordance with the CGP Section 6.6.

**Inspection frequency:** Every 14 days and within 24 hours of the end of a storm event that results in a discharge from the site. Inspections shall verify that all BMPs required in the SWPPP are implemented, maintained and effectively minimizing erosion and preventing storm water contamination from construction materials.

**Justification for reduction in inspection frequency, if applicable:** If entire site is stabilized in accordance with Part 4.5, frequency of inspections may be reduced to at least once a month and within two business days of the end of a storm event.

If portions of the site have achieved final stabilization in accordance with Part 4.5 but construction remains active on the portions of the site, inspections may be suspended for those portions that have achieved final stabilization. However, if there is a discharge from that portion of the site previously considered finally stabilized, an inspection must be conducted within two business days of the end of a storm event resulting in the discharge.

**Estimated date of winter shutdown:** Not applicable.

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

Attach to SWPPP and specify which appendix

## 11.3 Corrective Action Procedures (5.4.1.4; 8.0)

Describe actions you will take to repair, replace, and maintain BMPs undertaken based on the inspections and maintenance procedures described above. Include a corrective action log, placed below or as an attachment. This log should describe actions taken, date completed, and note the person who completed the work. Actions related to the findings of inspections should reference the specific inspection report.

If during inspections or investigations it is determined that the existing storm water controls are ineffective in eliminating or significantly minimizing pollutants in storm water discharges from the construction site the SWPPP shall be amended and BMPs shall be added to rectify the deficiency. The corrective action necessary will be logged on the Corrective Action Log along with a complete by date that is 6 days from the date of the inspection or before the next storm event, whichever is less. The next storm event will be estimated from the weather forecast.

### Corrective Action Log

Insert table or reference attachment. Put in appendix and specify which one

## 11.4 Inspection recordkeeping (5.4.2)

Records will be maintained for a minimum period of at least three (3) years after the permit is terminated.

## 12.0 MONITORING PLAN (If Applicable) (5.5; 7.0)

### 12.1 Determination of Need for Monitoring Plan

Use the information collected and presented in Section 7.0 of this SWPPP to help complete this section.

If storm water discharges from the site into a water body with an EPA-established or approved Total Maximum Load (TMDL) for turbidity or sediment, the water body is considered impaired for turbidity or sediment.

If the receiving water is impaired for turbidity or sediment AND the project disturbance is 20 acres or more, then turbidity must be monitored during duration of disturbance and stabilization.

Instructions:

Answer briefly the following questions and determine whether the project has a monitoring requirement for turbidity.

**Is there an EPA-established or approved TMDL for Beluga Slough and Kachemak Bay?**

**Is the receiving water listed as impaired for turbidity and/or sediment?**  Yes,  No.

If no, there is no monitoring requirement. If YES, answer the following questions.

**What is the acreage of the disturbance in the proposed construction project?** Insert Text

**Is the disturbed acreage equal to or greater than 20 acres?**  Yes,  No.

If no, there is no monitoring requirement. If YES, proceed with monitoring template.

A permittee subject to the monitoring requirements of CGP Part 3.2 is required to collect and analyze storm water discharge samples and document monitoring activities with the procedures described in CGP Part 7.0.

### 12.2 Monitoring Plan Development

If subject to the monitoring requirements of CGP Part 3.2, the permittee must develop a written site-specific monitoring plan for analytical monitoring that includes all the requirements of CGP Part 7.0 and follows the applicable ADEC Quality Assurance Guide for a Water Quality Monitoring Plan (see <http://dec.alaska.gov/water/water-quality/quality-assurance/>). Most monitoring projects should fall under the Tier 2 Water Quality Monitoring Quality Assurance Project Plan criteria. A *Generic Tier 2 Quality Assurance Project Plan* (<http://dec.alaska.gov/media/13137/generictier2qapp.doc>) has been developed to assist applicants in developing a project specific QA Water Quality Monitoring QA Plan.

Also see the ADEC storm water website (<http://dec.alaska.gov/water/wastewater/stormwater/construction>) for information to use in developing the monitoring plan.

Instructions:

- The monitoring plan must be included as a part of the SWPPP as either an appendix or separate SWPPP section. Appendix H of the SWPPP template may be used for this purpose.

- At a minimum, the SWPPP must document the person(s) responsible for conducting monitoring, schedules to be followed for monitoring, any checklist or form that will be used to record monitoring results, and correct action procedures.

**Monitoring schedules** (5.5.1.2; 7.3.2): NA

**Monitoring form or checklist** (5.5.1.3; 7.3.9): NA

**Corrective action procedures** (5.5.1.4; 8.0): NA

### 12.3 Monitoring Considerations

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

- Locate upstream/upgradient sampling point(s) to determine background turbidity in the receiving water body. The location should be reasonably close to discharge but not so close as to experience increased turbidity from discharge. Clearly mark in field and on map in SWPPP.
- Sample the discharge where it enters the receiving water body or where it leaves the construction site. Clearly mark in field and on map in SWPPP.
- The discharge entering the water body impaired for turbidity or sediment must not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than a 10-percent increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.

IF TURBIDITY EXCEEDS ALLOWABLE LEVELS:

- Correct control measures within seven (7) calendar days, update your SWPPP to reflect improvements, submit a Corrective Action Report consistent with the CGP, AND continue daily sampling until discharge meets allowable turbidity.
- If a specific waste-load allocation has been established for turbidity or sediment that would apply to the discharge of storm water from the construction site, the permittee must implement necessary steps to meet that allocation.
- If there is only a general waste-load allocation applicable to construction storm water discharges, the permittee must consult the ADEC to confirm consistency with approved TMDL.

### 13.0 POST-AUTHORIZATION RECORDS (5.8)

This section does not have to be filled out but is a list of reminders for the applicant. Refer to CGP 5.8 for additional details.

**Copy of Permit Requirements (5.8.1)**

**The SWPPP must contain the following documents:**

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

**These documents must be included in Appendix F.**

### **13.1 Additional Documentation Requirements (5.8.2)**

- Dates when grading activities occur (5.8.2.1; insert in Appendix G).
- Dates when construction activities temporarily or permanently cease on a portion of the site (5.8.2.1.3; insert in Appendix G).
- Dates when stabilization measures are initiated (5.8.2.1.4; insert in Appendix G).
- Date of beginning and ending period for winter shutdown (5.8.2.2; insert in Appendix G).
- Copies of inspection reports (5.4.2; 5.8.2.3; insert in Appendix K).
- Copies of monitoring reports, if applicable (5.8.2.4; insert in Appendix H).
- Documentation in support of chemical-treatment processes (4.6; 5.8.2.6; insert in Appendix H).
- Documentation of maintenance and repairs of control measures (5.8.2.8; 8.1; 8.2; insert in Appendix J).
- Documentation of any rainfall monitoring records (6.7.1.3)

#### **13.1.1 Records of Employee Training (4.14; 5.8.2.7)**

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. Include dates, number of attendees, subjects covered, and length of training.

##### **Describe Training Conducted:**

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

Insert Text

##### **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

## 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 Log of SWPPP Modifications (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). A form to document SWPPP amendments has been placed at the beginning of this template.

### 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)

This section does not have to be filled out but is a list of reminders for the applicant. Refer to the CGP Part 5.10 for additional detail.

### 15.1 Retention of SWPPP (5.10.1)

A copy of the SWPPP (including a copy of the permit), NOI, and acknowledgement letter from ADEC 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 the permit authorization number assigned to the NOI, Operator Contact Name and phone number for obtaining additional construction site information, and location of the SWPP or name and telephone number of the contact person for scheduling SWPPP viewing times. If the location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times has changed (i.e., is different than that submitted to DEC in the NOI), the current location of the SWPPP or name and telephone number of a contact person for scheduling viewing times.

### **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)**

The SWPPP must be signed and certified in accordance with the requirements of the CGP Appendix A, Part 1.12. The certification form on page ii of this template meets the requirements of this paragraph.

### **15.5 Submittal of a Modification to NOI (2.7)**

Note: A permittee must file an NOI modification form to DEC (see Permit Part 2.3) to update or correct the following information on the original NOI within 30 calendar days of the change:

- Owner/Operator address and contact information;
- Site information;
- Estimated start or end dates;
- Number of acres to be disturbed; or
- SWPPP location and contact information.

## APPENDICES

APPENDIX A – SITE MAPS AND DRAWINGS

APPENDIX B – BMP DETAILS

APPENDIX C – PROJECT SCHEDULE

APPENDIX D – SUPPORTING DOCUMENTATION:

- TMDL
- ENDANGERED SPECIES
- OTHER PERMITS

APPENDIX E – DELEGATION OF AUTHORITY, SUBCONTRACTOR CERTIFICATIONS

APPENDIX F – PERMIT CONDITIONS:

- COPY OF SIGNED NOTICE OF INTENT
- COPY OF LETTER FROM ADEC AUTHORIZING COVERAGE
- ADEC NOI TRACKING NUMBER
- COPY OF ALASKA CONSTRUCTION GENERAL PERMIT

APPENDIX G – GRADING AND STABILIZATION RECORDS

APPENDIX H – MONITORING PLAN (IF APPLICABLE) AND REPORTS

APPENDIX I – TRAINING RECORDS

APPENDIX J – CORRECTIVE ACTION LOG

APPENDIX K – INSPECTION RECORDS



**Appendix A – Site Maps & Drawings**



E BUNNELL AVE

ALLEN WAY

BELUGA PL

20

CHARLES WAY

CHARLES WAY

CHARLES WAY

# CITY OF HOMER

## E BUNNELL AVENUE / CHARLES WAY / ALLEN WAY

### WATER MAIN EXTENSION

NOVEMBER 2, 2022



LOCATION MAP

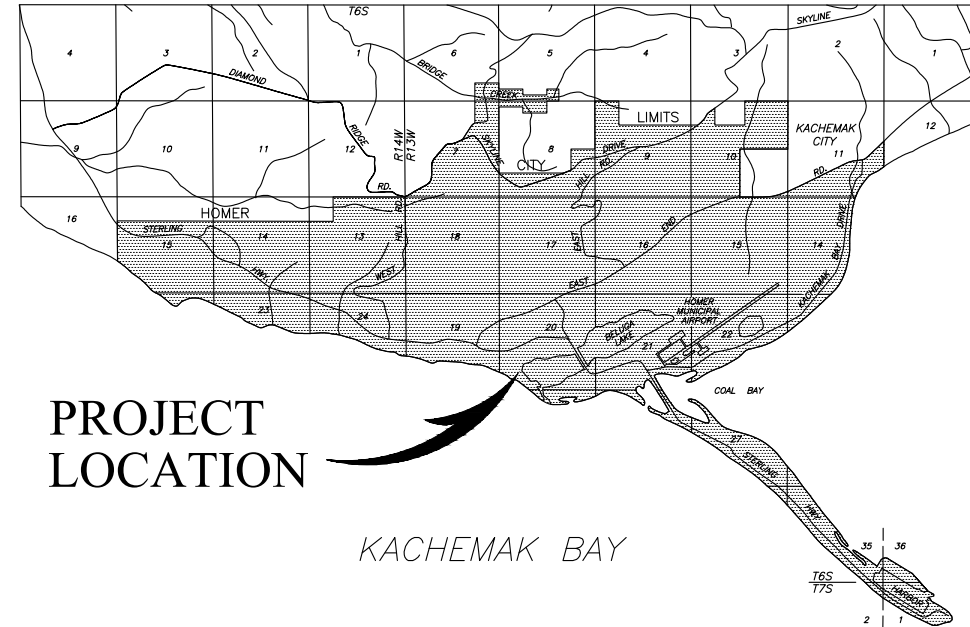
### Homer City Council

Mayor  
Ken Castner

Councilmembers  
Donna Aderhold  
Jason Davis  
Storm Hansen-Cavasos  
Rachel Lord  
Shelly Erickson  
Caroline Venuti

City Manager  
Rob Dumouchel

Public Works Director  
Janette Keiser, PE



**PROJECT  
LOCATION**

KACHEMAK BAY

HOMER AREA MAP

SCALE: 1" = 1 MILE

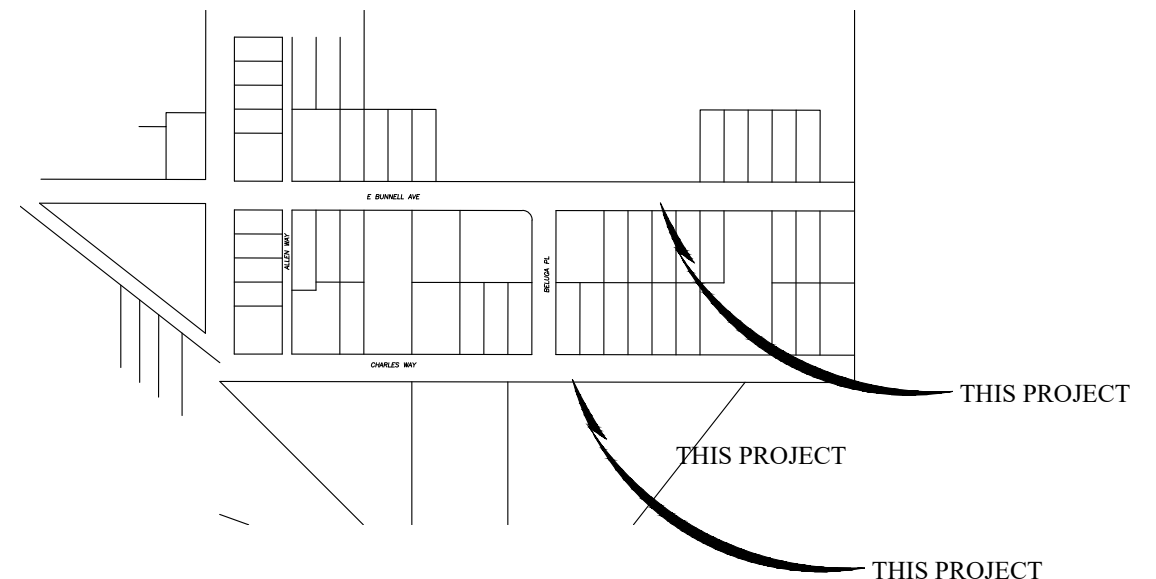
### INDEX TO DRAWINGS

**TITLE**

- E BUNNELL AVENUE WATER MAIN PLAN AND PROFILE STA 25+00.00 TO 29+27.00*
- ALLEN WAY WATER MAIN PLAN AND PROFILE STA 15+00.00 TO 18+56.57*
- CHARLES WAY WATER MAIN PLAN AND PROFILE STA 18+56.57 TO 23+70.00*
- CHARLES WAY WATER MAIN PLAN AND PROFILE STA 23+70.00 TO 27+00.00*
- MAIN CONSTRUCTION DETAILS*
- CONSTRUCTION NOTES*
- EROSION CONTROL PLAN NO. 1*
- EROSION CONTROL PLAN NO. 2*
- EROSION CONTROL PLAN NO. 3*
- EROSION CONTROL PLAN NO. 4*
- EROSION CONTROL DETAILS*

**SHEET**

- W-1
- W-2
- W-3
- W-4
- W-5
- W-6
- W-7
- W-8
- W-9
- W-10
- W-11



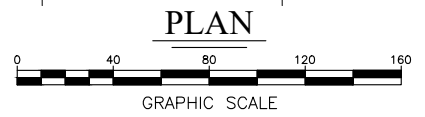
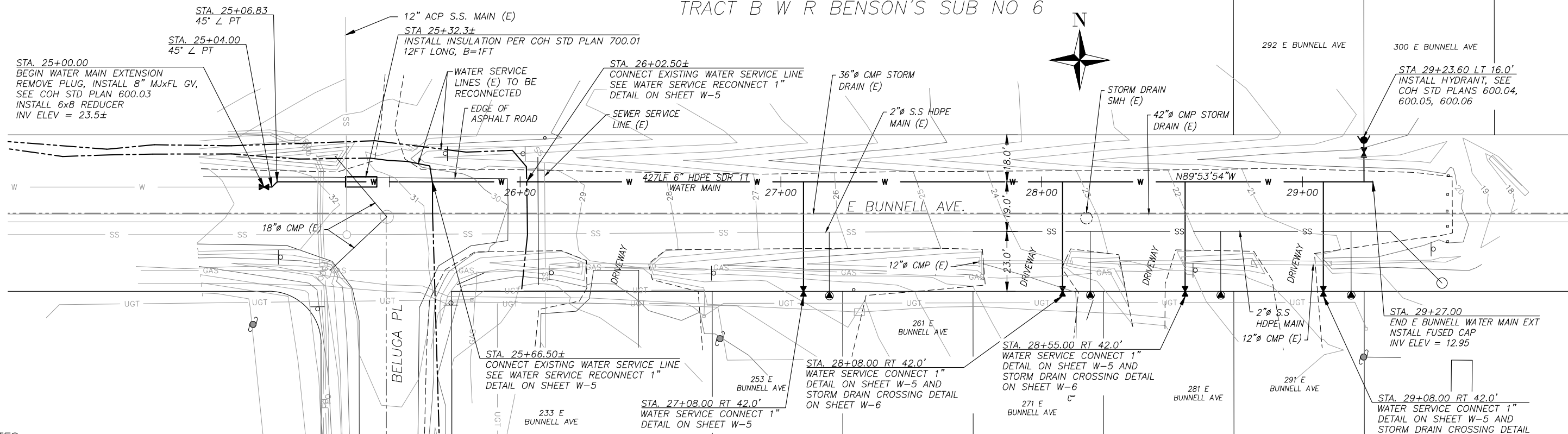
VICINITY MAP

SCALE: 1" = 200'

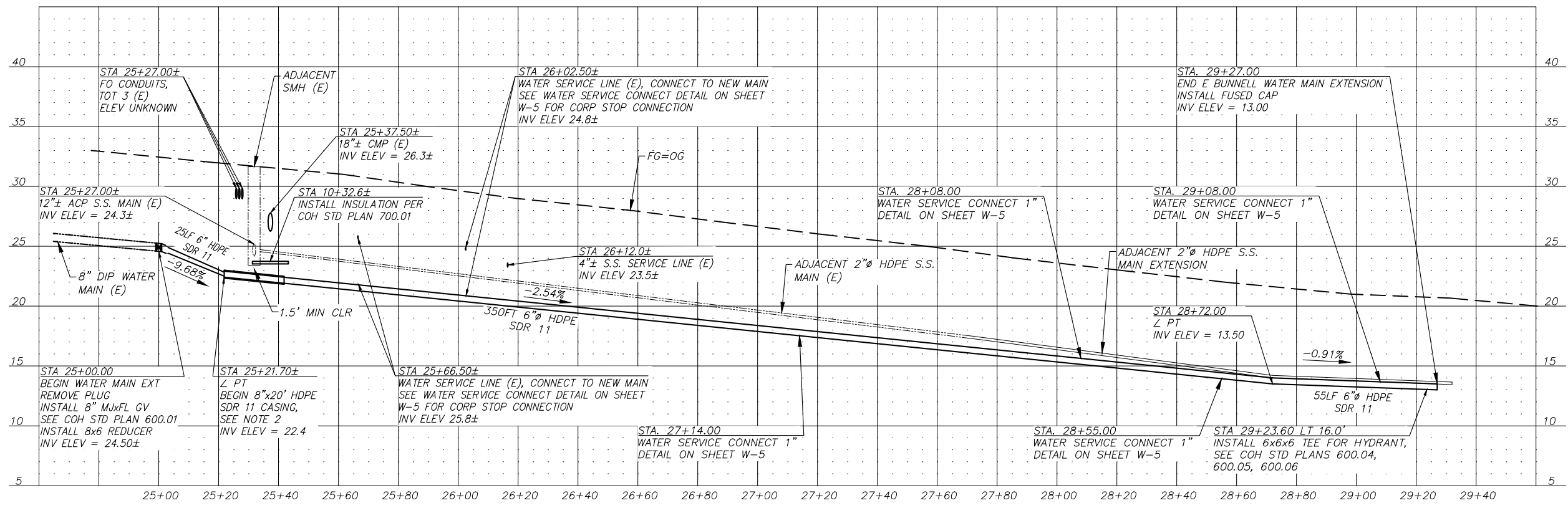
**Notes:**

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT: 811, (800) 478-3121, OR (907) 278-3121.
2. THESE PLANS SHALL BE USED IN CONJUNCTION THE CITY OF HOMER "STANDARD CONSTRUCTION DETAILS" IN ADOPTION ON NOVEMBER 2, 2022.

TRACT B W R BENSON'S SUB NO 6



- NOTES:**
- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
  - CASING SHALL BE CENTERED UNDER EXISTING SEWER MAIN. CONTRACTOR SHALL VERIFY OUTSIDE DIAMETER OF HDPE MAIN PIPE BEFORE ORDERING OR INSTALLING HDPE CASING.
  - SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 457± LINEAR FEET THIS SHEET.
  - SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 59± LINEAR FEET THIS SHEET.
  - SEE "DETAIL C - AC PAVEMENT STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN AREAS OF ASPHALT SURFACING. TOTAL OF 94± LINEAR FEET THIS SHEET.



PROFILE

**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY**  
**E. BUNNELL AVENUE WATER MAIN PLAN + PROFILE**  
**STA 25+00.00 to 29+27.00**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/2/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:

W-1

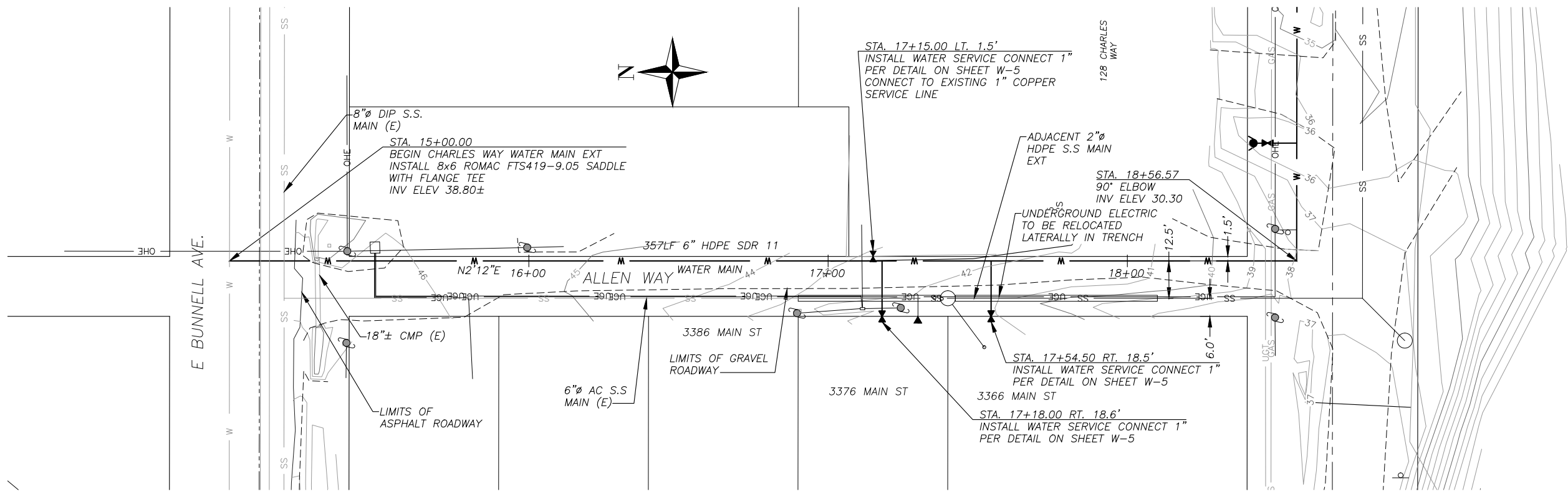


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
ALLEN WAY WATER MAIN PLAN + PROFILE**  
STA 15+00.00 to 18+56.57

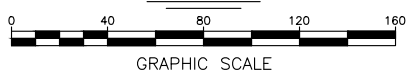
BISHOP ENGINEERING, LLC  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/2/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

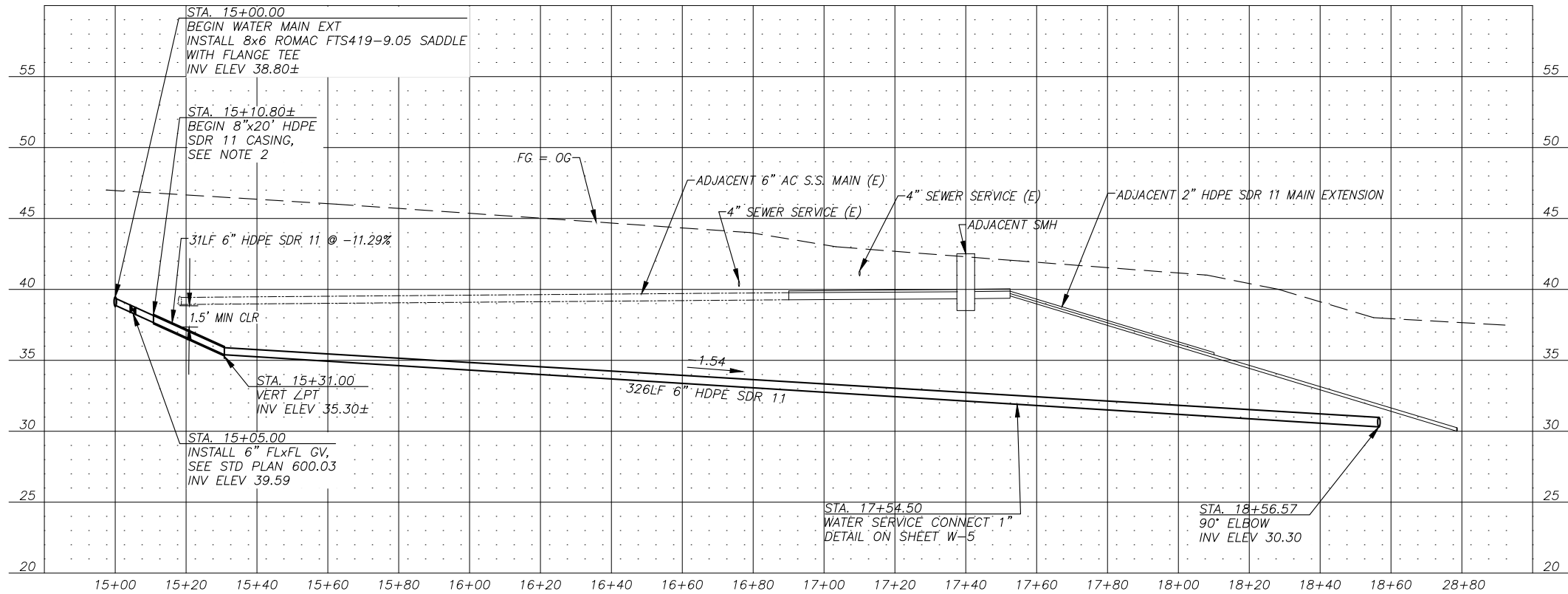
SHEET NO.:  
W-2



**PLAN**



- NOTES:**
- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
  - CASING SHALL BE CENTERED UNDER EXISTING SEWER MAIN. CONTRACTOR SHALL VERIFY OUTSIDE DIAMETER OF HDPE MAIN PIPE BEFORE ORDERING OR INSTALLING HDPE CASING.
  - SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 354± LINEAR FEET THIS SHEET.
  - SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 20± LINEAR FEET THIS SHEET.
  - SEE "DETAIL C - AC PAVEMENT STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN AREAS OF ASPHALT SURFACING. TOTAL OF 22± LINEAR FEET THIS SHEET.



**PROFILE**

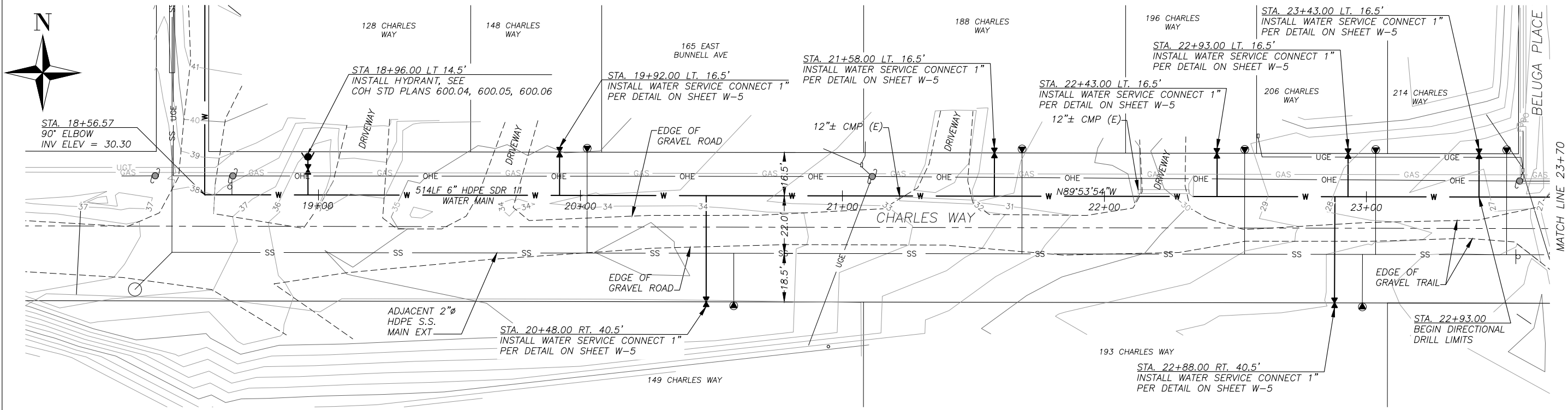


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
CHARLES WAY WATER MAIN PLAN + PROFILE  
STA 18+56.57 to 23+70.00**

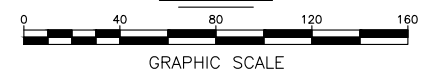
BISHOP ENGINEERING, LLC  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/2/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

SHEET NO.:  
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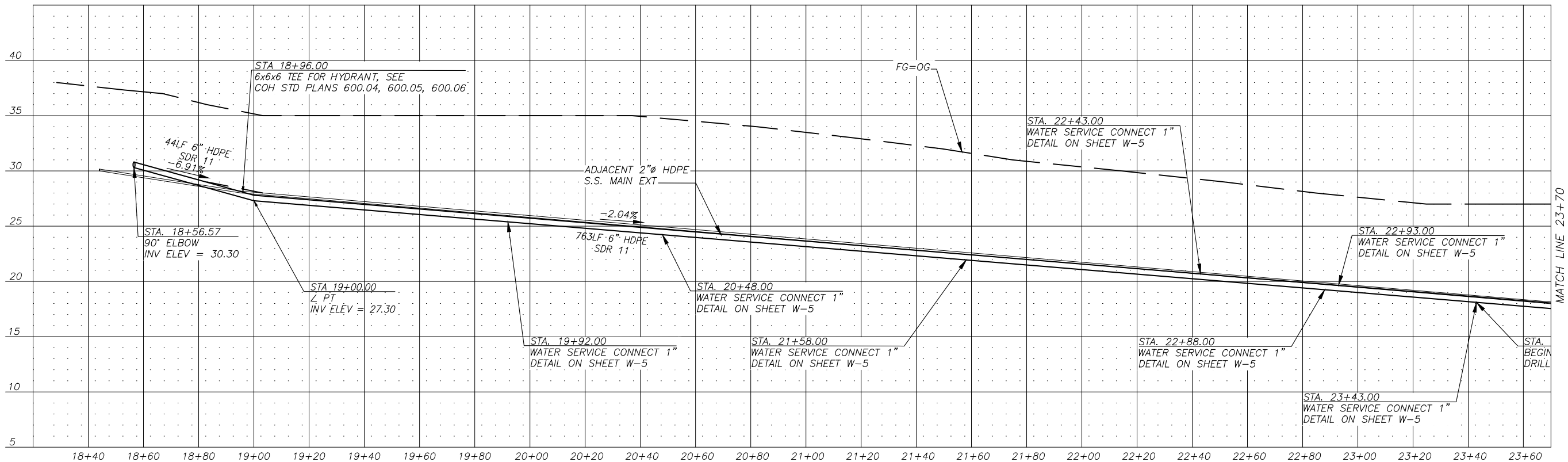


**PLAN**



**NOTES:**

- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
- SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 103± LINEAR FEET THIS SHEET.
- SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 561± LINEAR FEET THIS SHEET.



**PROFILE**

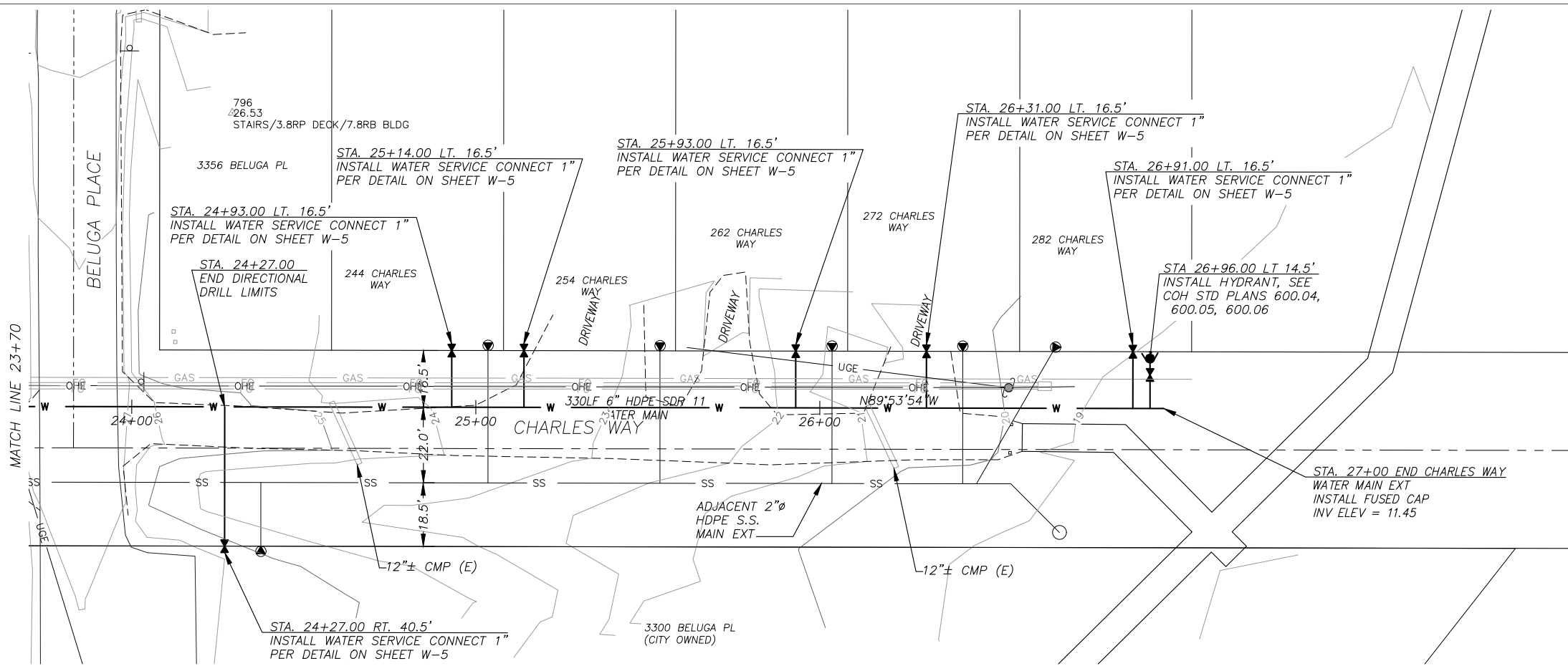


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
CHARLES WAY WATER MAIN PLAN + PROFILE  
STA 23+70.00 to 27+00.00**

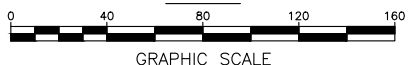
**BISHOP ENGINEERING, LLC**  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/2/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

SHEET NO.:  
**W-4**

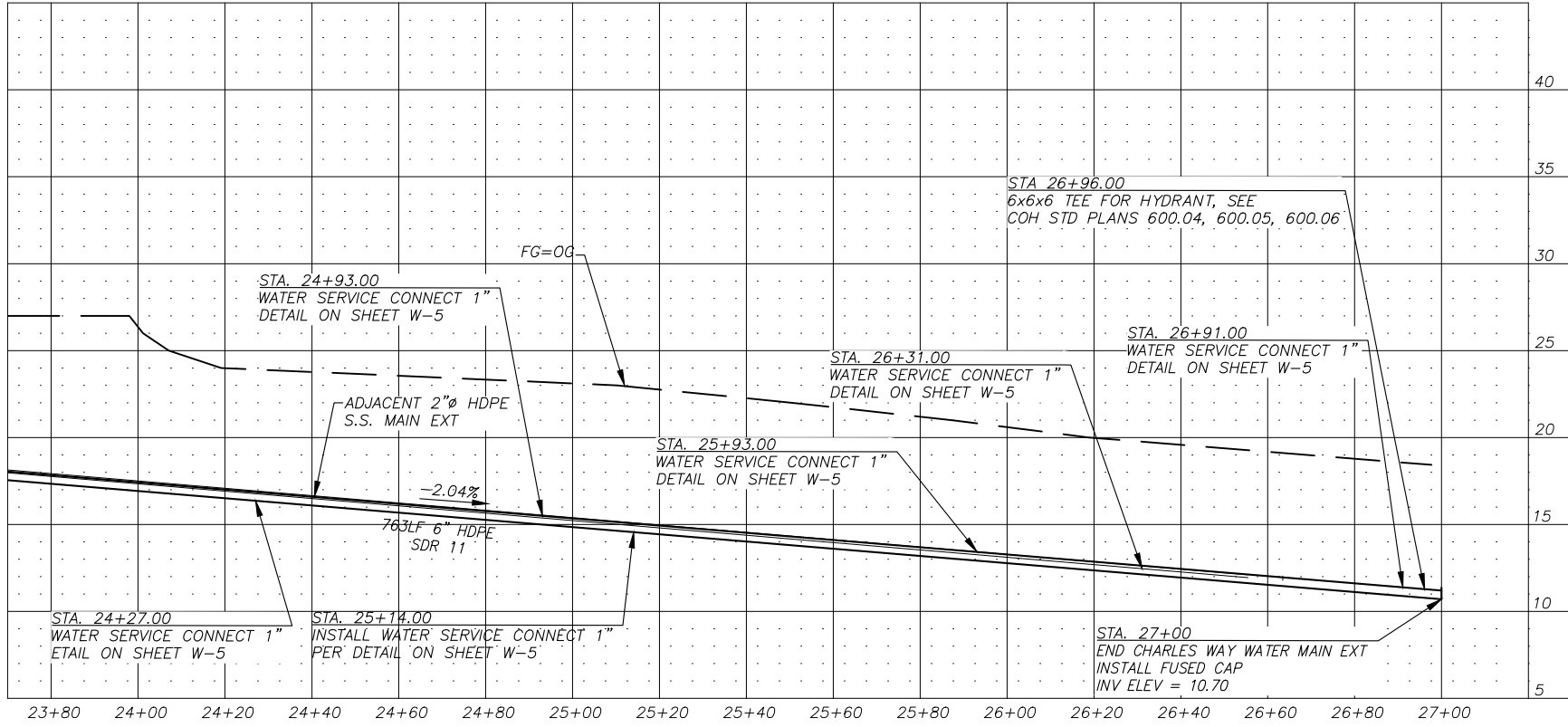


**PLAN**



**NOTES:**

- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
- SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 225± LINEAR FEET THIS SHEET.
- SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET W-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 185± LINEAR FEET THIS SHEET.



**PROFILE**

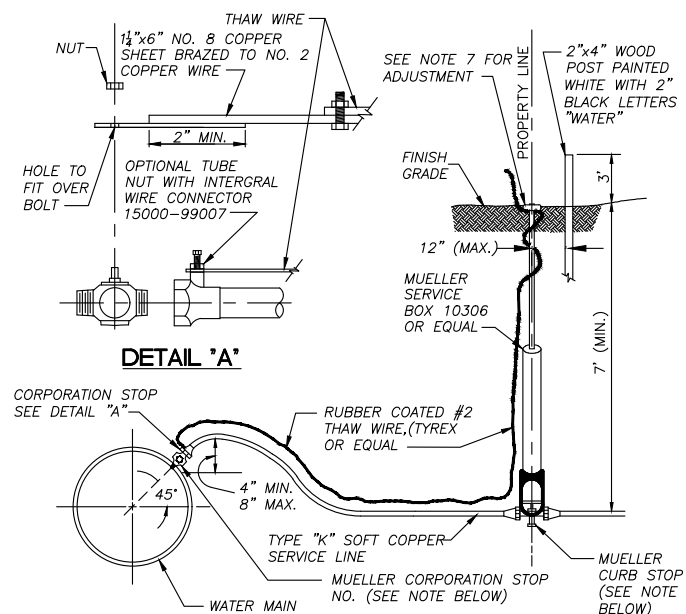


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
WATER MAIN EXTENSION  
WATER MAIN CONSTRUCTION DETAILS**

**BISHOP ENGINEERING, LLC**  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

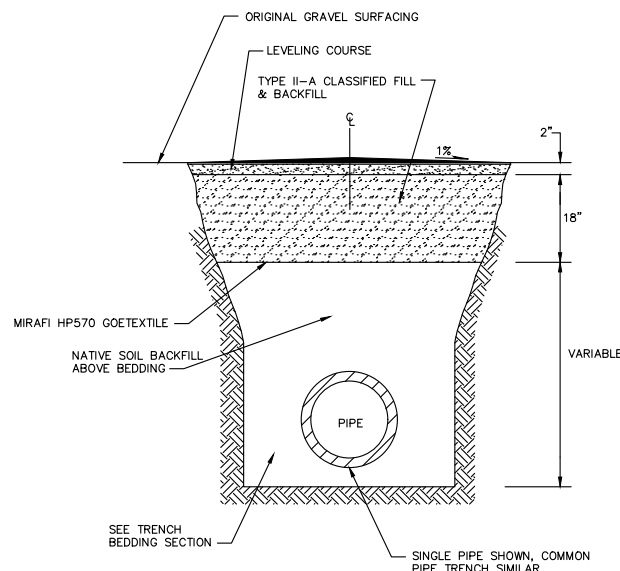
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SHEET NO.:  
**W-5**



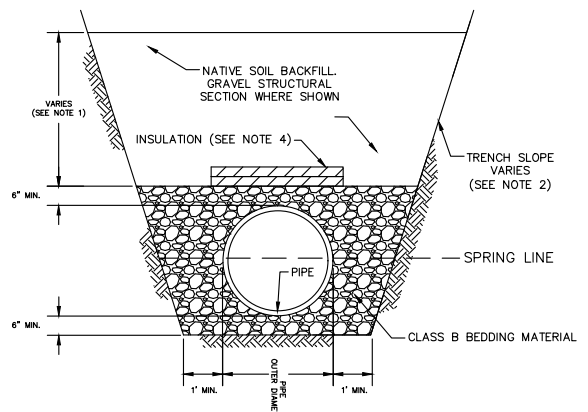
- NOTES:**
1. USE MUELLER CORPORATION STOP NO. 15025 FOR PIPE-THREAD SADDLES.
  2. USE MUELLER CORPORATION STOP NO. 15000 FOR STEEL PIPE.
  3. USE MUELLER CURB STOP NO. H-15204 OR EQUAL FOR COPPER TO COPPER CONNECTIONS.
  4. ROD TO BE ATTACHED TO CURB STOP WITH NO. 6 GAUGE COPPER WIRE, NO SUBSTITUTIONS.
  5. MUELLER SERVICE CLAMPS TO BE USED ON ALL PLATIC PIPE, DOUBLE STRAP OR EQUAL.
  6. HDPE MAINLINES SHALL UTILIZE A SIDEWALL BRANCH SADDLE WITH INTEGRAL BRASS CC THREAD INSERT TO RECEIVE CORPORATION STOP.
  7. CURB BOX FINISH ELEVATION SHALL BE AS FOLLOWS:
    - PAVED AREA 0.5" BELOW FINISH GRADE
    - GRAVEL AREA 1" TO 3" BELOW FINISH GRADE
    - YARD/UNDEVELOPED AREA 0" TO 3" ABOVE FINISH GRADE

WATER SERVICE CONNECT 1"Ø  
NOT TO SCALE



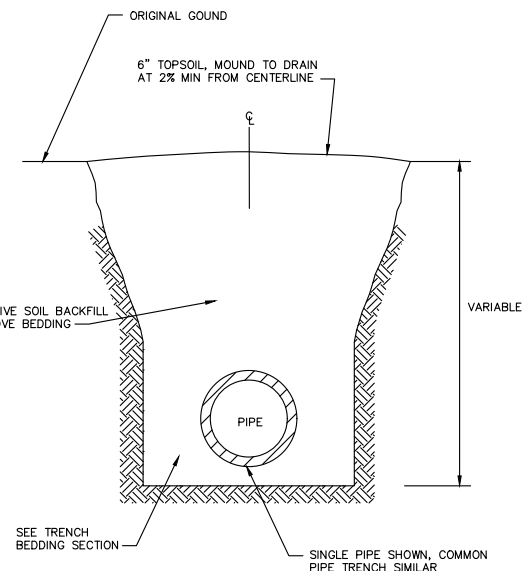
- NOTE:**
1. CONTRACTOR SHALL CONSTRUCT A 1% CROWN WITH THE PEAK CENTERED OVER THE CENTERLINE OF THE EXCAVATION.

DETAIL A - STRUCTURAL TRENCH SECTION  
NOT TO SCALE

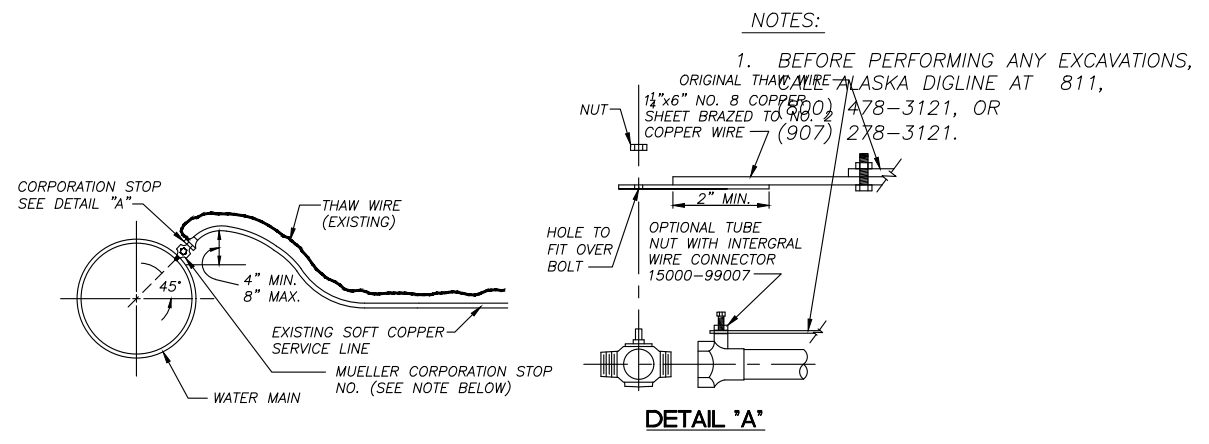


- NOTES:**
1. TRENCH BACKFILL MATERIAL PLACED AND COMPACTED TO DEPTHS SHOWN IN THE DRAWINGS OR AS DETERMINED BY ENGINEER. COMPACT TRENCH BACKFILL TO A MINIMUM OF 95% MAXIMUM DENSITY.
  2. TRENCH WALL SLOPES WILL VARY WITH SOIL STRENGTH AND CHARACTER. SLOPES SHALL CONFORM TO OSHA SAFETY STANDARDS.
  3. BACKFILL SHALL BE FREE OF CLAYS AND ORGANIC MATERIALS.
  4. WHEN SPECIFIED IN CONTRACT DOCUMENTS, SEE STANDARD DETAIL 20-9 FOR INSULATION DETAILS.

TRENCH BEDDING SECTION  
NOT TO SCALE

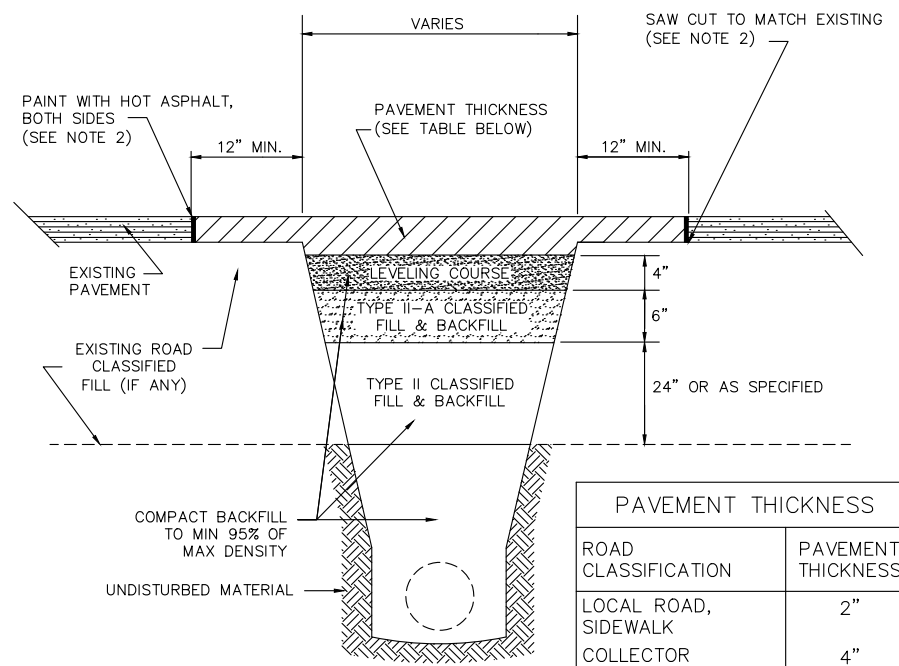


DETAIL B - NON-STRUCTURAL TRENCH SECTION  
NOT TO SCALE



- NOTES:**
1. USE MUELLER CORPORATION STOP NO. 15025 FOR PIPE-THREAD SADDLES.
  2. MUELLER SERVICE CLAMPS TO BE USED ON ALL PLASTIC PIPE, DOUBLE STRAP OR EQUAL.
  3. HDPE MAINLINES SHALL UTILIZE A SIDEWALL BRANCH SADDLE WITH INTEGRAL BRASS CC THREAD INSERT TO RECEIVE CORPORATION STOP.

WATER SERVICE RECONNECT 1"Ø  
NOT TO SCALE



PAVEMENT THICKNESS	
ROAD CLASSIFICATION	PAVEMENT THICKNESS
LOCAL ROAD, SIDEWALK	2"
COLLECTOR	4"
ARTERIAL +	6" OR AS SPECIFIED

- NOTES:**
1. ENGINEER OR PERMITTING AGENCY MAY DIRECT ADDITIONAL AMOUNTS OF SURFACE REPLACEMENT MATERIALS AND/OR TYPE II CLASSIFIED FILL & BACKFILL, BASED UPON FIELD CONDITIONS.
  2. AFTER TRENCH BACKFILL HAS BEEN COMPACTED, CONTRACTOR SHALL SAW CUT (REF. SECTION 40.02.5.J) AND REMOVE AN ADDITIONAL 12" FROM EACH EDGE OF THE ORIGINAL CUT. ENGINEER MAY REQUIRE ADDITIONAL REMOVAL IF THE EXISTING SURFACING HAS BEEN LIFTED IN THE REMOVAL PROCESS OR IF THE JOINT DOES NOT OCCUR ON UNDISTURBED MATERIAL. TRIM AND SQUARE THE EDGES OF EXISTING SURFACING, AND REMOVE LOOSE MATERIALS BEFORE PLACING PAVEMENT. CONTRACTOR SHALL PAINT SURFACES AND EDGES OF EXISTING PAVEMENT WITH HOT ASPHALT CEMENT AS SPECIFIED IN THE CONTRACT DOCUMENTS OR AS APPROVED BY THE ENGINEER.
  3. MAXIMUM PAVEMENT LIFT THICKNESS IS 2" UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS OR APPROVED BY THE ENGINEER.
  4. THIS DETAIL APPLIES TO ALL NON-GRAVEL SURFACES INCLUDING, BUT NOT LIMITED TO, PAVEMENT, RECYCLED ASPHALT PAVEMENT (RAP), AND BITUMINOUS SURFACE TREATMENT, ALSO KNOWN AS CHIP SEAL.

DETAIL C - AC PAVEMENT STRUCTURAL TRENCH SECTION  
NOT TO SCALE



CITY OF HOMER STANDARD DRAWINGS INDEX

200.03	STANDARD LOCATION FOR NEW UTILITIES
200.04	TYPICAL UTILITY LOCATIONS
200.05	TYPICAL WATER AND SEWER LOCATIONS
200.06	COMPACTION OF BACKFILL WITHIN RIGHT-OF-WAY
200.07	CLASS B AND C BEDDING
200.08	TRENCH BACKFILL
400.02	RESURFACING DETAIL TYPICAL GRAVEL SECTION
600.03	TYPICAL VALVE BOX
600.04	SINGLE PUMPER "L" BASE HYDRANT ASSEMBLY
600.05	HYDRANT GUARD POSTS
600.06	FIRE HYDRANT ACCESS PAD
600.10	GATE VALVE EXTENSION ROD

LEGEND & SYMBOLS

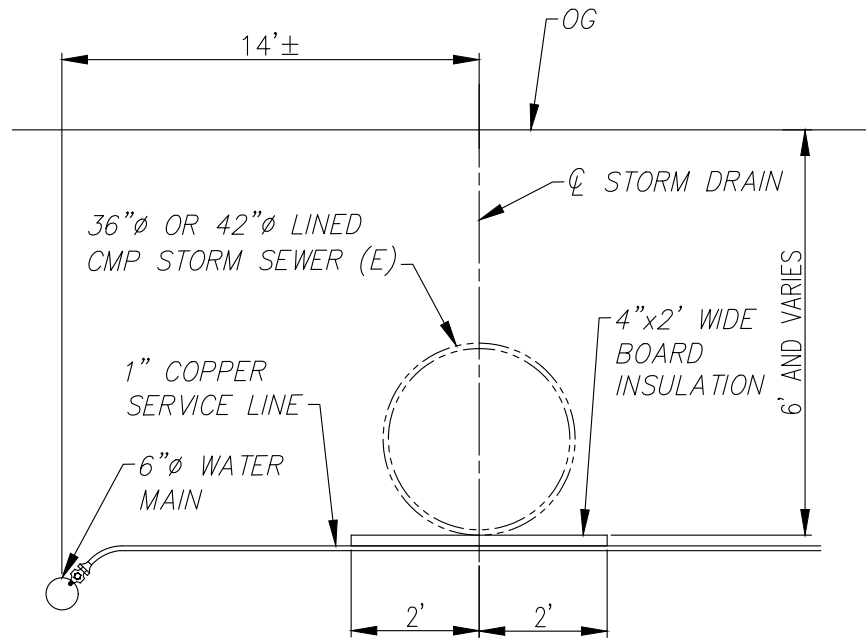
EDGE EXISTING GRAVEL	---
CUT CATCH LINE	- - - - -
FILL CATCH LINE	· · · · ·
CENTERLINE	+ - - - - +
UNDERGROUND ELECTRIC	— UGE —
OVERHEAD ELECTRIC	— OHE —
UNDERGROUND TELEPHONE	— UGT —
WATER MAIN	— W —
SANITARY SEWER	— SS —
CONTOURS MAJOR	— 85 —
CONTOURS MINOR	— —
TEST PIT LOCATION	⊕ TP-1
SIGN	d
PIPE CULVERT W/ END SECTION	
FIRE HYDRANT	
VALVE OR RISER	
EXISTING VALVE OR RISER	
PRESSURIZED SEWER SERVICE POLY VALVE	

ABBREVIATIONS

AKDOT&PF	ALASKA DEPT. OF TRANSPORTATION & PUBLIC FACILITIES
ARV	AIR RELEASE VALVE
APDES	ALASKA POLLUTION DISCHARGE ELIMINATION SYSTEM
Δ	DELTA / CENTRAL ANGLE OF CURVE
BP	BEGIN PROJECT
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CONTRACTING OFFICER
COH	CITY OF HOMER
CY	CUBIC YARD
DIA	DIAMETER
DIST	DISTANCE
E	EASTING
EL	ELEVATION
ELEV	ELEVATION
EP	END PROJECT
ESMT	EASEMENT
(E)	EXISTING
FL	FLANGE
FT	FOOT
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE
IN	INCH
INV	INVERT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LT	LEFT
MIN	MINIMUM
MAX	MAXIMUM
MJ	MECHANICAL JOINT
MPH	MILES PER HOUR
MSF	1000 SQUARE FEET
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTHING
OHE	OVERHEAD ELECTRIC
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PT	POINT OF TANGENCY
R	RADIUS
RT	RIGHT
R/W	RIGHT-OF-WAY
SEC	SECTION
SI	STREET INTERSECTION
SF	SQUARE FOOT
SMH	SEWER MANHOLE
S.S.	SANITARY SEWER
SS	STAINLESS STEEL
STA.	STATION
STD	STANDARD
SY	SQUARE YARD
TRANS	TRANSMISSION
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
UTIL	UTILITY
TYP.	TYPICAL
W	WATER MAIN OR SERVICE

CONSTRUCTION NOTES

- DIRECTIONAL DRILLING SHALL BE UTILIZED TO INSTALL HDPE MAIN PIPE WHEREVER OPEN TRENCH INSTALLATION IS NOT REQUIRED TO PLACE HARDWARE FITTINGS AND ASSEMBLIES, VALVES, TEES, INSULATION BOARD, MANHOLES, AND CASINGS.
- CONTRACTOR SHALL COMPLETE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF HOMER STANDARD SPECIFICATIONS 2011 EDITION INCLUDING ITEMS. DRAWINGS, TECHNICAL SPECIFICATIONS, AND SPECIAL PROVISIONS TAKE PRECEDENCE OVER THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS CONTAINED IN LOCAL, STATE AND FEDERAL PERMITS OBTAINED BY THE CITY FOR CONSTRUCTION OF THIS PROJECT. COPIES OF THE PERMITS SHALL BE MAINTAINED AT THE JOB SITE.
- UNDERGROUND ELECTRICAL AND TELECOMMUNICATIONS LINES OCCUR WITHIN THE PROJECT AREA. LOCATIONS DEPICTED FOR THE UTILITIES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM RECORD DRAWINGS AND UTILITY COMPANY LOCATES. CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE WORK ACCORDINGLY. ALL WORK IN CLOSE PROXIMITY TO EXISTING UNDERGROUND LINES SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE AND LOCAL STATUTES, CODES AND GUIDELINES, AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY. CONTRACTOR SHALL HAND DIG WITHIN TWO FEET OF BURIED ELECTRICAL CABLE.
- THIS PROJECT IS REQUIRED TO BE CONSTRUCTED IN ACCORDANCE WITH THE APDES GENERAL CONSTRUCTION PERMIT FOR STORM WATER POLLUTION. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE PERMIT.
- CONTRACTOR SHALL CONSTRUCT EROSION CONTROL DEVICES AS SHOWN IN THE PLANS AND PROCEDURES AND REQUIREMENTS DOCUMENTED IN THE SWPPP PERMIT.
- IF CONTAMINATED SOIL, GROUNDWATER, OR FREE-PRODUCT ARE ENCOUNTERED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER WHO WILL IMMEDIATELY CONTACT THE ADEC PREVENTION AND EMERGENCY RESPONSE (PERP) OFFICE STAFF AT (907) 465-5340 / FAX (907) 465-2237 IN ACCORDANCE WITH SPILL REPORTING REQUIREMENTS UNDER 18 AAC 75.300, AND COORDINATE MANAGEMENT OF ALL CONTAMINATED MEDIA WITH EMERGENCY RESPONSE PERSONNEL.
- THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT DEMONSTRATES THE PIPE MATERIAL IS CERTIFIED TO CONFORM TO ANSI/NSF STANDARD 61.
- DISINFECTION WATER SHALL NOT BE RELEASED OVERLAND OR TO ANY CREEKS, STREAMS, TEMPORARY OR PERMANENT DRAINAGE SWALES OR DITCHES. DISINFECTION WATER SHALL BE FLUSHED INTO THE CITY OF HOMER SANITARY SEWER SYSTEM THROUGH A SANITARY SEWER MANHOLE OR CLEANOUT LOCATED WITHIN 100 FEET OF THE DISINFECTION WATER DISCHARGE POINT. ALTERNATIVELY, IF NO CITY SANITARY SEWER MANHOLE OR CLEANOUT IS LOCATED WITHIN 100 FEET OF THE DISINFECTION WATER DISCHARGE POINT, THE DISINFECTION WATER SHALL BE RETAINED IN A TANK TRUCK OR OTHER TRANSPORTABLE CONTAINER AND DISCHARGED INTO THE CITY OF HOMER SANITARY SEWER SYSTEM AT A LOCATION TO BE DETERMINED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT DEMONSTRATES THE CHEMICAL ADDITIVE FOR DISINFECTION IS CERTIFIED TO CONFORM TO ANSI/NSF STANDARD 60.
- DISCHARGES OF EFFLUENT FROM HYDROSTATIC TESTING AND DISINFECTION SHALL CONFORM SECTIONS 4.0 CONTROL MEASURES, 5.1 LAND DISPOSAL DISCHARGES OF HYDROSTATIC TESTING, AND 6.0 REPORTING AND RECORDKEEPING OF THE ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM "GENERAL PERMIT FOR HYDROSTATIC AND AQUIFER PUMP TESTING" PERMIT NUMBER AKG003000.
- FIBER ROLLS SHALL BE STRAW TYPE, 6-INCH NOMINAL DIAMETER, AND AT LEAST 3.1 LB/CU.FT. DENSITY. INSTALL ROLLS AS SHOWN ON THE PLANS AND MANUFACTURER'S INSTRUCTIONS.
- DETAIL A - STRUCTURAL TRENCH SECTION SHALL BE USED FOR WATER MAIN AND WATER SERVICE BACKFILL WITHIN ALL GRAVEL SURFACED AREAS. DETAIL B - NON-STRUCTURAL TRENCH SECTION SHALL BE USED FOR BACKFILL IN ALL AREAS CONSISTING OF NATURAL SILTY AND ORGANIC SURFACE SITE SOILS.



STORM SEWER CROSSING  
NOT TO SCALE



E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
WATER MAIN EXTENSION  
WATER MAIN CONSTRUCTION NOTES

BISHOP ENGINEERING, LLC  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/2/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

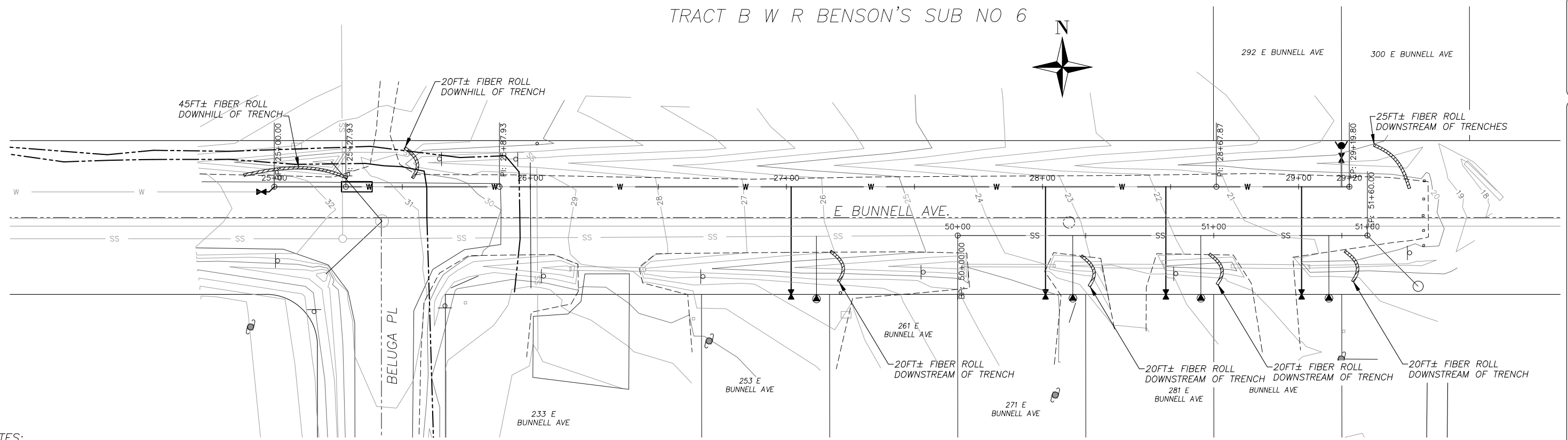
SHEET NO.:

W-6

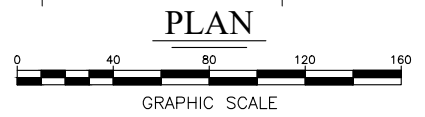
NOTES:

- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.

TRACT B W R BENSON'S SUB NO 6



**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS,  
 CALL ALASKA DIGLINE AT 811,  
 (800) 478-3121, OR (907) 278-3121.

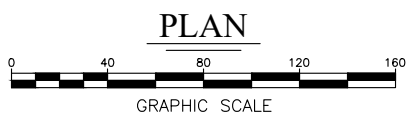
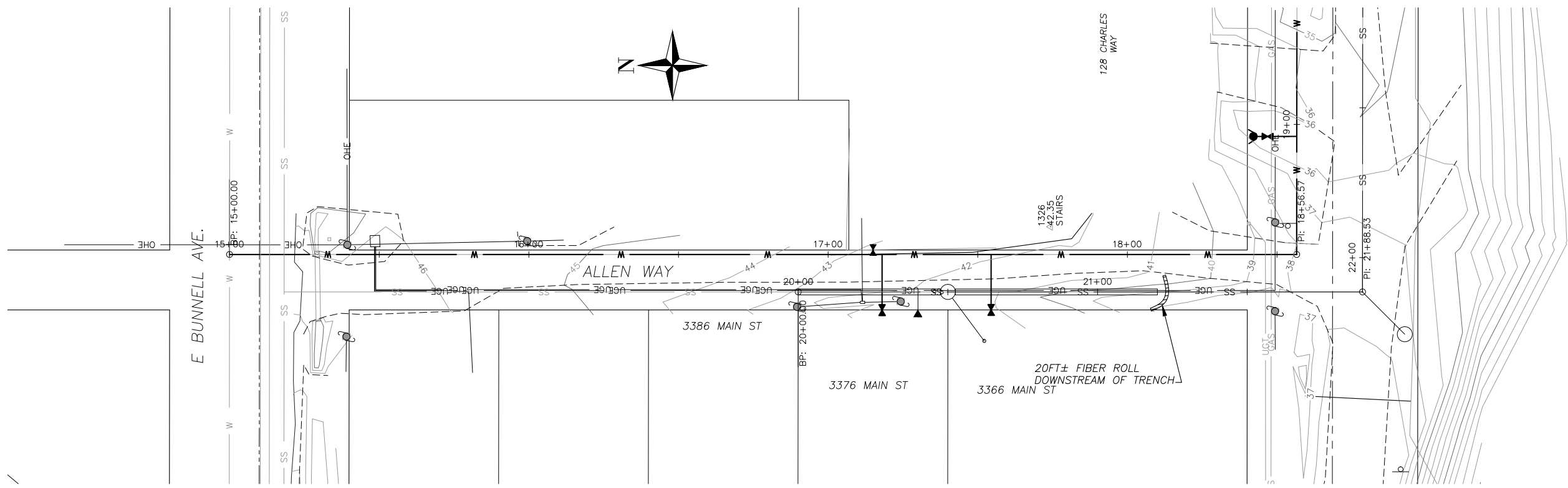


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 WATER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 1**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/2/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:  
**W-7**



**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.

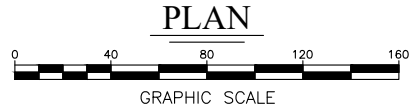
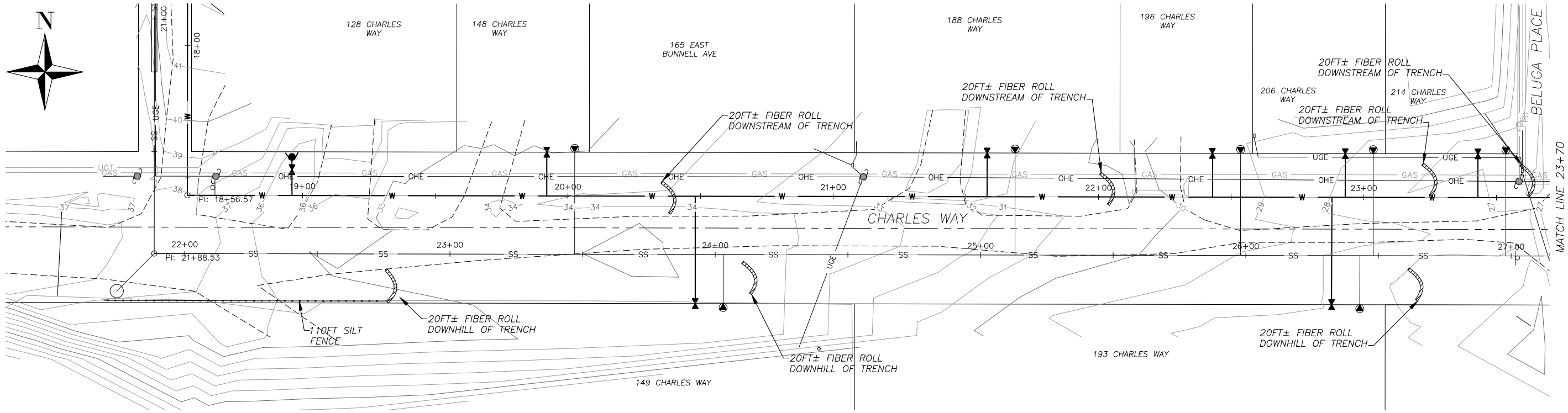
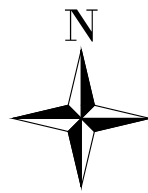


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 WATER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 2**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/2/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:  
 W-8



**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS,  
 CALL ALASKA DIGLINE AT 811,  
 (800) 478-3121, OR (907) 278-3121.

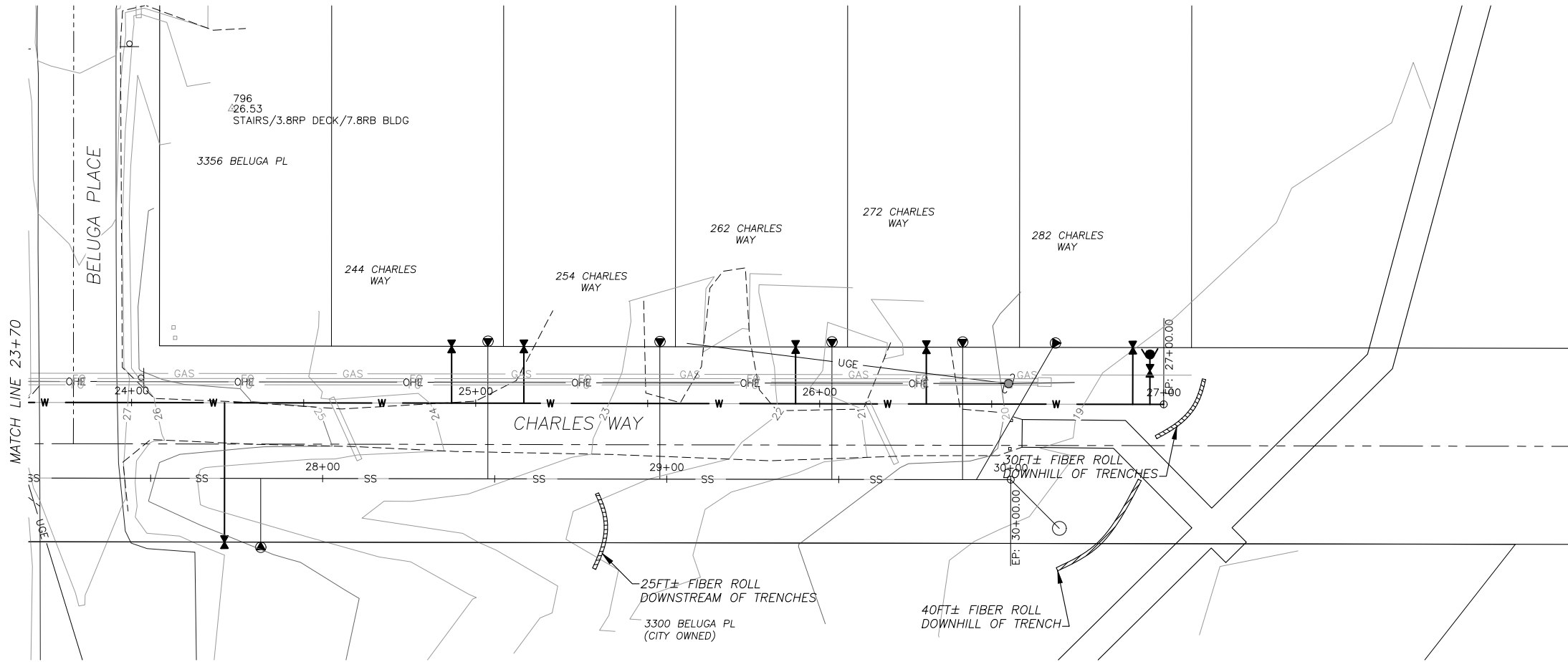


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 WATER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 3**

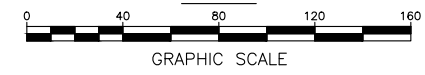
**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/2/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:  
 W-9



**PLAN**



**NOTES:**  
1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.

**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
WATER MAIN EXTENSION  
EROSION CONTROL PLAN NO. 4**

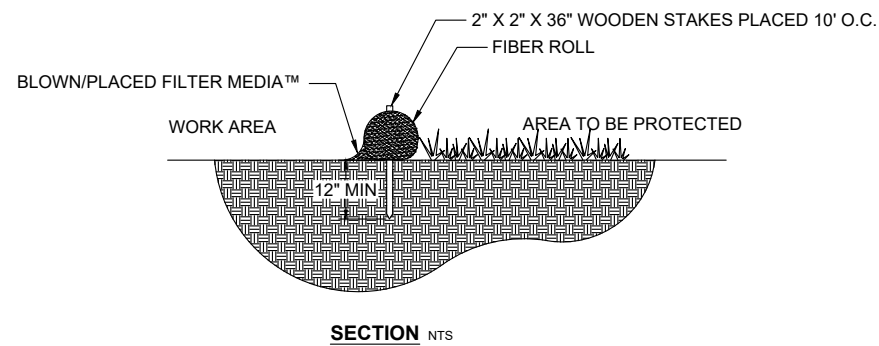
BISHOP ENGINEERING, LLC  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/2/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

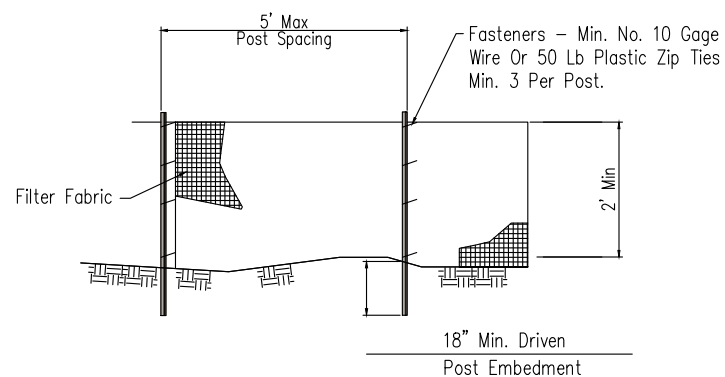
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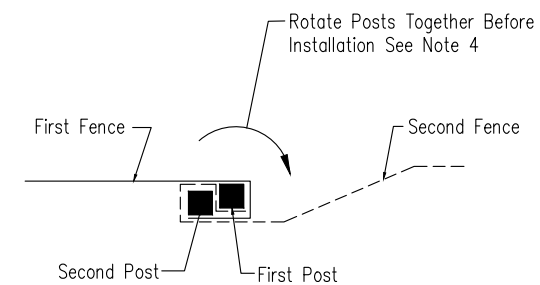
**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
 WATER MAIN EXTENSION  
 EROSION CONTROL DETAILS**



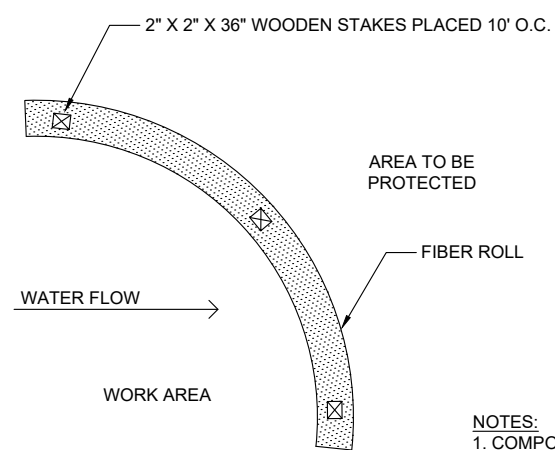
**SECTION** NTS



**ELEVATION**

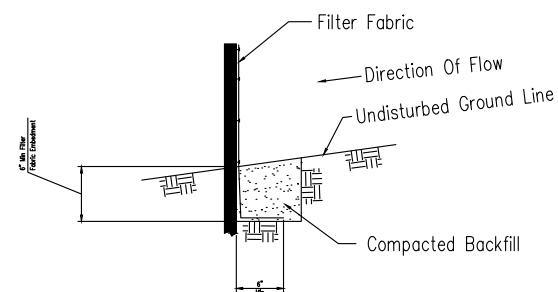


**SPLICE DETAIL-PLAN VIEW**



**PLAN** NTS

**NOTES:**  
 1. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.



**FABRIC ANCHOR DETAIL**

**NOTES:**

1. Temporary silt fence shall be installed prior to any grading work in the area to be protected. Fence shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of at least 30 for nonwoven and 50 for woven.
3. Fence posts shall be either wood post with a minimum cross-sectional area of 1.5" X 1.5" or a standard steel post.
4. When splices are necessary make splice at post according to splice detail. Place the end post of the second fence inside the end post of the first fence. Rotate both posts together at least 180 degrees to create a tight seal with the fabric material. Cut the fabric near the bottom of the posts to accommodate the 6 inch flap. Then drive both posts and bury the flap. Compact backfill well.

**FIBER ROLL SEDIMENT CONTROL**  
 NTS

**SIILT FENCE PROJECT BORDER**  
 NTS

**NOTES:**

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/2/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:

W-11

# CITY OF HOMER

## E BUNNELL AVENUE / CHARLES WAY / ALLEN WAY

### SANITARY SEWER MAIN EXTENSION

NOVEMBER 22, 2022



LOCATION MAP

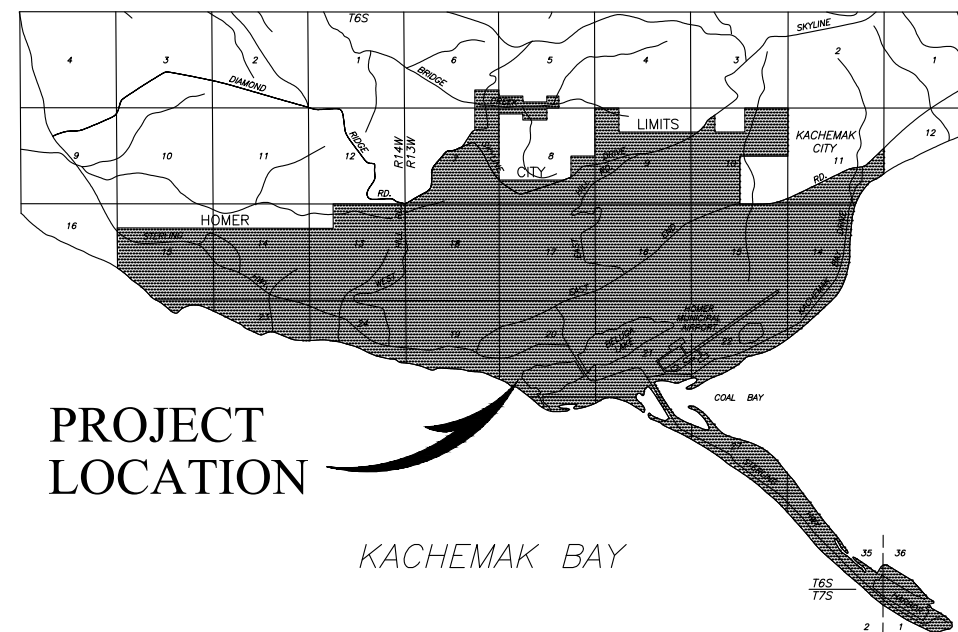
### Homer City Council

Mayor  
Ken Castner

Councilmembers  
Donna Aderhold  
Jason Davis  
Storm Hansen-Cavasos  
Rachel Lord  
Shelly Erickson  
Caroline Venuti

City Manager  
Rob Dumouchel

Public Works Director  
Janette Keiser, PE



**PROJECT LOCATION**

HOMER AREA MAP

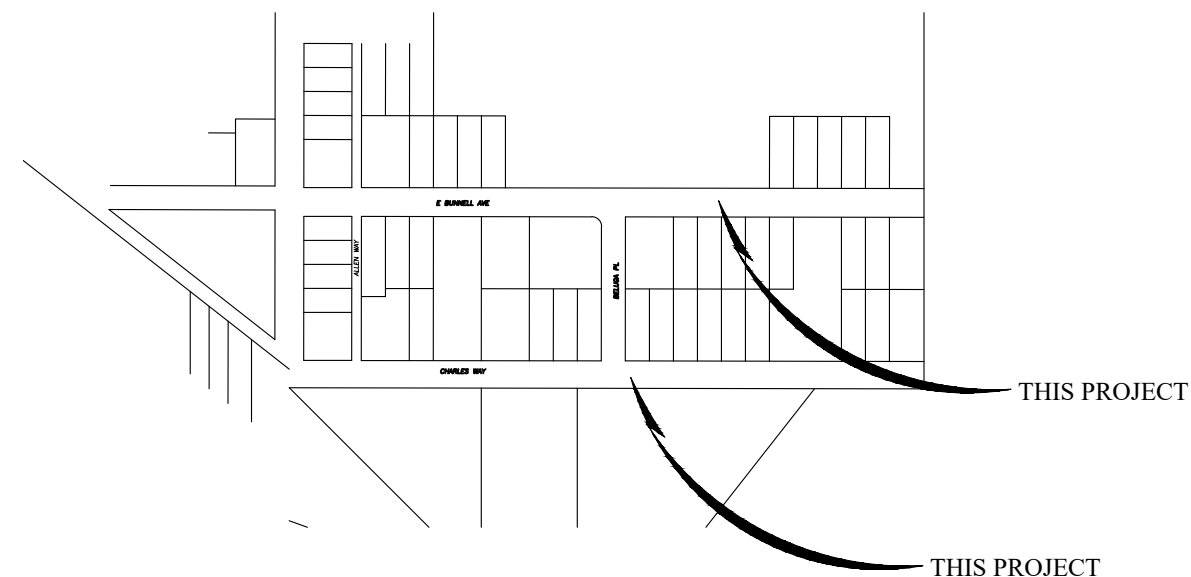
SCALE: 1" = 1 MILE

### INDEX TO DRAWINGS

TITLE	SHEET
E BUNNELL AVENUE SANITARY SEWER MAIN PLAN + PROFILE 50+00.00 TO 51+60.00	SS-1
ALLEN WAY SANITARY SEWER MAIN PLAN + PROFILE 20+00.00 TO 21+88.53	SS-2
CHARLES WAY SANITARY SEWER MAIN PLAN + PROFILE 21+88.53 TO 27+20.00	SS-3
CHARLES WAY SANITARY SEWER MAIN PLAN + PROFILE 27+20.00 TO 30+00.00	SS-4
SANITARY SEWER CONSTRUCTION DETAILS	SS-5
SANITARY SEWER CONSTRUCTION NOTES	SS-6
SANITARY SEWER LIFT STATION DETAILS & NOTES	SS-7
EROSION CONTROL PLAN NO. 1	SS-8
EROSION CONTROL PLAN NO. 2	SS-9
EROSION CONTROL PLAN NO. 3	SS-10
EROSION CONTROL PLAN NO. 4	SS-11
EROSION CONTROL DETAILS	SS-12

**NOTES:**

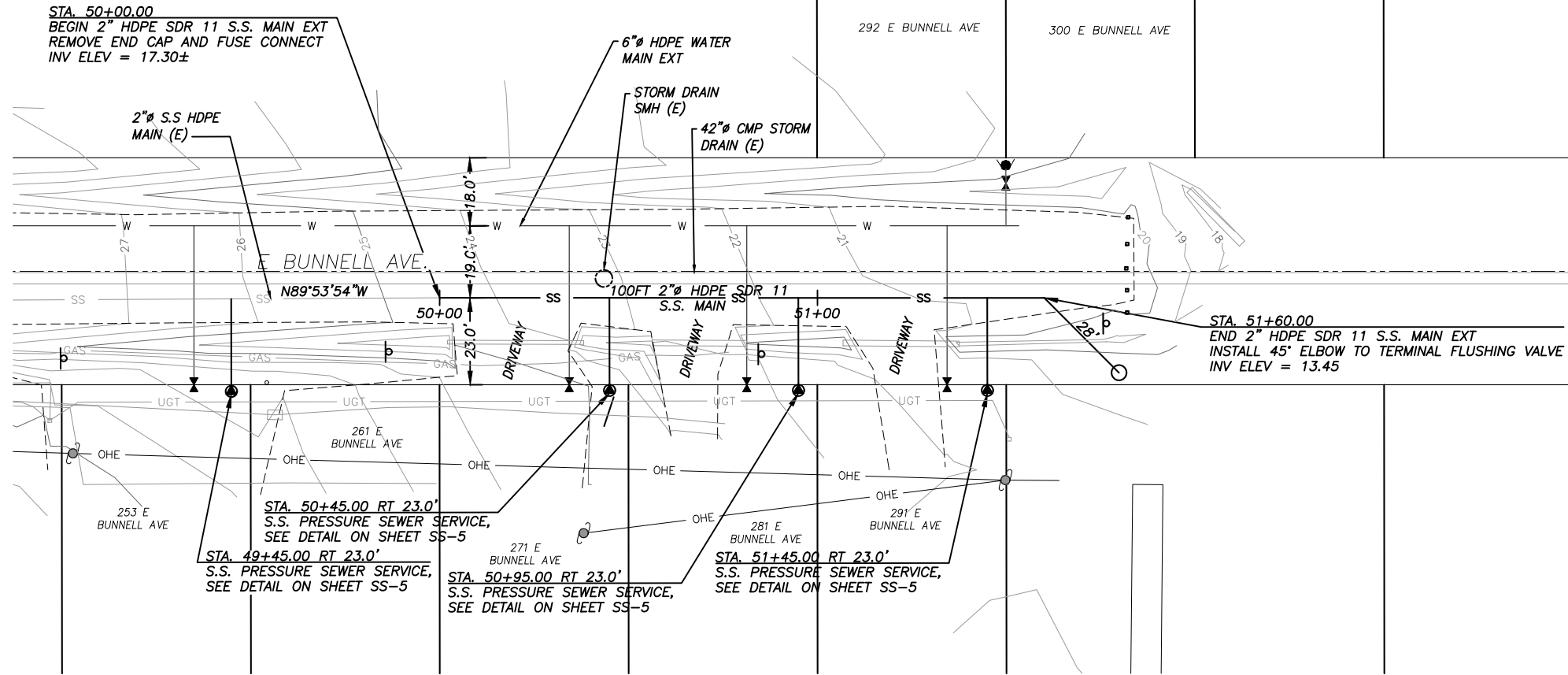
1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT: 811, (800) 478-3121, OR (907) 278-3121.
2. THESE PLANS SHALL BE USED IN CONJUNCTION THE CITY OF HOMER "STANDARD CONSTRUCTION DETAILS" IN ADOPTION ON NOVEMBER 22, 2022.



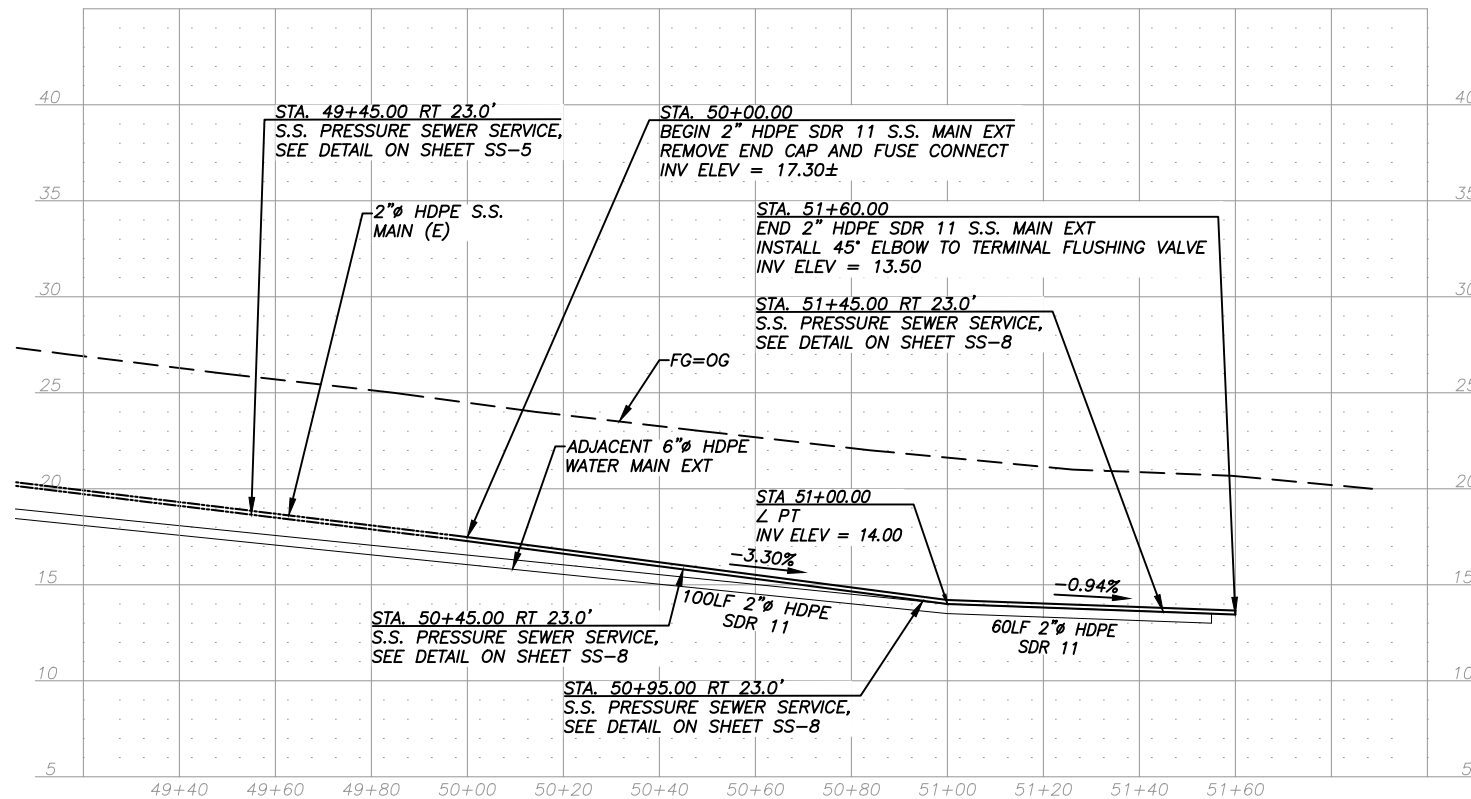
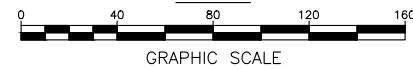
VICINITY MAP

SCALE: 1" = 200'

TRACT B W R BENSON'S SUB NO 6



PLAN



PROFILE

NOTES:

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
2. NO E-ONE UNITS INSTALLED FOR SERVICES SHOWN ON THIS SHEET.
3. SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 193± LINEAR FEET THIS SHEET.
4. SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 88± LINEAR FEET THIS SHEET.
5. INSTALL E-ONE LIFT STATIONS AT:
  - 5.1. 281 E. BUNNELL AVENUE
  - 5.2. 291 E. BUNNELL AVENUE



E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 E. BUNNELL AVENUE S.S. MAIN PLAN + PROFILE  
 STA 50+00.00 to 51+60.00

BISHOP ENGINEERING, LLC  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/22/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:

SS-1





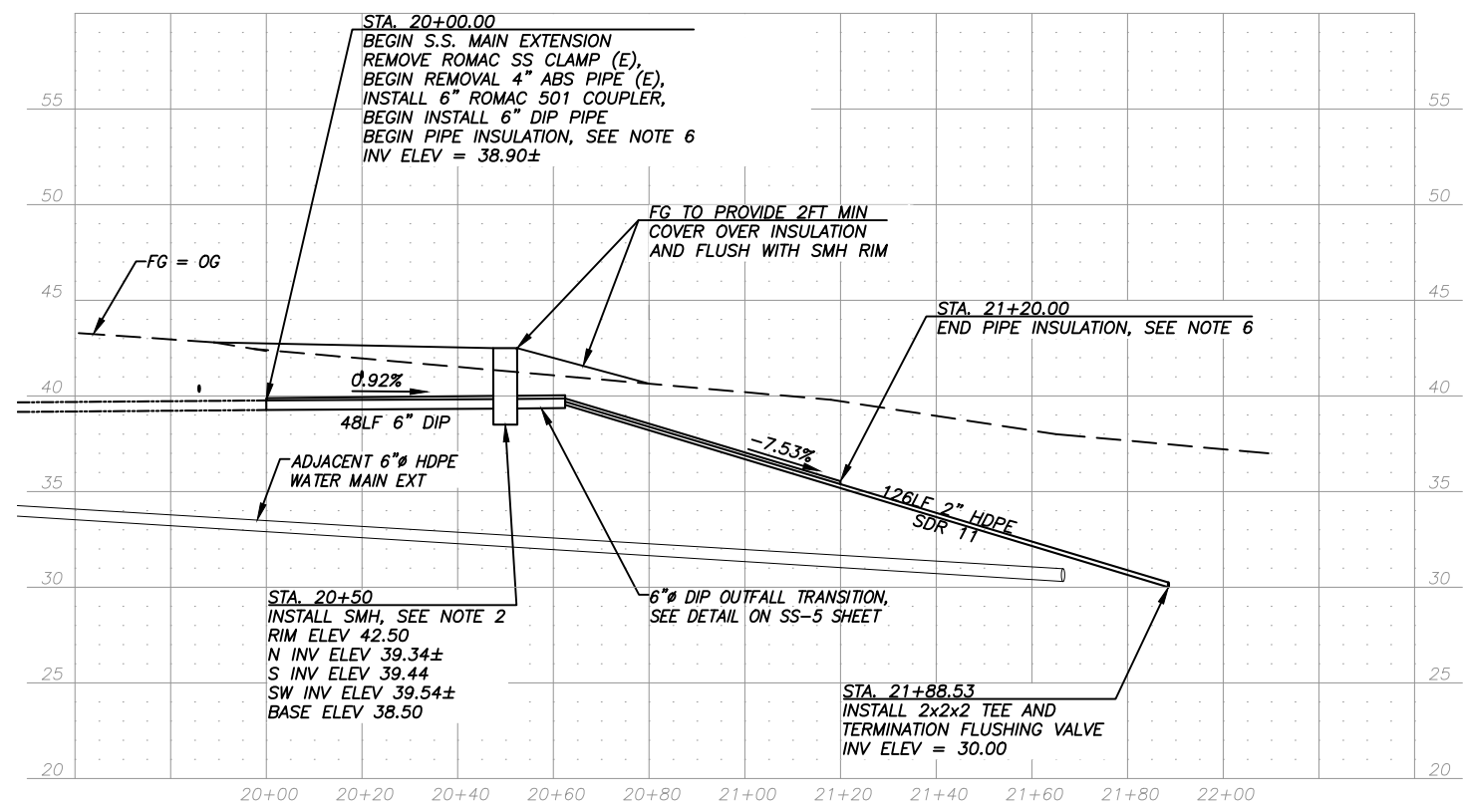
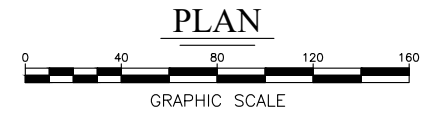
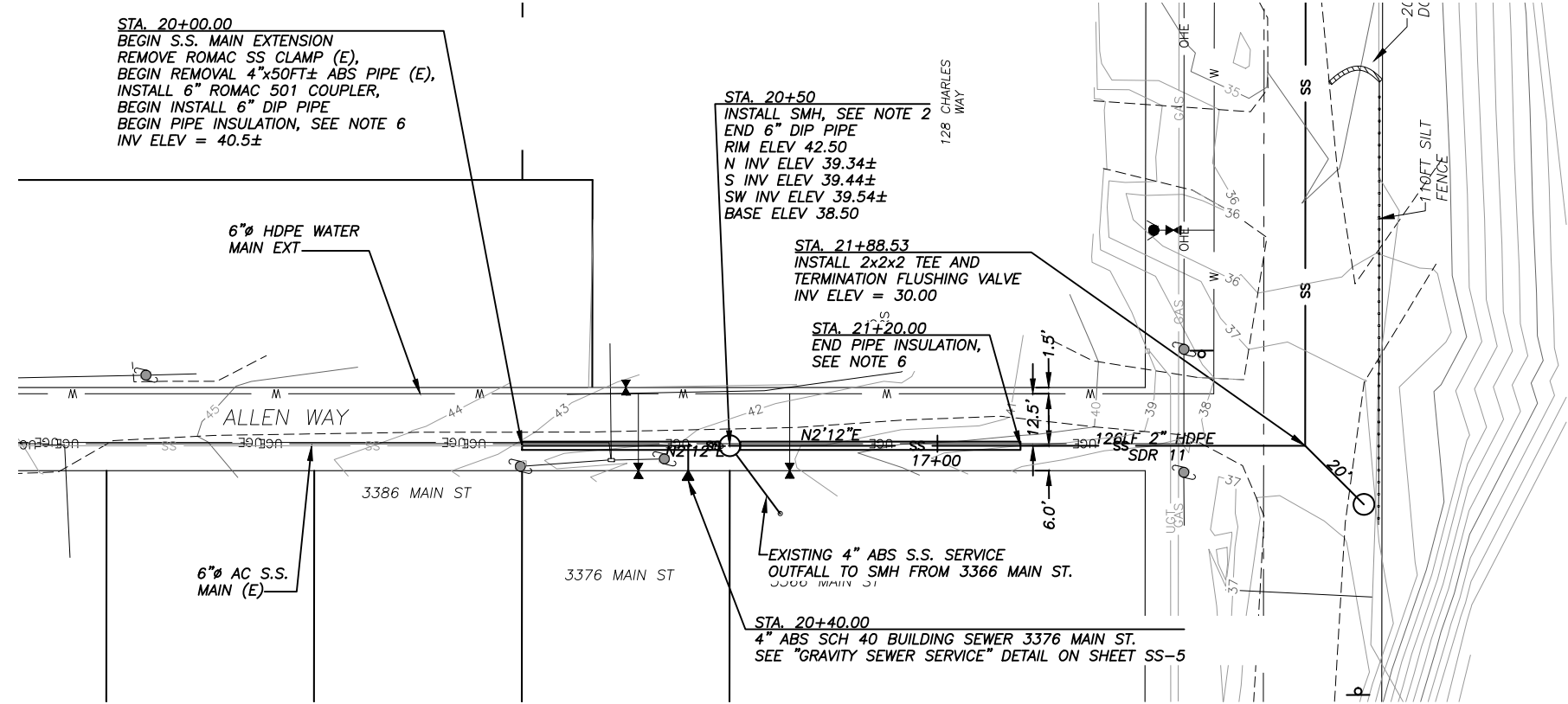
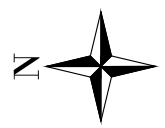
**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY**  
**ALLEN WAY S.S. MAIN PLAN + PROFILE**  
**STA 20+00.00 to 21+88.53**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

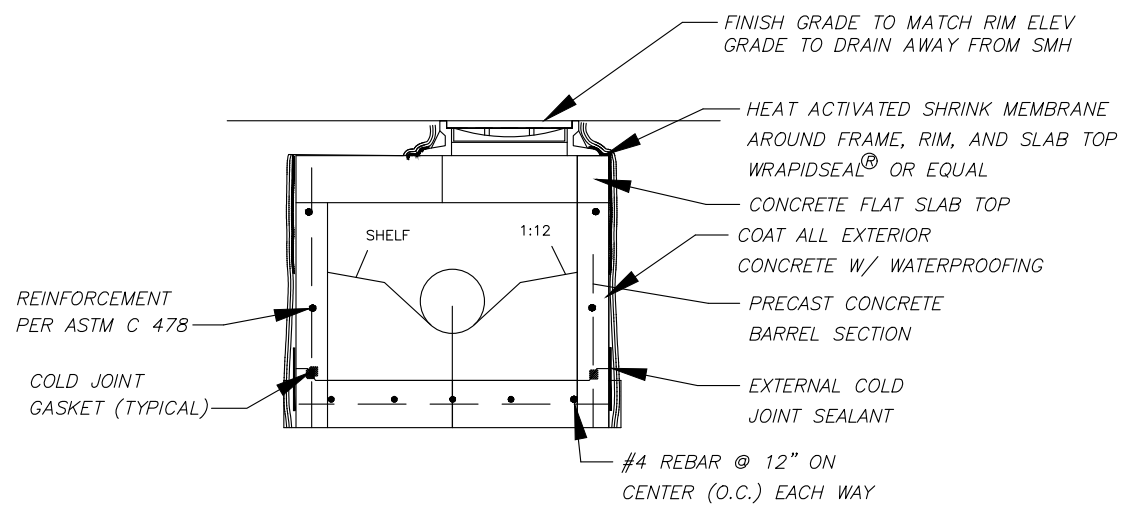
DATE: 11/22/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:

SS-2



**PROFILE**



- NOTES:**
- A. FOR DETAILS NOT SHOWN, SEE STD DETAILS, 500.02, 500.03, 500.05, 500.06, 500.08, 500.09, AND 500.12.
  - B. BACKFILL AROUND MANHOLE WITH NFS MATERIAL FULL DEPTH.
  - C. COATINGS AND WATERPROOFING
    - C.1. EXTERNAL COLD JOINT SEALANT IS TO BE WRAPIDSEAL (18" WIDE), MANUFACTURED BY CCI PIPELINE SYSTEMS, VISCOTAQ, VISCOWRAP (12" WIDE) OR APPROVED EQUAL FOR EXTERNAL JOINT SEALING.
    - C.2. EXTERIOR BURIED CONCRETE STRUCTURE WATERPROOFING SHALL BE GMX ULTRA-SHIELD WB, TUFF-N-DRY XTS, OR APPROVED EQUAL.
    - C.3. CLEAR OR OPAQUE 8-MIL POLYETHYLENE TUBE OR SHEETING FOR ENCASMENT.
    - C.4. COLD JOINT GASKETS ARE TO BE RAM-NEK PREFORMED CONCRETE JOINT SEALANT BY HENRY COMPANY, INC., VISCOTAQ VISCOPASTE (1/2"x1" PROFILE) OR EQUAL.

**CONSTRUCT MANHOLE**  
NOT TO SCALE

- NOTES:**
1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
  2. SEE "CONSTRUCT MANHOLE" DETAIL THIS SHEET AND "SEWER MANHOLE INSTALLATION DETAILS" ON SHEET SS-6.
  3. NO E-ONE LIFT STATIONS INSTALLED WITH SERVICES SHOWN ON THIS SHEET.
  4. SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 24± LINEAR FEET THIS SHEET.
  5. SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 170± LINEAR FEET THIS SHEET.
  6. SEE COH STANDARD PLAN 700.01 FOR DETAILS WITH B=1FT. INSTALL INSULATION DIRECTLY ON PIPE.

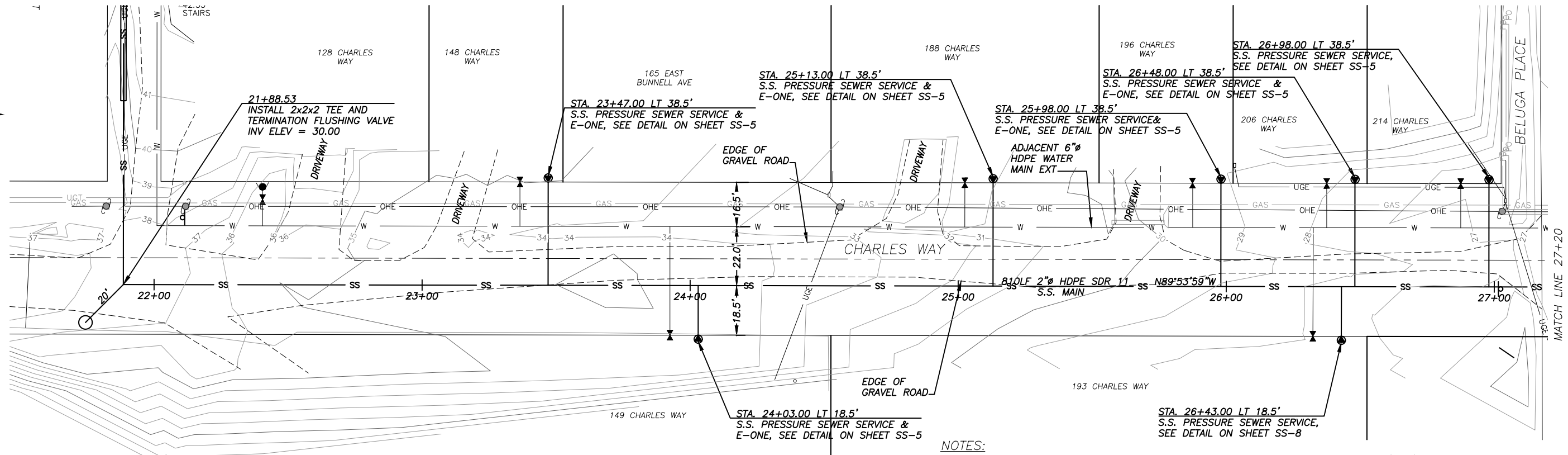


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
CHARLES WAY S.S. MAIN PLAN + PROFILE  
STA 21+88.53 to 27+20.00**

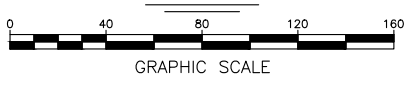
**BISHOP ENGINEERING, LLC**  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/22/2022  
CHK'D: JSB  
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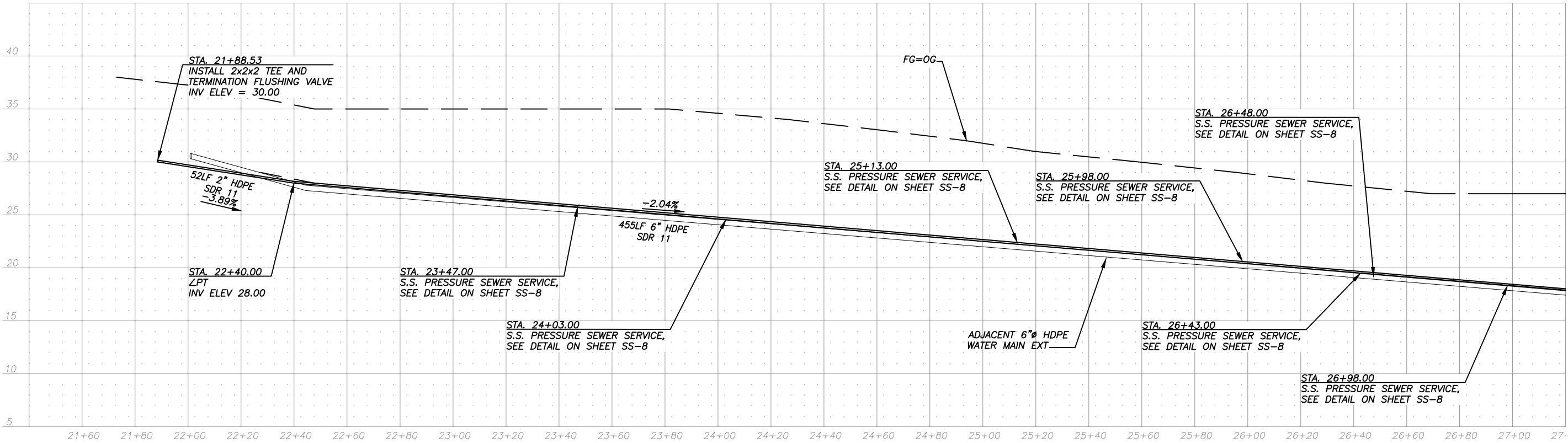
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**SS-3**



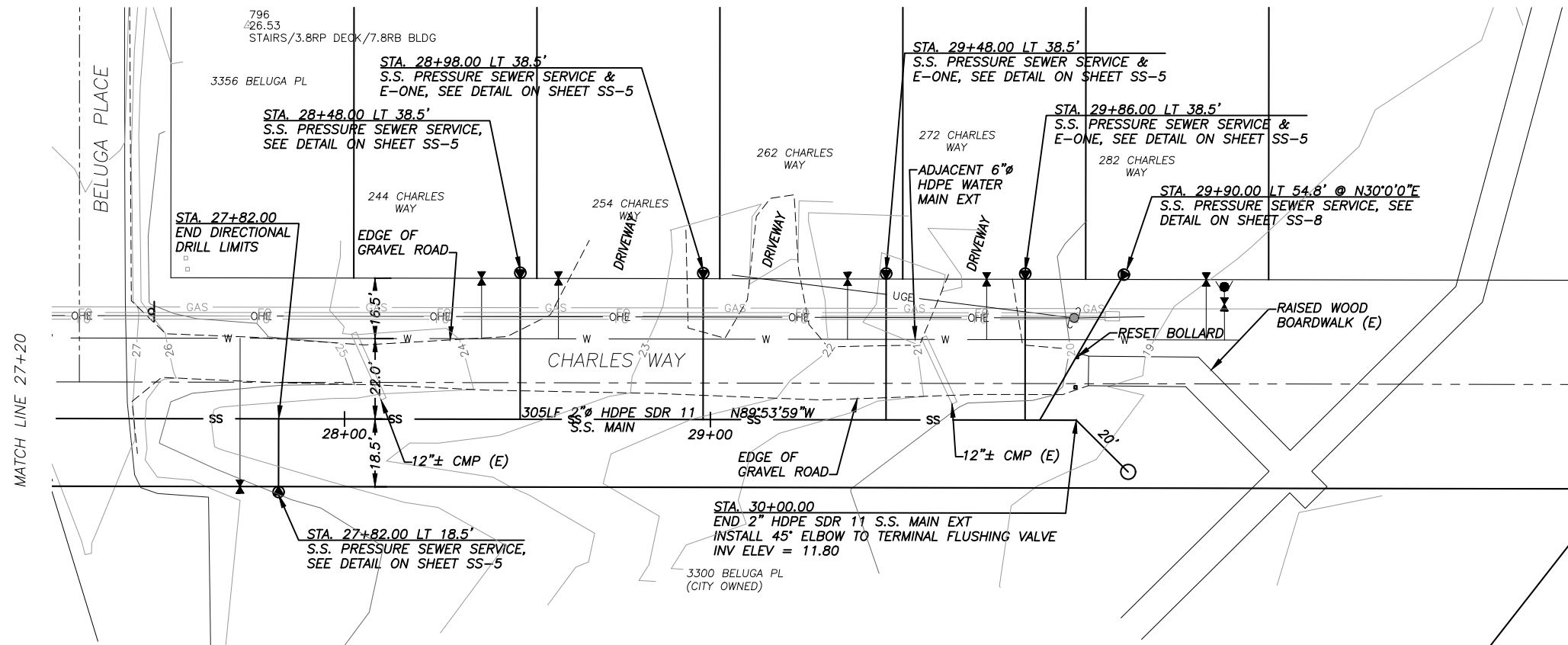
**PLAN**



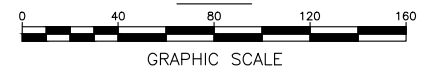
- NOTES:**
- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
  - INSTALL E-ONE LIFT STATIONS AT:
    - 148 CHARLES WAY
    - 149 CHARLES WAY
    - 188 CHARLES WAY
    - 196 CHARLES WAY
    - 206 CHARLES WAY
  - UNITS INSTALLED FOR SERVICES SHOWN ON THIS SHEET. SEE SHEET SS-7 FOR E-ONE DETAILS. E-ONES TO BE INSTALLED WITHIN 20 FEET OF SERVICE STUBOUT.
  - SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 332± LINEAR FEET THIS SHEET.
  - SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 427± LINEAR FEET THIS SHEET.



**PROFILE**

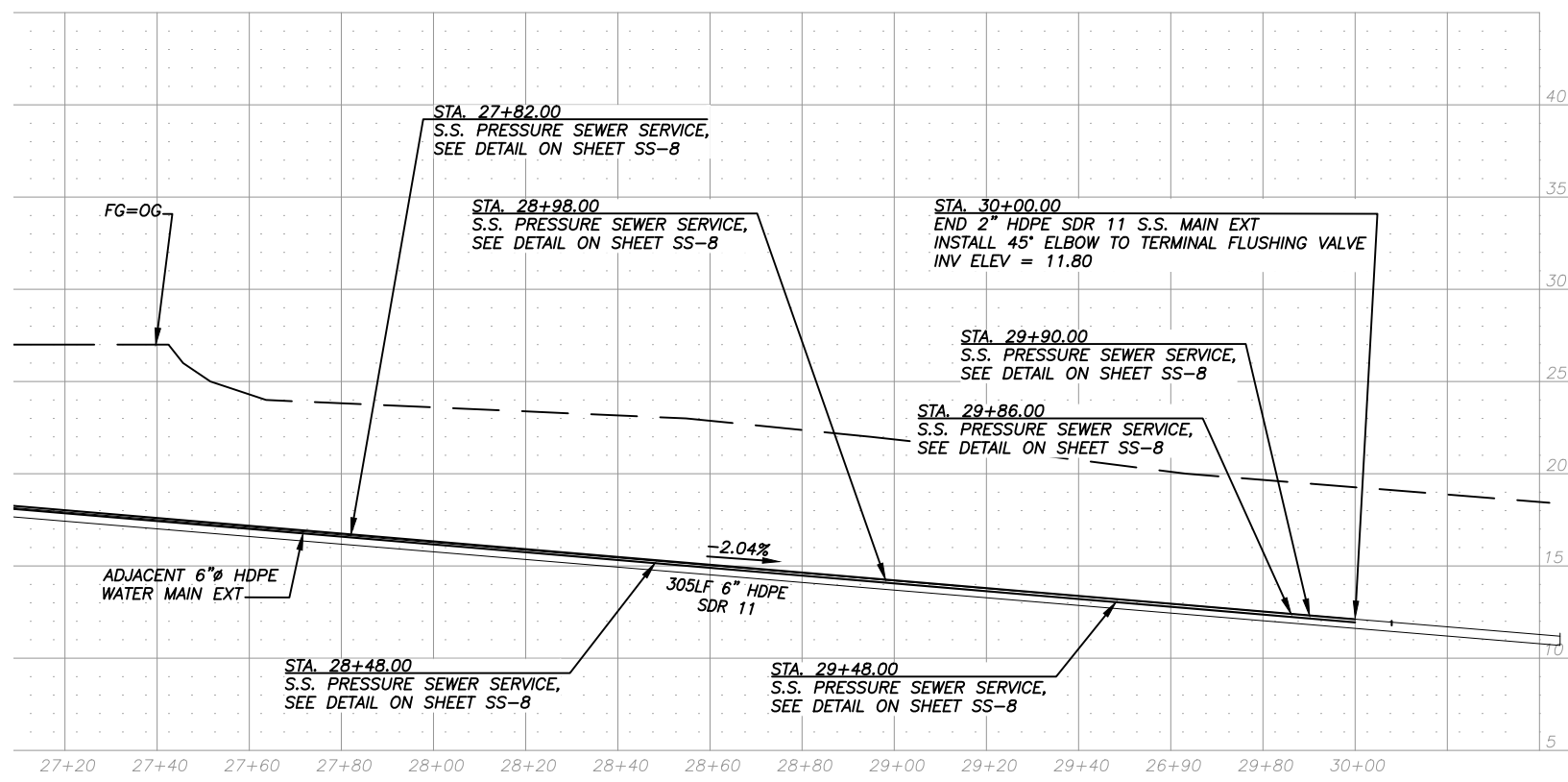


**PLAN**



**NOTES:**

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
2. 3 E-ONE UNITS INSTALLED FOR SERVICES SHOWN ON THIS SHEET. SEE SHEET SS-7 FOR E-ONE DETAILS. E-ONES TO BE INSTALLED WITHIN 20 FEET OF SERVICE STUBOUT.
3. SEE "DETAIL A - STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN GRAVEL SURFACED AREAS. TOTAL OF 75± LINEAR FEET THIS SHEET.
4. SEE "DETAIL B - NON-STRUCTURAL TRENCH SECTION" ON SHEET SS-5 FOR WATER MAIN AND WATER SERVICE TRENCHES WITHIN NATIVE SURFACE SOIL AREAS. TOTAL OF 380± LINEAR FEET THIS SHEET.
5. INSTALL E-ONE LIFT STATIONS AT:
  - 5.1. 254 CHARLES WAY
  - 5.2. 262 CHARLES WAY
  - 5.3. 272 CHARLES WAY



**PROFILE**



**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY**  
**CHARLES WAY S.S. MAIN PLAN + PROFILE**  
 STA 27+20.00 to 30+00.00

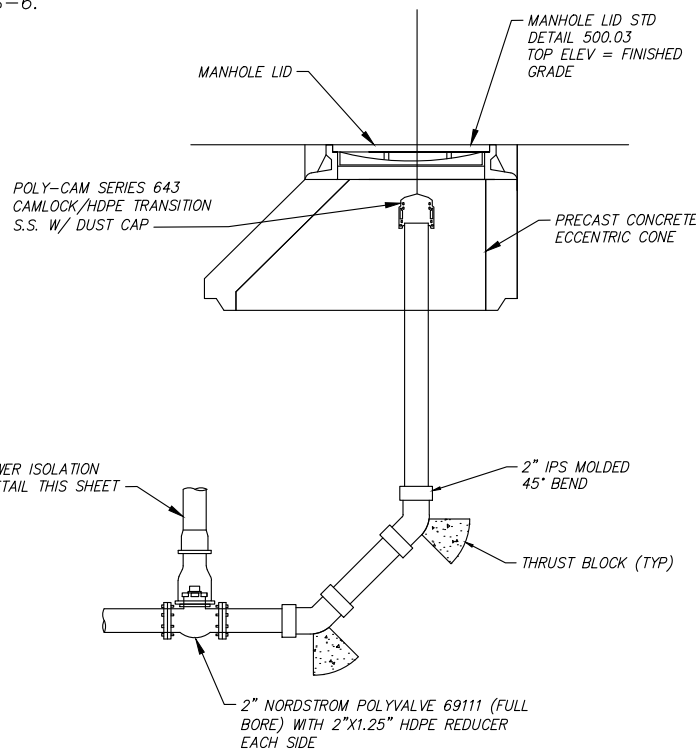
**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/22/2022  
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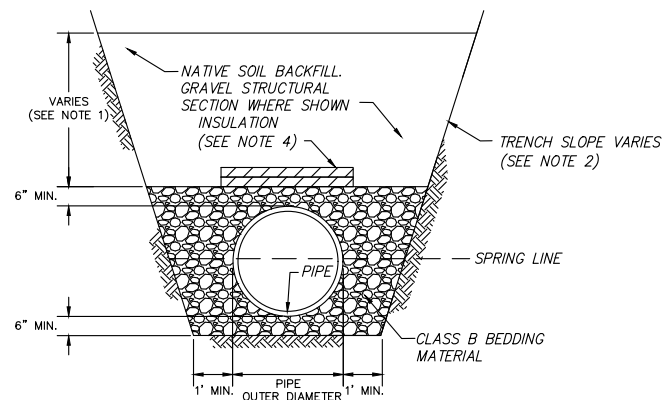
SHEET NO.:  
**SS-4**

NOTES:

- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
- FOR OTHER DETAILS AND CONSTRUCTION NOTES OF THE ALTERNATE PRESSURIZED SEWER SERVICE CONNECTION, SEE SHEET SS-6.

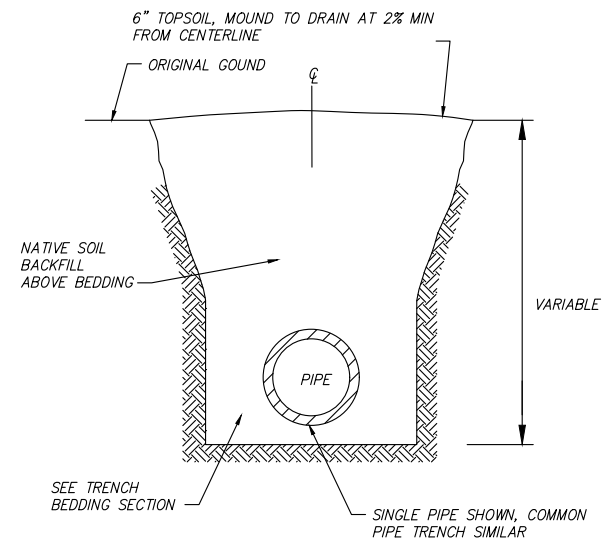


**SANITARY SEWER TERMINAL FLUSHING VALVE**  
NOT TO SCALE

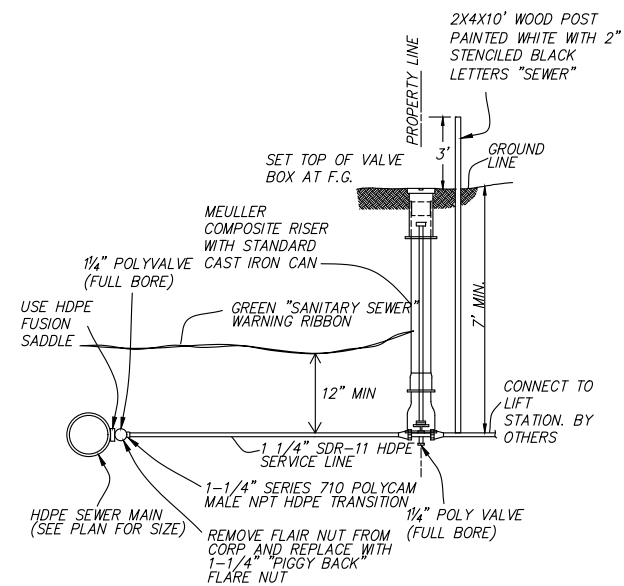


- NOTES:
- TRENCH BACKFILL MATERIAL PLACED AND COMPACTED TO DEPTHS SHOWN IN THE DRAWINGS OR AS DETERMINED BY ENGINEER. COMPACT TRENCH BACKFILL TO A MINIMUM OF 95% MAXIMUM DENSITY.
  - TRENCH WALL SLOPES WILL VARY WITH SOIL STRENGTH AND CHARACTER. SLOPES SHALL CONFORM TO OSHA SAFETY STANDARDS.
  - BACKFILL SHALL BE FREE OF CLAYS AND ORGANIC MATERIALS.
  - WHEN SPECIFIED IN CONTRACT DOCUMENTS, SEE STANDARD DETAIL 20-9 FOR INSULATION DETAILS.

**TRENCH BEDDING SECTION**  
NOT TO SCALE



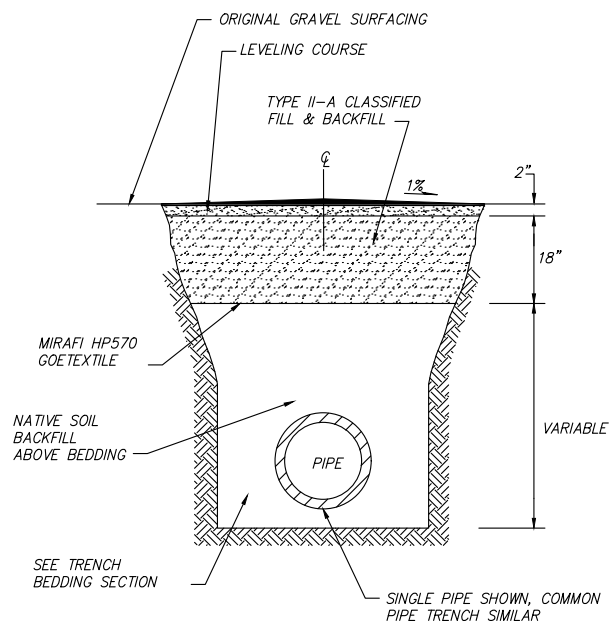
**DETAIL B - NON-STRUCTURAL TRENCH SECTION**  
NOT TO SCALE



**PRESSURIZED SANITARY SEWER CONNECTION**  
NOT TO SCALE

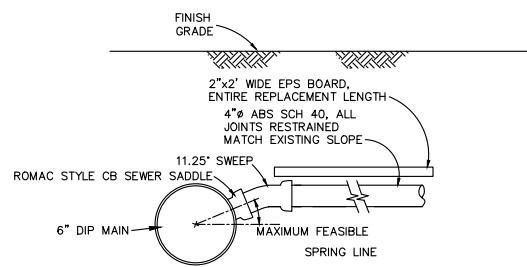
**SANITARY SEWER CONSTRUCTION NOTES:**

- MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL AND 18 INCHES CLEAR VERTICAL SEPARATION BETWEEN SEWER AND WATER MAINS AT ANY POINT.
- MINIMUM BURIAL DEPTH WITHOUT INSULATION FOR PRESSURIZED SEWER SHALL BE 7 FEET. ALL SEWER SERVICES WILL BE FROST PROTECTED WITH A MINIMUM OF 2-INCH THICK BY 2-FOOT WIDE CLOSED CELL POLYSTYRENE FOAM INSULATION WITH MINIMUM COMPRESSIVE STRENGTH OF 35 PSI. ALL INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOMER SPECIFICATION SECTION 704.
- INSTALLATION OF SEWER SERVICE FROM RESIDENCES TO THE ONSITE RESIDENTIAL LIFT STATION SHALL BE AT A MINIMUM SLOPE OF 1%.
- THE SEWER LIFT STATION APPROVED FOR ATTACHMENT TO THIS FORCE MAIN ARE E/ONE SERIES GRINDER PUMPS (OR EQUIVALENT PRODUCT).
- ALL LIFT STATIONS WILL BE THERMALLY INSULATED BY A 3-INCH COATING OF POLYURETHANE AND WITH 40-MLOF POLYUREA COATING FOR AT LEAST THE FIRST 6 FEET BELOW THE GROUND SURFACE. THE MINIMUM DEPTH OF BURY OF THE DISCHARGE PIPE AS IT EXITS THE LIFT STATION SHALL BE 82 INCHES. MINIMUM BURY OF THE 1.25-INCH DISCHARGE PIPE SHALL BE 7 FEET.
- LIFT STATION PUMP IS MODEL SPD FOR THE DH071 GRINDER PUMP (OR EQUIVALENT) OR LARGER FOR OTHER E/ONE GRINDER PUMP MODELS. PUMP SHALL BE SINGLE PHASE, 120/240V UL LISTED AND EQUIPPED WITH A SIMPLEX CONTROL WITH VISUAL AND AUDIBLE ALARM PANEL SET IN A NEMA 4X ENCLOSURE. LIFT STATION WILL INCLUDE A THREE FLOAT SYSTEM: OFF, ON, AND HIGH LEVEL ALARM. (NOTE: E/ONE SYSTEMS HAVE PRESSURE SWITCHES, NO FLOATS.)
- LIFT STATION SHALL BE EXCAVATED INTO AND BEDDED ON NATIVE AND IF POSSIBLE UNDISTURBED SOIL. IF BEDDING IS DISTURBED OR IMPORTED IT WILL BE COMPACTED TO 90% MAXIMUM DENSITY. THE LIFT STATION SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DETAILED INSTRUCTIONS AND WILL INCLUDE CONCRETE BALLAST TO PREVENT FLOATING IN THE EVENT OF HIGH GROUNDWATER CONDITIONS. LIFT STATION BACKFILL WILL CONSIST OF NATIVE SOIL COMPACTED IN ONE FOOT LIFTS.
- OWNERS OF E/ONE LIFT STATIONS SHALL RETAIN AN ANNUAL MAINTENANCE CONTRACT WITH A LOCAL CONTRACTOR QUALIFIED TO SERVICE THE LIFT STATION AND RESPOND TO ALARM CONDITIONS.
- PIPES SHALL BE BEDDED IN UNDISTURBED NATIVE SOIL OR CLASS B BEDDING. IMPORTED PIPE BEDDING AND SUB-GRADE WILL BE COMPACTED TO 90% MAXIMUM DENSITY. TRENCH BACKFILL SHALL BE NON-ORGANIC FILL AND COMPACTION WILL OCCUR IN ONE FOOT LIFTS.
- SEWER LINES SHALL BE AIR PRESSURE TESTED IN ACCORDANCE WITH CITY OF HOMER SPECIFICATION 502.3 (1).

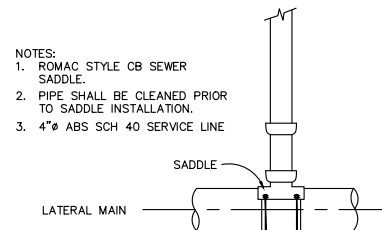


- NOTE:
- CONTRACTOR SHALL CONSTRUCT A 1% CROWN WITH THE PEAK CENTERED OVER THE CENTERLINE OF THE EXCAVATION.

**DETAIL A - STRUCTURAL TRENCH SECTION**  
NOT TO SCALE



**SIDE VIEW**



**TOP VIEW**

- NOTES:
- ROMAC STYLE CB SEWER SADDLE.
  - PIPE SHALL BE CLEANED PRIOR TO SADDLE INSTALLATION.
  - 4" ABS SCH 40 SERVICE LINE

**GRAVITY SEWER SERVICE CONNECTION**  
NOT TO SCALE



**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
SANITARY SEWER MAIN EXTENSION  
SANITARY SEWER CONSTRUCTION DETAILS**

**BISHOP ENGINEERING, LLC**  
PO BOX 2501 HOMER, ALASKA 99603  
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**SS-5**

# CITY OF HOMER STANDARD DRAWINGS INDEX

200.03	STANDARD LOCATION FOR NEW UTILITIES
200.04	TYPICAL UTILITY LOCATIONS
200.05	TYPICAL WATER AND SEWER LOCATIONS
200.06	COMPACTION OF BACKFILL WITHIN RIGHT-OF-WAY
200.07	CLASS B AND C BEDDING
200.08	TRENCH BACKFILL
400.02	RESURFACING DETAIL TYPICAL GRAVEL SECTION
500.02	SANITARY SEWER TYPE A AND BE MANHOLE BASE PLAN
500.03	SANITARY SEWER MANHOLE HEIGHTS
500.05	SANITARY SEWER MANHOLE STEP
500.06	SANITARY SEWER MANHOLE STEP (ALTERNATE)
500.08	SANITARY SEWER MANHOLE COVER
500.09	SANITARY SEWER MANHOLE FRAME
500.12	SANITARY SEWER TYPICAL BEAVER SLIDE TYPE A + B MANHOLE
500.13	SANITARY SEWER SERVICE CONNECTION
500.15	SANITARY SEWER CLEANOUT
500.16	SANITARY SEWER CLEANOUT COVER

## LEGEND & SYMBOLS

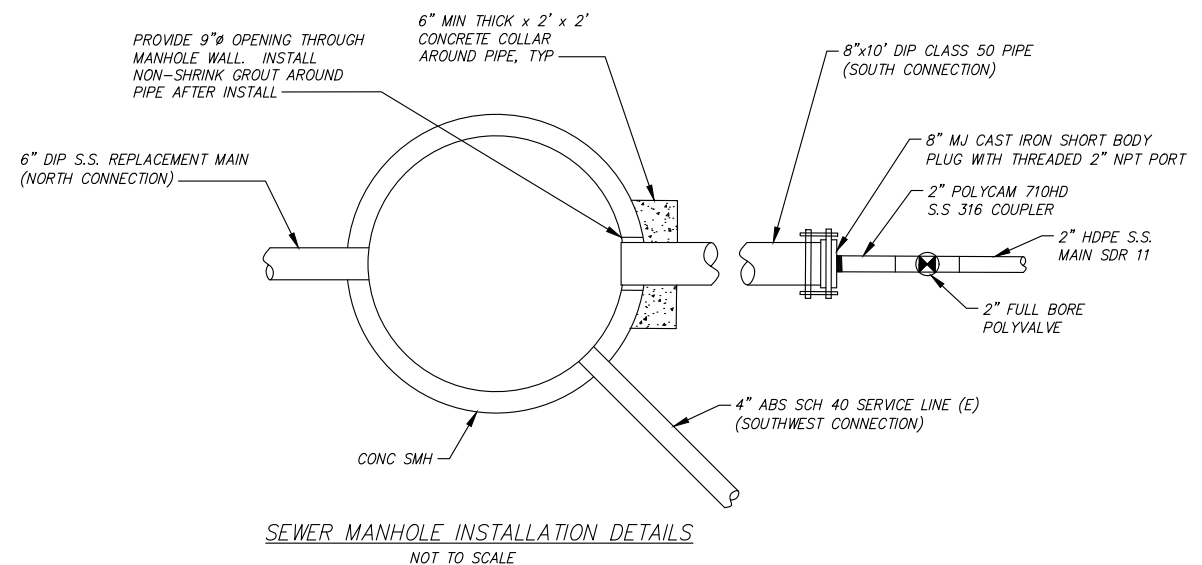
EDGE EXISTING GRAVEL	---
CUT CATCH LINE	- - - - -
FILL CATCH LINE	- · - · - · -
CENTERLINE	—+— 7+00 —+—
UNDERGROUND ELECTRIC	— UGE —
OVERHEAD ELECTRIC	— OHE —
UNDERGROUND TELEPHONE	— UGT —
WATER MAIN	— W —
SANITARY SEWER	— SS —
CONTOURS MAJOR	— 85 —
CONTOURS MINOR	— —
TEST PIT LOCATION	⊕ TP-1
SIGN	4
PIPE CULVERT W/ END SECTION	
FIRE HYDRANT	
VALVE OR RISER	
EXISTING VALVE OR RISER	
PRESSURIZED SEWER SERVICE POLY VALVE	

## ABBREVIATIONS

AKDOT&PF	ALASKA DEPT. OF TRANSPORTATION & PUBLIC FACILITIES
ARV	AIR RELEASE VALVE
APDES	ALASKA POLLUTION DISCHARGE ELIMINATION SYSTEM
Δ	DELTA / CENTRAL ANGLE OF CURVE
BP	BEGIN PROJECT
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	CONTRACTING OFFICER
COH	CITY OF HOMER
CY	CUBIC YARD
DIA	DIAMETER
DIST	DISTANCE
E	EASTING
EL	ELEVATION
ELEV	ELEVATION
EP	END PROJECT
ESMT	EASEMENT
(E)	EXISTING
FL	FLANGE
FT	FOOT
GV	GATE VALVE
HDPE	HIGH-DENSITY POLYETHYLENE
IN	INCH
INV	INVERT
L	LENGTH OF CURVE
LF	LINEAR FOOT
LT	LEFT
MIN	MINIMUM
MAX	MAXIMUM
MJ	MECHANICAL JOINT
MPH	MILES PER HOUR
MSF	1000 SQUARE FEET
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTHING
OHE	OVERHEAD ELECTRIC
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
PRC	POINT OF REVERSE CURVATURE
PVC	POINT OF VERTICAL CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENCY
PT	POINT OF TANGENCY
R	RADIUS
RT	RIGHT
R/W	RIGHT-OF-WAY
SEC	SECTION
SI	STREET INTERSECTION
SF	SQUARE FOOT
SMH	SEWER MANHOLE
S.S.	SANITARY SEWER
SS	STAINLESS STEEL
STA.	STATION
STD	STANDARD
SY	SQUARE YARD
TRANS	TRANSMISSION YARD
UGE	UNDERGROUND ELECTRIC
UGT	UNDERGROUND TELEPHONE
UTIL	UTILITY
TYP.	TYPICAL
W	WATER MAIN OR SERVICE

## CONSTRUCTION NOTES

- DIRECTIONAL DRILLING SHALL BE UTILIZED TO INSTALL HDPE MAIN PIPE WHEREVER OPEN TRENCH INSTALLATION IS NOT REQUIRED TO PLACE HARDWARE FITTINGS AND ASSEMBLIES, VALVES, TEES, INSULATION BOARD, MANHOLES, AND CASINGS.
- MAINTAIN A MINIMUM OF TEN FEET HORIZONTAL AND EIGHTEEN INCHES VERTICAL SEPARATION BETWEEN SEWER AND WATER MAINS AT ANY POINT. IF POSSIBLE, THE SEWER MAIN WILL BE SITUATED BELOW THE WATER MAIN AT ALL CROSSINGS.
- ALL PRIVATE WELLS WITHIN 100 FEET OF THE SANITARY SEWER MAIN SHALL BE DECOMMISSIONED PER ADEC REGULATIONS.
- ALL EXISTING SEPTIC TANKS AND BIOCYCLE UNITS FOR PARCELS CONNECTING TO THE COH SEWER SYSTEM SHALL BE DECOMMISSIONED BY PUMPING THE TNAKS OF WASTE CONTENTS AND REMOVING AND DISPOSING OF THOSE TNAKS AT AN APPROVED ADEC SITE. BACKFILL THE PITS WITH CLASSIFIED FILL TYPE IV COMPACTED TO 90% RELATIVE COMPACTION.
- BUILDING SEWER EXTENSIONS FROM SERVICE STUBS TO EXISTING CLEANOUTS SHALL BE 2%. EXISTING CLEANOUTS SHALL BE RECONSTRUCTED WITH ALL NECESSARY SWEEPS WHERE THE BUILDING SEWER EXTENSION IS NOT IN ALIGNMENT WITH THE EXISTING CLEANOUT SWEEP DIRECTION.
- CONTRACTOR SHALL COMPLETE CONSTRUCTION IN ACCORDANCE WITH THE CITY OF HOMER STANDARD SPECIFICATIONS 2011 EDITION INCLUDING ITEMS, DRAWINGS, TECHNICAL SPECIFICATIONS, AND SPECIAL PROVISIONS TAKE PRECEDENCE OVER THE STANDARD SPECIFICATIONS.
- THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS CONTAINED IN LOCAL, STATE AND FEDERAL PERMITS OBTAINED BY THE CITY FOR CONSTRUCTION OF THIS PROJECT. COPIES OF THE PERMITS SHALL BE MAINTAINED AT THE JOB SITE.
- LOCATIONS DEPICTED FOR THE UTILITIES AND OTHER EXISTING FEATURES ARE APPROXIMATE. SOME UTILITIES HAVE BEEN LOCATED FROM RECORD DRAWINGS AND UTILITY COMPANY LOCATES. CONTRACTOR SHALL LOCATE AND VERIFY ALL UTILITIES PRIOR TO CONSTRUCTION.
- UNDERGROUND ELECTRICAL AND TELECOMMUNICATIONS LINES OCCUR WITHIN THE PROJECT AREA: CONTRACTOR SHALL COORDINATE WORK ACCORDINGLY. ALL WORK IN CLOSE PROXIMITY TO EXISTING UNDERGROUND LINES SHALL COMPLY WITH THE APPLICABLE FEDERAL, STATE AND LOCAL STATUTES, CODES AND GUIDELINES, AND THE ELECTRICAL FACILITY CLEARANCE REQUIREMENTS OF THE GOVERNING UTILITY. CONTRACTOR SHALL HAND DIG WITHIN TWO FEET OF BURIED ELECTRICAL CABLE.
- THIS PROJECT IS REQUIRED TO BE CONSTRUCTED IN ACCORDANCE WITH THE APDES GENERAL CONSTRUCTION PERMIT FOR STORM WATER POLLUTION. THE CONTRACTOR SHALL ADHERE TO THE REQUIREMENTS OF THE PERMIT.
- CONTRACTOR SHALL SEED ALL DISTURBED AREAS WHERE OTHER SURFACE IS NOT SPECIFIED.
- IF CONTAMINATED SOIL, GROUNDWATER, OR FREE-PRODUCT ARE ENCOUNTERED, THE CONSTRUCTION CONTRACTOR SHALL IMMEDIATELY CONTACT THE ENGINEER WHO WILL IMMEDIATELY CONTACT THE ADEC PREVENTION AND EMERGENCY RESPONSE (PERP) OFFICE STAFF AT (907) 465-5340 / FAX (907) 465-2237 IN ACCORDANCE WITH SPILL REPORTING REQUIREMENTS UNDER 18 AAC 75.300, AND COORDINATE MANAGEMENT OF ALL CONTAMINATED MEDIA WITH EMERGENCY RESPONSE PERSONNEL.



### NOTES:

- Before performing any excavations, call Alaska Digline at 811, (800) 478-3121, or (907) 278-3121.



**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
 SANITARY SEWER MAIN EXTENSION  
 SANITARY SEWER CONSTRUCTION NOTES**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
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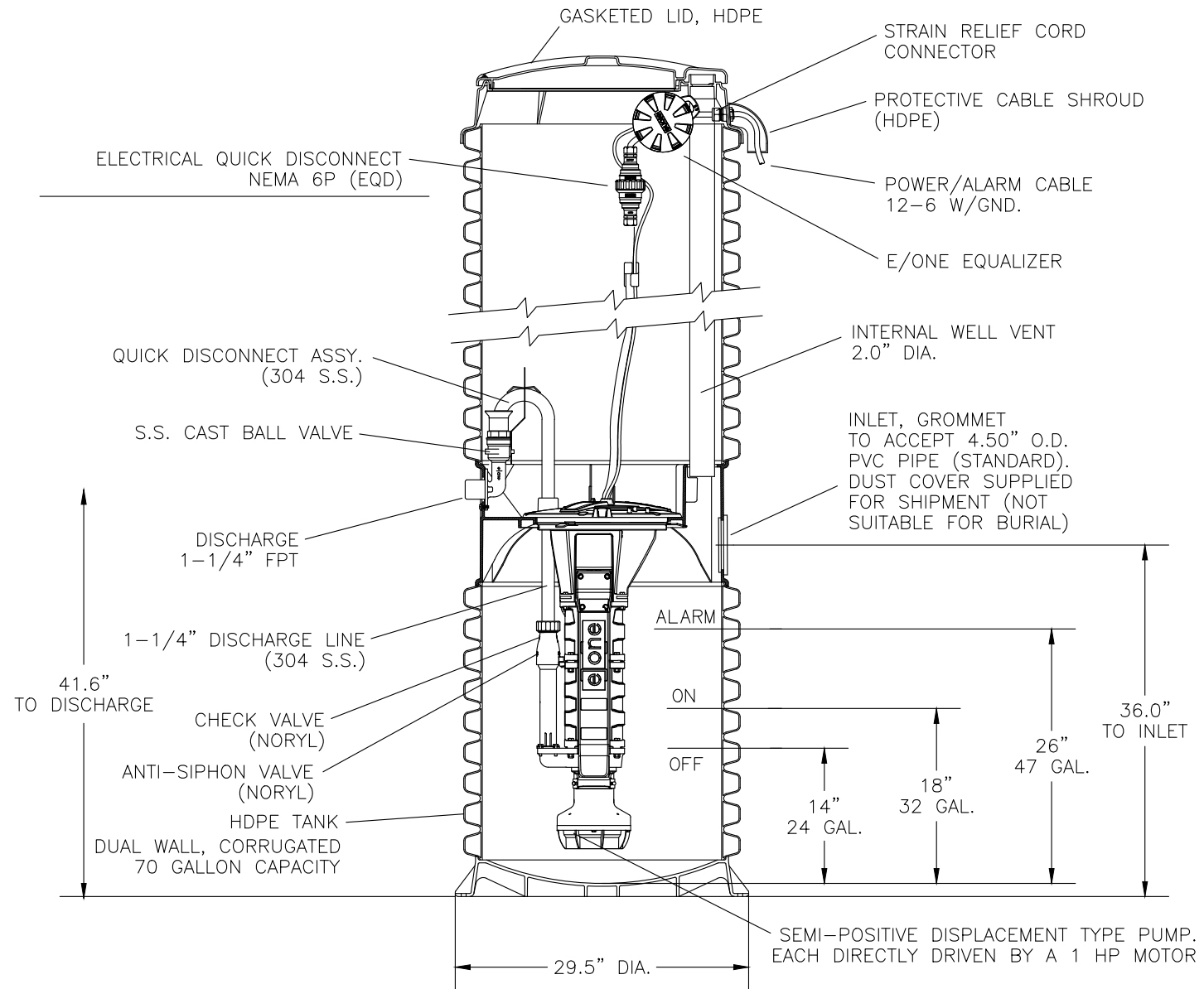
DATE: 11/22/2022  
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SHEET NO.:

SS-6

ALTERNATE PRESSURIZED SEWER SERVICE CONNECTION NOTES

1. MINIMUM BURIAL DEPTH WITHOUT INSULATION FOR PRESURIZED SEWER SHALL BE 7 FEET. ALL SEWER SERVICES WILL BE FROST PROTECTED WITH A MINIMUM OF TWO-INCH THICK BY TWO TO FOUR FOOT WIDE CLOSED CELL POLYSTYRENE FOAM INSULATION WITH MINIMUM COMPRESSIVE STRENGTH OF 35 PSI. ALL INSULATION SHALL BE INSTALLED IN ACCORDANCE WITH CITY OF HOMER SPECIFICATION SECTION 704.
2. INSTALLATION OF SEWER SERVICE FROM RESIDENCES TO AN ONSITE RESIDENTIAL LIFT STATION SHALL BE AT A MINIMUM SLOPE OF 1%.
3. INDIVIDUAL RESIDENCE SEWER LIFT STATIONS WILL CONSIST OF AN NSF APPROVED E/ONE MODEL DH071 FACTORY ASSEMBLED 30-INCH DIAMETER HDPE 70-GALLON BASINS EQUIPPED WITH A 1 HP GRINDER PUMP (OR EQUIVALENT PRODUCT).
4. EACH LIFT STATION WILL BE THERMALLY INSULATED BY 3-INCHES OF SPRAY ON POLYURETHANE AND WITH 40-MLOF POLYUREA COATING FOR AT LEAST THE FIRST 6 FEET BELOW GROUND SURFACE. THE MINIMUM DEPTH LIFT STATION WILL BE E/ONE MODEL DH071-129 PROVIDING A 82-INCH DEPTH OF BURY OF THE DISCHARGE PIPE AS IT EXITS THE LIFT STATION. LIFT STATION 1.25 INCH HDPE SERVICE CONNECTION TO THE GRAVITY SEWER SHALL BE GRADED TO A MINIMUM DEPTH OF BURY OF 7 FT BGS WITHIN 10 FEET OF LIFT STATION DISCHARGE.
5. LIFT STATION PUMPS ARE MODEL DH071 GRINDER PUMPS (OR EQUIVALENT). PUMPS ARE TO BE SINGLE PHASE, 120/240 V UL LISTED AND EQUIPPED WITH A SIMPLEX CONTROL WITH VISUAL AND AUDIBLE ALARM PANEL SET IN A NEMA 4X ENCLOSURE. LIFT STATION WILL INCLUDE A THREE FLOAT SYSTEM: OFF, ON, AND HIGH LEVEL ALARM (NOTE: E-ONE SYSTEMS HAVE PRESSURE SWITCHES, NO FLOATS).
6. LIFT STATIONS ARE TO BE EXCAVATED INTO AND BEDDED ON NATIVE AND IF POSSIBLE UNDISTURBED SOIL. IF BEDDING IS DISTURBED OR IMPORTED IT WILL BE COMPACTED TO 90% MAXIMUM DENSITY. LIFT STATIONS WILL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S DETAILED INSTRUCTIONS AND WILL INCLUDE CONCRETE BALLAST TO PREVENT FLOATING IN THE EVENT OF HIGH GROUNDWATER CONDITIONS. LIFT STATION BACKFILL WILL CONSIST OF NATIVE SOIL COMPACTED IN ONE FOOT LIFTS.
7. RESIDENCES WITH A LIFT STATION MUST RETAIN AN ANNUAL MAINTENANCE CONTRACT WITH A LOCAL CONTRACTOR QUALIFIED TO SERVICE THE LIFT STATION AND RESPOND TO ALARM CONDITIONS.
8. ALTERNATIVE EQUIVALENT ENGINEERED LIFT STATIONS MAY BE USED UPON APPROVAL OF THE CITY OF HOMER.
9. INDIVIDUAL RESIDENCE PRESSURIZED SEWER SERVICES CONSISTS OF 1.25-INCH DIAMETER SDR 11 HIGH DENSITY POLYETHYLENE PIPE. PRESSURIZED SEWER SERVICES WILL BE EQUIPPED WITH A 1.25-INCH POLY VALVE INSTALLED WITH A VALVE BOX AT THE PROPERTY LINE. THE PRESSURIZED SEWER WILL BE INSULATED WITH TWO INCHES OF INSULATION AND A MINIMUM DEPTH OF BURY OF 7 FEET BELOW GROUND SURFACE.
10. PIPE WILL BE BEDDED IN UNDISTURBED NATIVE SOIL OR CLASS B BEDDING. IMPORTED PIPE BEDDING AND SUB-GRADE WILL BE COMPACTED TO 90% MAXIMUM DENSITY. TRENCH BACKFILL SHALL BE NON-ORGANIC FILL AND COMPACTION WILL OCCUR IN ONE FOOT LIFTS.
11. SEWER LINES ARE TO BE AIR PRESSURE TESTED IN ACCORDANCE WITH CITY OF HOMER SPECIFICATION 502.3 (f).
12. NO WELLS ARE KNOWN TO BE LOCATED WITHIN 200 FEET OF ANY SANITARY SEWER MAINS OR SERVICE CONNECTIONS.



NOTES: 1. DIMENSIONS ARE FOR REFERENCE ONLY.  
2. CONCRETE BALLAST MAY BE REQUIRED (SEE INSTALLATION INSTRUCTIONS)

E-ONE D-SERIES PRESSURE SANITARY SEWER LIFT  
STATION DETAIL  
NOT TO SCALE

NOTES:

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.



**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
SANITARY SEWER MAIN EXTENSION  
SANITARY SEWER LIFT STATION DETAILS + NOTES**

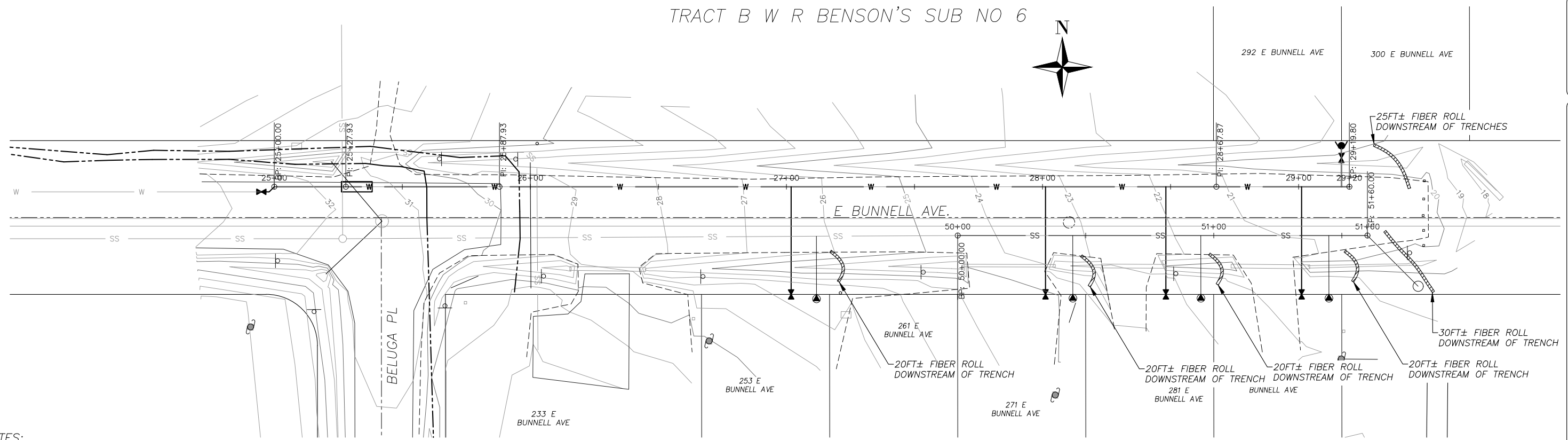
**BISHOP ENGINEERING, LLC**  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/22/2022  
CHK'D: JSB  
SCALE: AS NOTED  
PROJ. NO.: 2022019

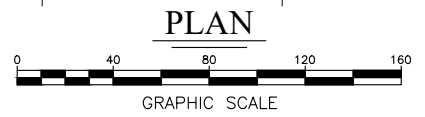
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SS-7

TRACT B W R BENSON'S SUB NO 6



**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS,  
 CALL ALASKA DIGLINE AT 811, (800)  
 478-3121, OR  
 (907) 278-3121.

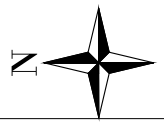
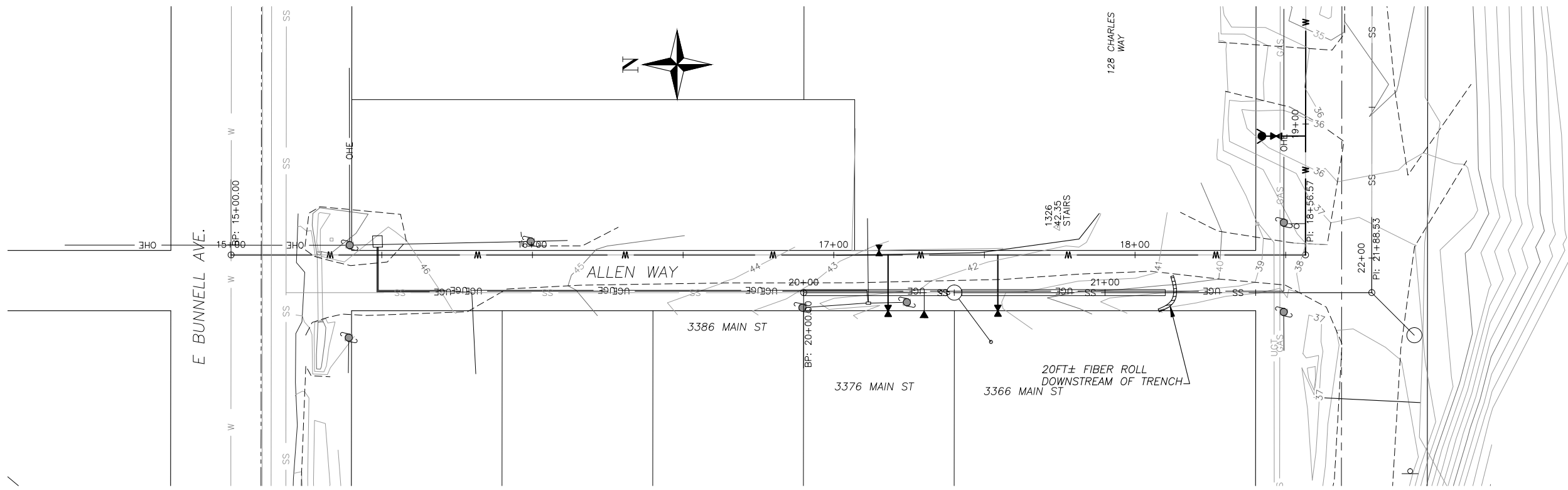


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 SANITARY SEWER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 1**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

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 PROJ. NO.: 2022019

SHEET NO.:  
 SS-8



PLAN



- NOTES:**
- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.



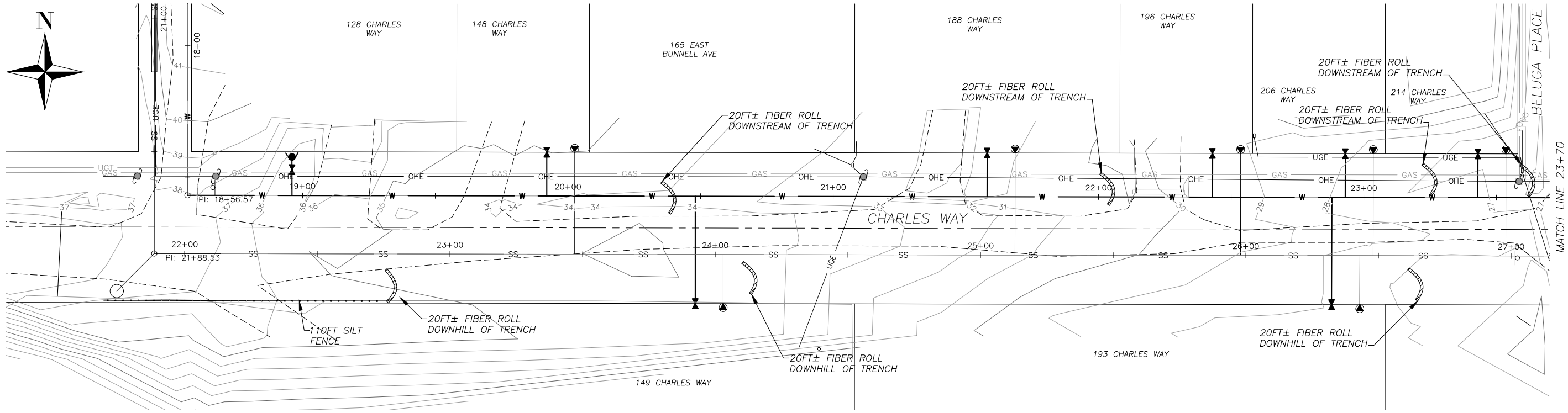
**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
SANITARY SEWER MAIN EXTENSION  
EROSION CONTROL PLAN NO. 2**

BISHOP ENGINEERING, LLC  
PO BOX 2501 HOMER, ALASKA 99603  
(907) 299-7609

DATE: 11/22/2022  
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SCALE: AS NOTED  
PROJ. NO.: 2022019

SHEET NO.:  
SS-9





**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS,  
 CALL ALASKA DIGLINE AT 811,  
 (800) 478-3121, OR (907) 278-3121.

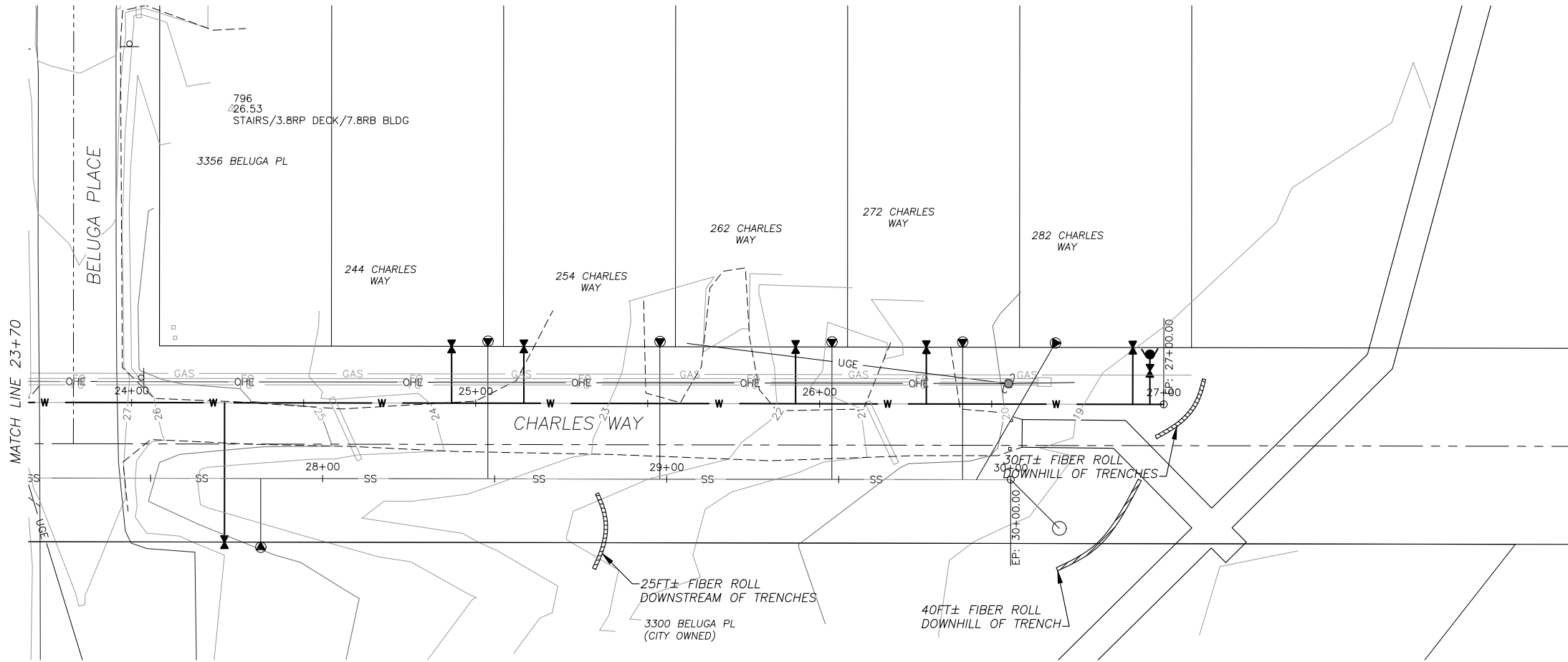


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY  
 SANITARY SEWER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 3**

**BISHOP ENGINEERING, LLC**  
 PO BOX 2501 HOMER, ALASKA 99603  
 (907) 299-7609

DATE: 11/22/2022  
 CHK'D: JSB  
 SCALE: AS NOTED  
 PROJ. NO.: 2022019

SHEET NO.:  
 SS-10



**PLAN**



**NOTES:**  
 1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.

**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
 SANITARY SEWER MAIN EXTENSION  
 EROSION CONTROL PLAN NO. 4**

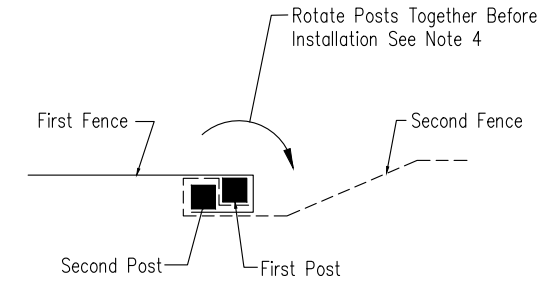
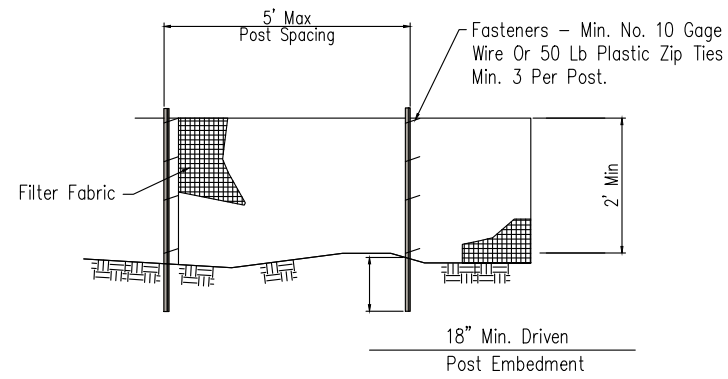
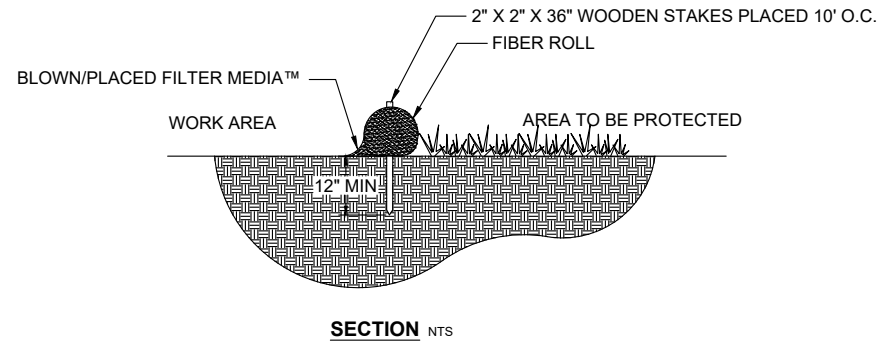
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SHEET NO.:  
 SS-11

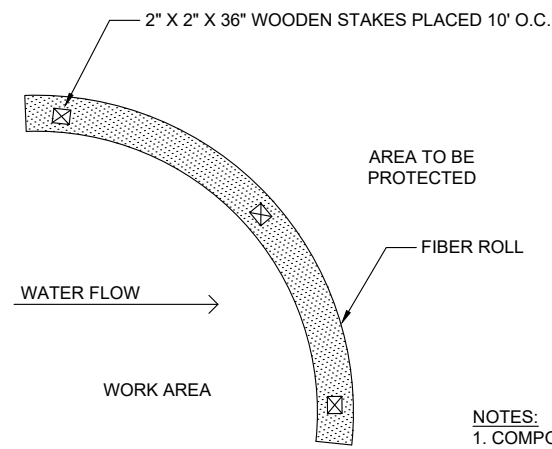


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY  
 SANITARY SEWER MAIN EXTENSION  
 EROSION CONTROL DETAILS**



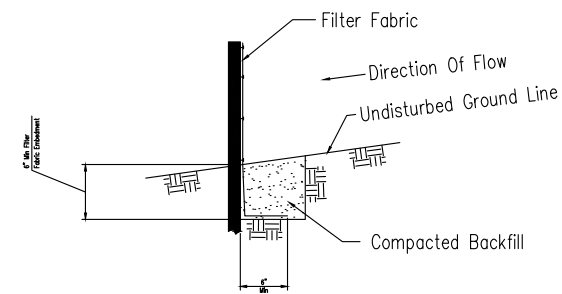
ELEVATION

SPLICE DETAIL-PLAN VIEW



NOTES:  
 1. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY ENGINEER.

PLAN NTS



FABRIC ANCHOR DETAIL

NOTES:

1. Temporary silt fence shall be installed prior to any grading work in the area to be protected. Fence shall be maintained throughout the construction period and removed in conjunction with the final grading and site stabilization.
2. Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of at least 30 for nonwoven and 50 for woven.
3. Fence posts shall be either wood post with a minimum cross-sectional area of 1.5" X 1.5" or a standard steel post.
4. When splices are necessary make splice at post according to splice detail. Place the end post of the second fence inside the end post of the first fence. Rotate both posts together at least 180 degrees to create a tight seal with the fabric material. Cut the fabric near the bottom of the posts to accommodate the 6 inch flap. Then drive both posts and bury the flap. Compact backfill well.

**FIBER ROLL SEDIMENT CONTROL**  
 NTS

**SIILT FENCE PROJECT BORDER**  
 NTS

NOTES:

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SHEET NO.:

SS-12

**Appendix B – BMP Details**

## **BMP AK-1**

### **Preservation of Existing Vegetation**

#### *Purpose and Description*

- The purpose of preserving existing vegetation is to limit site disturbance and to minimize soil erosion by identifying and protecting pre-existing vegetation on the construction site.<sup>1</sup>

#### *Applicability*

- Natural vegetation must be preserved in all areas where no construction is planned or will occur at a later date.
- Clear only land that is needed for building activities or vehicle traffic.<sup>2</sup>
- This BMP is not to supersede existing guidelines, restrictions or law, preserve vegetation as required by local governments (such as stream buffers).
- The preservation of existing vegetation is an applicable practice in all regions and climates in Alaska.

#### *Design and Installation*

- Before any clearing begins, vegetation selected for preservation must be clearly marked with established barriers.<sup>3</sup> These barriers must be about 1 meter in height, must be highly visible and be anchored by wood or metal fence posts at spacing and depth that will adequately support the fence for the entirety of the project.<sup>1</sup>

- A site map must be prepared clearly outlining all areas of vegetation that is to be preserved.<sup>2</sup>
- Vehicle traffic, equipment storage and parking shall be kept away from these areas to prevent soil and root compaction.<sup>1</sup>
- Ground disturbance must be kept from these areas at least as far out as the leaf drip line.<sup>3</sup>
- Maintain pre-existing irrigation systems that may supply water to vegetation selected for preservation.<sup>1</sup>
- To increase chances of survival it is best to limit grade changes in these areas and areas within the drip line.<sup>3</sup>

#### *Maintenance and Inspection*

- Repair or replace damaged vegetation immediately.<sup>2</sup>
- Inspect preservation areas regularly, if barrier has been removed or visibility reduced repair or replace barrier so that visibility is restored.<sup>3</sup>
- If roots are exposed or damaged, prune ends just above damage with pruning shears or loppers and recover with native soil.<sup>3</sup>

#### *References*

- <sup>1</sup>Caltrans Storm Water Quality Handbooks, March 2003, Construction Site Best Management Practices Manual, SS-2 Preservation of Existing Vegetation, [Uhttp://www.dot.ca.gov/hq/construc/stormwater/CSBMPM\\_303\\_Final.pdf](http://www.dot.ca.gov/hq/construc/stormwater/CSBMPM_303_Final.pdf)

(Continued on next page)

<sup>2</sup>USEPA (United States Environmental Protection Agency), October 2000, National Menu of Best Management Practices, Preserving Natural Vegetation,  
<http://cfpub.epa.gov/npdes/stormwater/measureofbmps/index.cfm?action=browse&Rbutton=detail&bmp=34&minmeasure=4>

<sup>3</sup>Washington State Department of Ecology, February 2005, Storm Water Management Manual for Western Washington, Construction Storm Water Pollution Prevention, BMP C101: Preserving Natural Vegetation,  
<http://www.ecy.wa.gov/pubs/0510030.pdf>

## **BMP AK-8**

### **Fiber Roll**

#### Objectives and Applications

Fiber rolls are long rolls of material such as straw, flax, rice, coconut or compost wrapped in plastic or biodegradable netting. They are placed and staked along the contour of disturbed slopes.

The purpose of a fiber roll is to shorten the slope and help to slow, filter and spread overland flows. They capture organic matter and seeds that might otherwise be washed downslope.

Fiber rolls can be applied to steep or long slopes and slopes that are susceptible to freeze/thaw activity, sheet and rill erosion or dry ravel. They can be placed along the toe, top, face and at grade-breaks on disturbed slopes. They can be placed at the perimeter of a project and around temporary stockpiles. They can be used as check dams in unlined ditches

#### Common Failures - Generally due to faulty installation or maintenance.

- Without being placed in a trench, runoff can flow underneath the roll and cause failure.
- Water can flow between rolls if they are not abutted tightly together.
- Rolls must be placed perpendicular to flow (parallel to the slope contour).
- Rolls will not work if the slope is slumping, creeping or sliding.

#### Other Considerations

- Use in areas of low shear stress.
- Avoid use on slopes that could build up ice.
- They are effective for one to two seasons.
- Fiber rolls can be staked to the ground using willow cuttings to increase the revegetation. Since the fiber roll will retain moisture, it will provide a good site for the willow.
- Rolls will be difficult to move once they are saturated.
- The quantity of sediment that a roll can capture is limited. They are typically about 8 inches in diameter.

#### Relationship to Other ESC Measures

Fiber rolls are best used in combination with seeding, mulch and/or erosion control blankets. They can be used to stabilize slopes until the permanent vegetation becomes established.

#### Alternate Sediment Control Measures

Silt fence -- the advantage of fiber rolls over silt fence is that installation is much easier, they do not have to be removed and hydroseeding can be done after their installation.

#### Other Names

Straw Wattle, Straw Roll

#### Design

**Design life:** 1 or 2 seasons

**Contributing flow drainage area:**

**Diameter:** 8 to 10 inches up to 20 inches

**Length:** 20 to 30 feet

#### Materials

**Fiber rolls:** The netting may be UV-degradable polypropylene, biodegradable burlap, jute or coir. The filling may be straw, flax, rice, coconut-fiber or compost.

**Stakes:** 1"x1" wooden stakes 24" long (18" if soils are rocky) or 3/8" rebar or 3/4" to 1 1/2" diameter live willow cuttings

#### Installation

Dig trenches across the slope (on the contour) to a depth of 3 to 5 inches. If the slope is steep or there is high rainfall, make trenches 5 to 7 inches deep. Add a slight downward angle to the trench at the ends to avoid ponding in the middle of the slope.

Start installation downslope. Determine the spacing of the rolls based on the slope gradient and soil type. Typically, place rolls 10 feet apart on 1:1 slopes, 20 feet apart on 2:1 slopes, 30 feet apart on 3:1 slopes. Space rolls closer in softer soils, farther in rocky soils.

Place the rolls in the trenches. Where two rolls meet, place the ends abutted tightly, not overlapped. At the end of the roll, turn the end upslope to prevent runoff from going around the roll end.

Stake the roll every four feet. Leave 3 inches of the stake above the roll. It may be easier to make a pilot hole through the roll and into the soil first. Fiber rolls around storm drains and inlets must be staked into the ground

#### Inspection

Ensure that the roll ends remain abutted tightly. Ensure that the rolls are in contact with the soil and thoroughly entrenched. Rolls need to be inspected after a significant rainfall. Look for scouring underneath the rolls.

#### Maintenance

Equipment cannot drive over the installed fiber rolls. If inspections reveal crushed, torn, slumping or split rolls, 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.

#### Removal

Usually fiber rolls are left in place. If they are removed, the accumulated sediment must first be collected and disposed. After removal, the trenches and stake holes should be filled to blend with the slope and revegetated



## **BMP 20.00. Silt Fence**

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### DESIGN CONSIDERATIONS

#### *Objectives*

The purpose of Silt Fence is to trap sediment and prevent it from being transported out of the project area to another area, or to a water body.

#### *Description*

Silt Fence is geotextile fabric secured to posts and secured in a trench, and/or with sandbags or drain rock.

#### *Other Names*

Geotextile for Sediment Control, Sediment Barrier.

#### *Applicability*

Silt Fence is used downslope from erosion-susceptible terrain to trap sheet flow run-off before the drainage exits the project site. Adequate space must be provided for pooled water on the uphill side of the fence.

Barrier locations are chosen based on site features and conditions (e.g. soil types, climate, terrain features, sensitive areas, etc.), design plans, existing and anticipated drainage courses, and other available erosion and sediment controls. Typical barrier sites are catchpoints beyond the toe of fill, or on sideslopes above waterways or drainage channels.

Although drainage in contact with the fence is to some degree filtered by the geotextile, the fabric's small pores not only block larger-sized eroded particles but also severely restrict water exfiltration rates and behaves like a dam. For this reason, Silt Fences are not to be used for concentrated flows in continuous flow streams or ditches; or as check dams.

Silt Fence can be installed in standing water to provide time for particles to settle.

Silt Fences are used to encircle stockpiled erodible material to prevent off-site sediment transport.

Since Silt Fence installation can cause significant damage, alternative best management practices (BMPs) should be considered for installation instead of Silt Fence. Use Fiber Rolls, compost socks, brush bundles to filter small amounts of sediment in shallow gullies or ditches. Temporary settlement

basins, gravel berms, or foam barriers can be used as alternatives to Silt Fence.

Do not use Silt Fence on airport runways, taxiways, aprons, or within the Runway Safety Areas.

#### *Selection Considerations*

Use of sediment control measures and the level of effort should be commensurate with the potential problem. Silt Fence is not to be used solely as a project delineator (see Site Delineation, BMP-55).

- Use of a Silt Fence sediment control measure is usually more complex, expensive, and maintenance-prone than other sediment control measures.
- Consider impacts of the fence installation, maintenance, and removal on sensitive areas needing protection (e.g. avoid equipment encroachment on wetlands).
- Consider potential undesirable effects of fence placement (e.g. a trench in ground that will not readily “heal” after fence removal; undesirable effects of extent or depth of ponded water, etc.)
- An equipment access route and space for fence installation, maintenance, and removal must be available without encroaching into sensitive areas or off the project limits.
- Wire reinforcement can be used with Silt Fence by backing the geotextile fabric with chain link, polymeric mesh, or welded wire fencing. Below is a list of considerations for adding wire reinforcement to Silt Fence installation:
  - Consider using wire reinforcement and longer posts to resist overturn.
  - Consider using wire reinforcement in areas of high wind.
  - Consider using wire reinforcement for standing water installations.

#### *Types of Silt Fence for Purchase:*

- *With Pockets:* Sewn-in pocket Silt Fence is geotextile that has factory-sewn pockets for the posts and does not require post fasteners.
- *Without Pockets:* Silt Fence without pockets is geotextile fabric that requires fasteners to attach

the fabric to the posts or Silt Fence that is available with posts pre-attached.

- *Wire Reinforcement:* When Silt Fence is wire reinforced, the geotextile fabric is backed with chain link or welded wire fencing.

*Methods of Installation:*

- *Trenchless:* Drive support posts into the ground, attach geotextile on the upslope side of the line of stakes with a portion lying flat on the ground, and place clean rock or sandbags on the geotextile. Using sandbags to anchor the fence bottom is a less desirable method because of the tendency for undermining. Require removal of the rock or sandbags when the fence is removed.
- *Trench Key:* Drive support posts into the ground, excavate a trench on the uphill side along the line of the stakes, attach geotextile, and bury fence bottom. Use soil to backfill trench and compact to secure fence bottom. Compacted soil is preferred to gravel fill.
- *Machine Slice:* This method requires a Silt Fence installation machine or attachment. The machine utilizes a blade that plows or slices the fabric directly into the soil minimizing soil disturbance. Displaced soil must be manually backfilled into the slice before the tractor is used to mechanically compact the soil.

*Design*

Locate Silt Fence at a distance from the base of the slope or pile such that there is space for temporary storage of potential accumulated material. Consider a space of 4 feet for worker access if feasible. The grade and length of slope as well as soil erodibility must be considered when specifying silt fence. If the slope is steep or long, consider intermediate slope breaks.

Below are design considerations for Silt Fence that is not wire-reinforced:

- *Design Life:* 1 season (6 months) or less.
- *Contributing Sheet Flow Drainage Area:* Not to exceed 0.25 acres/100 ft. of fence.
- *Maximum Height of Ponding Water:* 18 in.

*Guidelines for Maximum Slope Length for Silt Fence:*

Slope (H:V)	Length of Slope Above Fence, Assumes 30 In High Fence
10:1	150 ft.
6:1	85 ft.
5:1	70 ft.
4:1	55 ft.
3:1	40 ft.
2:1	25 ft.
1:1	15 ft.

*Relationship to Other Erosion and Sediment Control Measures*

Sediment control measures are secondary to erosion prevention or soil stabilizing measures. Silt Fence may be used as part of a sequential system with other temporary or permanent measures such as vegetation, check dams, settling ponds, etc. Occasional flow velocity increases may be offset using corrective measures such as rock berms or other redirecting energy absorbers.

*Common Failures or Misuses*

- Inappropriate for intended function (e.g. used for check dam, flow diversion, diversion dam, etc.).
- Installation of Silt Fence in streams or concentrated flow.
- Use as a mid-slope protection on slopes greater than 4:1.
- Use as a perimeter control in high flow areas.
- Field-sewn seams.
- Use of incorrect type of fabric.
- Loose or sagging fabric between posts.
- Fence improperly attached or fastened to posts.
- Posts not driven deep enough into the ground.
- Posts spaced too far apart.
- Posts installed on incorrect side of fence.
- Placement of overlapped joints across pooled drainage areas.
- Fence allows spillover or bypass.
- Soil is not compacted next to fence after backfilling trench, allowing water to flow underneath.

- Trenches are too shallow to anchor the Silt Fence below ground or trenchless construction failure.
- Slope erosion occurs below the fenceline due to drainage that bypasses the barrier end, or water build-up that “blows out” a poorly-secured fence bottom.
- Fence function impairment due to sediment build-up, maintenance neglect, etc.
- Fence topples due to poor installation and/or high levels of impounded backup water or sediment.
- Uneven distribution of pooled drainage along non-level fenceline surface reduces efficiency.
- End of fence is not “J-hooked” upslope allowing water to run around the end.
- Poor support system (e.g. soil too rocky to secure posts, fabric stapled to trees, etc.).
- Installation of Silt Fence in a long continuous run.

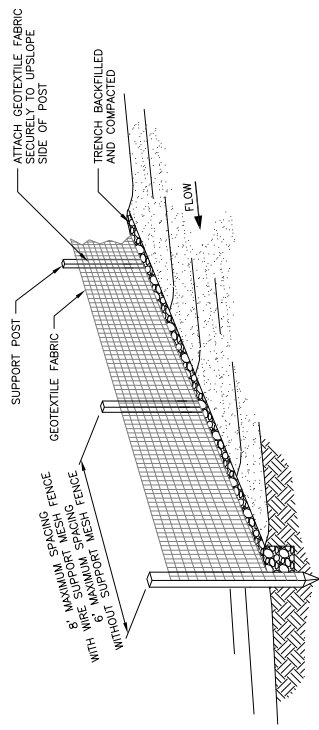
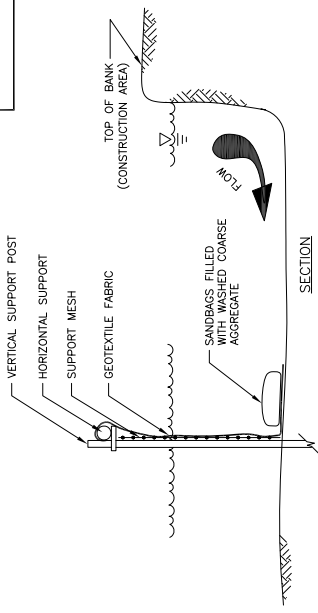
### SPECIFICATIONS

#### Standard Specification

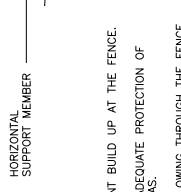
- 633 – Silt Fence
- 729-2.04 - Geosynthetics

#### Drawing

- BMP-20.00 Silt Fence (Sheets 1 and 2)



**GENERAL INSTALLATION**  
NOT TO SCALE



**PROFILE**  
NOT TO SCALE

**STANDING WATER INSTALLATION**  
NOT TO SCALE

- NOTE DEPTH OF SEDIMENT BUILD UP 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.

**MAINTENANCE**

- 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 A POINT THAT REDUCES CAPACITY OR IMPAIRS FUNCTION OF THE FENCE. CONSIDER PROTECTING A WATER BODY OR STORM DRAIN INLET.
- DISPOSE OF SILT WASTE IN APPROVED MANNER/LOCATION (TYPICALLY IN A NON-EROSION AREA).
- IF THERE IS EVIDENCE OF EXCESSIVE SEDIMENTATION AGAINST THE SILT FENCE, PROVIDE INCREASED EROSION CONTROL UPSLOPE.

**REMOVAL**

- WHEN DISTURBED AREAS ARE PERMANENTLY STABILIZED OR SEDIMENT PROTECTION IS NO LONGER NEEDED, REMOVE THE FENCE AND EXPOSE OF ACCUMULATED SEDIMENT OR SOIL IN PLACE.
- CUT FABRIC AT GROUND LEVEL AND REMOVE SUPPORTS.
- DISCARD FILTER FENCE AS APPROVED. AVOID DAMAGE TO SENSITIVE AREAS (E.G. WETLAND OR SURFACE WATER).

- KEEP FENCE FABRIC TAUT.
- WHEN USING SUPPORT MESH, ATTACH GEOTEXTILE TO THE SUPPORT MESH WITH FASTENERS SPACED EVERY 24 INCHES AT THE TOP AND MIDSECTION.

**MACHINE SLICE INSTALLATION (NOT IN PERMAFROST)**

- USE A SILT FENCE INSTALLATION MACHINE OR EQUIPMENT TO FLOW OR SLICE THE FABRIC DIRECTLY INTO THE SOIL.
- BACKFILL SOIL LOOSENEED BY THE BLADE INTO THE SLICE AND USE THE TRACTOR TO MECHANICALLY COMPACT THE SOIL.
- TUCK FABRIC DEEPER INTO THE GROUND WHERE NECESSARY.
- INSTALL SUPPORT POSTS ALONG THE LENGTH OF THE FENCE FOLLOWING SIMILAR PROCEDURES FOR THE TRENCH METHOD.

**WINTER INSTALLATION (NOT IN PERMAFROST)**

- DIG A TRENCH.
- BACKFILL TRENCH WITH THE LOOSENEED SOIL AND COMPACT SOIL PRIOR TO POST INSTALLATION.
- MOISTEN THE BACKFILLED SOIL SO IT WILL FREEZE UP AND GRIP THE SILT FENCE FABRIC IN PLACE.
- DO NOT LEAVE LARGE FROST CHUNKS AS THE BACKFILL.

**INSPECTION**

- INSPECT FENCELINE FOR CONTINUITY, COLLAPSE, WEATHERING, OR DAMAGE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
- INSPECT FABRIC FOR TEARS, PUNCTURES, FRAYING, WEATHERING, AND COMPROMISED INTEGRITY.
- CONFIRM THAT THE 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 EDGE OF THE FENCE. (THIS INCLUDES AN INDICATION OF DRAINAGE BYPASS OR FENCE UNDERMINE)

**SILT FENCE GENERAL NOTES:**

- SEE SPECIFICATION SECTION 633, SILT FENCE.
- INSTALLATION:
  - PERPENDICULAR TO ANTICIPATED SHEET FLOW DRAINAGE PATH(S).
  - ORIENT END SECTIONS UPHILL SLIGHTLY IN A J-HOOK TO PREVENT WATER FROM GOING AROUND THE SILT FENCE.
  - DO NOT EXCEED 100 FEET FOR EACH 1/4-ACRE OF DRAINAGE AREA AND DO NOT EXCEED 500 FEET REGARDLESS OF DRAINAGE AREA.
  - THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST AND LOWEST POINT ACROSS THE TOP OF THE SEDIMENT FENCE SHALL NOT EXCEED ONE-THIRD THE FENCE HEIGHT.
  - WHERE GROUND SURFACES ARE UNEVEN, INSTALL SHORTER FENCES FOLLOWING CONTOURS (RATHER THAN STRAIGHT LINES). LONG, CONTIGUOUS FENCES THAT DIRECT DRAINAGE TO ACCUMULATE IN LOW SPOTS).
  - LOCATE FENCE 3 TO 10 FEET BEYOND TOE OF FILL TO LEAVE ROOM FOR A BROAD, SHALLOW SEDIMENTATION POOL AND FOR EQUIPMENT ACCESS DURING FENCE MAINTENANCE AND REMOVAL.
  - IF FEASIBLE, LEAVE A MINIMUM OF 3.5-FOOT BUFFER BETWEEN FENCING AND SENSITIVE RECEIVING AREAS.

- PLACE GEOTEXTILE ON THE UPSLOPE SIDE OF POSTS, OR WHERE SENSITIVE AREAS ARE LOCATED. PLACE SANDBAGS OR ROCKS ON THE UPSLOPE SIDE OF THE FENCE.
- EXCAVATE TRENCHES NOT WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION OF THE SILT FENCE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
- AT JOINTS, ROLL ENOUGH OF THE ENDS OF SECTIONS TOGETHER AT SUPPORT POST SUCH THAT THE JOINT PREVENTS SILT-LADEN WATER FROM ESCAPING THROUGH THE FENCE.
- IF USING THE FRONT WHEEL OF A TRACTOR OR ROLLER, COMPACT THE UPSLOPE SIDE FIRST, THEN EACH SIDE TWICE (A TOTAL OF FOUR TRIPS).

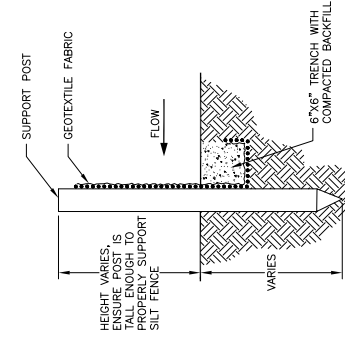
**STANDING WATER NOTES:**

- INSTALLATION:
  - DRIVE SUPPORT POSTS INTO THE GROUND AND ATTACH A HORIZONTAL SUPPORT MEMBER.
  - ATTACH SUPPORT MESH AND GEOTEXTILE ON THE UPSLOPE SIDE OF THE POST. SECURE THE FABRIC ON THE GROUND UPSLOPE OF THE FENCE AND ANCHOR THE GEOTEXTILE WITH SANDBAGS OR EQUIVALENT TO PREVENT GAPS.
  - SPACE SUPPORT POSTS A MAXIMUM OF 8 FEET APART.
  - KEEP FENCE FABRIC TAUT.

Date	REVISIONS Description	By

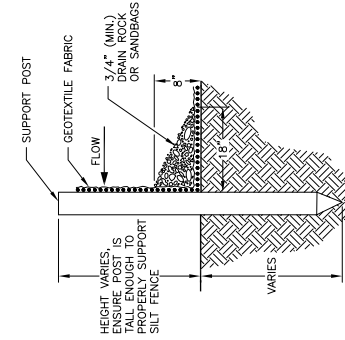
State of Alaska DOT&PF  
**SILT FENCE**  
**(NOTES, GENERAL**  
**INSTALLATION, & STANDING**  
**WATER INSTALLATION)**

Date 12/2015  
 A  
 P  
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 12/22/15



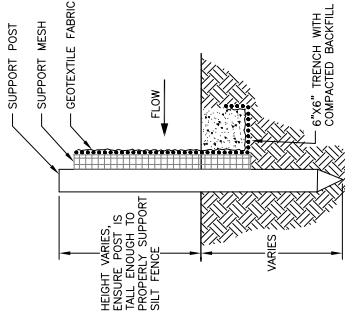
**TRENCH DETAIL**  
NOT TO SCALE

- TRENCH NOTES:**  
**INSTALLATION**
1. DRIVE SUPPORT POSTS INTO THE GROUND.
  2. FOLLOW MANUFACTURER'S SPECIFICATIONS FOR POST BURIAL DEPTH.
  3. EXCAVATE A TRENCH ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES.
  4. ATTACH GEOTEXTILE TO STAKES AND BURY GEOTEXTILE BOTTOM.
  5. BACKFILL TRENCH AND COMPACT TO SECURE FENCE.



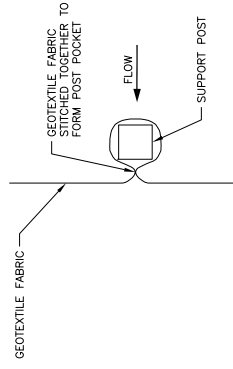
**TRENCHLESS DETAIL**  
NOT TO SCALE

- TRENCHLESS NOTES:**  
**MATERIALS**  
CLEAN ROCK OR SANDBAGS.
- INSTALLATION**
1. DRIVE SUPPORT POSTS INTO THE GROUND.
  2. ATTACH GEOTEXTILE ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES.
  3. EXTEND GEOTEXTILE ON THE GROUND UPHILL OF THE FENCE.
  4. PLACE DRAIN ROCK ON GEOTEXTILE.
- REMOVAL**
1. WHEN SILT FENCE IS LOCATED IN WETLANDS OR SENSITIVE AREAS, REMOVE CLEAN ROCK OR SANDBAGS WHEN THE SILT FENCE IS REMOVED.



**SUPPORT MESH REINFORCED FABRIC DETAIL**  
NOT TO SCALE

- SUPPORT MESH REINFORCED FABRIC NOTES:**  
**INSTALLATION**
1. DRIVE SUPPORT POSTS INTO THE GROUND.
  2. EXCAVATE A TRENCH ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
  3. EXTEND SUPPORT MESH A MINIMUM OF 3 INCHES INTO THE TRENCH.
  4. ATTACH GEOTEXTILE TO STAKES AND BURY GEOTEXTILE BOTTOM.
  5. BACKFILL TRENCH AND COMPACT TO SECURE FENCE.



**SEWN-IN POCKET DETAIL**  
NOT TO SCALE

Date	REVISIONS Description	By

State of Alaska DOT&PF

**SILT FENCE  
(DETAILS)**

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Date: // //

Date

**Appendix C – Project Schedule**

**Appendix D – Supporting Documentation**

**TMDLs**

**Endangered Species**

**Other Permits or Requirements**



## United States Department of the Interior



FISH AND WILDLIFE SERVICE  
Anchorage Fish & Wildlife Field Office  
4700 Blm Road  
Anchorage, AK 99507  
Phone: (907) 271-2888 Fax: (907) 271-2786

In Reply Refer To:  
Project Code: 2022-0090107  
Project Name: Old Town Homer

September 29, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and some candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that candidate species are not included on this list. We encourage you to visit the following website to learn more about candidate species in your area:

[http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/endangered/candidate\\_conservation.htm](http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/endangered/candidate_conservation.htm)

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

**Endangered Species:** The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect



threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

**Migratory Birds:** In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/birds/policies-and-regulations.php>

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a Federal nexus) or a Bird/Eagle Conservation Plan (when there is no Federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see:

<https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>

In addition to MBTA and BGEPA, Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both

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migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan ([http://www.fws.gov/windenergy/eagle\\_guidance.html](http://www.fws.gov/windenergy/eagle_guidance.html)). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at:

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>

<http://www.towerkill.com>

<http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
  - USFWS National Wildlife Refuges and Fish Hatcheries
  - Migratory Birds
-

## **Official Species List**

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

**Anchorage Fish & Wildlife Field Office**

4700 Blm Road

Anchorage, AK 99507

(907) 271-2888

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## Project Summary

Project Code: 2022-0090107

Project Name: Old Town Homer

Project Type: Wastewater Pipeline - New Constr - Below Ground

Project Description: Old town Homer Water Main and Sanitary Sewer System Exp. Located at E. Bunnell Avenue, Allen Way, & Charles Way.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@59.6392219,-151.5434573345202,14z>



Counties: Kenai Peninsula County, Alaska

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## Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

- 
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

## Birds

NAME	STATUS
Steller's Eider <i>Polysticta stelleri</i> Population: AK breeding pop. There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. Species profile: <a href="https://ecos.fws.gov/ecp/species/1475">https://ecos.fws.gov/ecp/species/1475</a>	Threatened

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

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# **USFWS National Wildlife Refuge Lands And Fish Hatcheries**

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

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## Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

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1. The [Migratory Birds Treaty Act](#) of 1918.
  2. The [Bald and Golden Eagle Protection Act](#) of 1940.
  3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

**The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern \(BCC\) list](#) or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Aleutian Tern <i>Sterna aleutica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/9599">https://ecos.fws.gov/ecp/species/9599</a>	Breeds May 1 to Aug 31
American Golden-plover <i>Pluvialis dominica</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Aug 15

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NAME	BREEDING SEASON
<p><b>Bald Eagle <i>Haliaeetus leucocephalus</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1626">https://ecos.fws.gov/ecp/species/1626</a></p>	Breeds Feb 1 to Sep 30
<p><b>Black Scoter <i>Melanitta nigra</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p><b>Black-legged Kittiwake <i>Rissa tridactyla</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p><b>Bristle-thighed Curlew <i>Numenius tahitiensis</i></b>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/3913">https://ecos.fws.gov/ecp/species/3913</a></p>	Breeds May 15 to Aug 15
<p><b>Common Eider <i>Somateria mollissima</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Jun 1 to Sep 30
<p><b>Common Loon <i>gavia immer</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/4464">https://ecos.fws.gov/ecp/species/4464</a></p>	Breeds Apr 15 to Oct 31
<p><b>Common Murre <i>Uria aalge</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Apr 15 to Aug 15
<p><b>Golden Eagle <i>Aquila chrysaetos</i></b>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a></p>	Breeds Jan 1 to Aug 31
<p><b>Hudsonian Godwit <i>Limosa haemastica</i></b>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 15 to Jul 31
<p><b>Kittlitz's Murrelet <i>Brachyramphus brevirostris</i></b>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/1633">https://ecos.fws.gov/ecp/species/1633</a></p>	Breeds elsewhere



NAME	BREEDING SEASON
<p>Lesser Yellowlegs <i>Tringa flavipes</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9679">https://ecos.fws.gov/ecp/species/9679</a></p>	Breeds May 1 to Aug 15
<p>Long-tailed Duck <i>Clangula hyemalis</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/7238">https://ecos.fws.gov/ecp/species/7238</a></p>	Breeds elsewhere
<p>Olive-sided Flycatcher <i>Contopus cooperi</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/3914">https://ecos.fws.gov/ecp/species/3914</a></p>	Breeds May 20 to Aug 31
<p>Pomarine Jaeger <i>Stercorarius pomarinus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Red-breasted Merganser <i>Mergus serrator</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Red-necked Phalarope <i>Phalaropus lobatus</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Red-throated Loon <i>Gavia stellata</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Short-billed Dowitcher <i>Limnodromus griseus</i>            This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9480">https://ecos.fws.gov/ecp/species/9480</a></p>	Breeds Jun 1 to Aug 10
<p>Surf Scoter <i>Melanitta perspicillata</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds elsewhere
<p>Thick-billed Murre <i>Uria lomvia</i>            This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.</p>	Breeds Apr 15 to Aug 15

NAME	BREEDING SEASON
<b>White-winged Scoter <i>Melanitta fusca</i></b> This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.	Breeds elsewhere
<b>Yellow-billed Loon <i>Gavia adamsii</i></b> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. <a href="https://ecos.fws.gov/ecp/species/8199">https://ecos.fws.gov/ecp/species/8199</a>	Breeds elsewhere

## Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

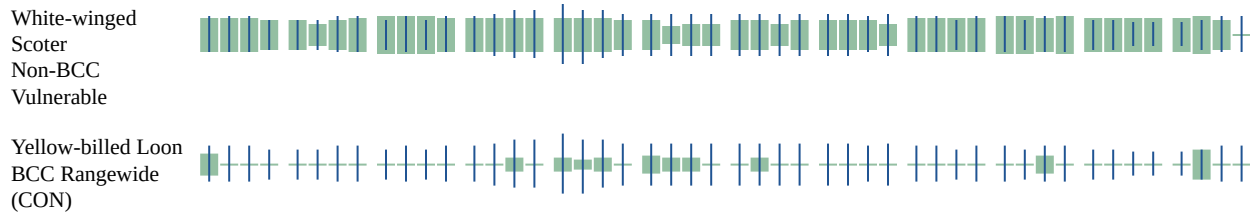
How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

### Breeding Season (■)







Additional information can be found using the following links:

- Birds of Conservation Concern <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incident-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf>
- Alaska Bird Nesting Season <https://www.fws.gov/alaska-bird-nesting-season>

## Migratory Birds FAQ

**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list

of all birds potentially present in your project area, please visit the [Rapid Avian Information Locator \(RAIL\) Tool](#).

### **What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go to the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

### **How do I know if a bird is breeding, wintering or migrating in my area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

### **What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### **Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical](#)

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[Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### **What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### **Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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## **IPaC User Contact Information**

Agency: Bishop Engineering LLC  
Name: Shannon Cefalu  
Address: PO Box 2501  
City: Homer  
State: AK  
Zip: 99603  
Email: scefalu@bishop-engineering.com  
Phone: 3603173975

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## Wetlands

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE APPROXIMATELY 0.40 ACRES OF RIVERINE WETLANDS WITHIN THE BOUNDARIES OF THIS PROJECT ALONG E BUNNEL AVE.

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September 28, 2022

**Wetlands**

- |  |   |  |
|--|---|--|
|  Estuarine and Marine Deepwater |  Freshwater Emergent Wetland       |  Lake     |
|  Estuarine and Marine Wetland   |  Freshwater Forested/Shrub Wetland |  Other    |
|  |  Freshwater Pond                   |  Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
**OIL & HAZARDOUS SUBSTANCES SPILL NOTIFICATION FORM**

ADEC USE ONLY

ADEC SPILL#:	ADEC FILE#:	ADEC LC:
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<b>PERSON REPORTING:</b>		<b>PHONE NUMBER:</b>		<b>REPORTED HOW? (ADEC USE ONLY)</b> <input type="checkbox"/> Phone <input type="checkbox"/> Fax <input type="checkbox"/> PERS <input type="checkbox"/> E-mail	
<b>DATE/TIME OF SPILL:</b>		<b>DATE/TIME DISCOVERED:</b>		<b>DATE/TIME REPORTED TO ADEC:</b>	
<b>INCIDENT LOCATION/ADDRESS:</b>			<b>DATUM:</b> <input type="checkbox"/> NAD27 <input type="checkbox"/> NAD83 <input type="checkbox"/> WGS84 <input type="checkbox"/> Other _____		<b>PRODUCT SPILLED:</b>
			<b>LAT.:</b>		
			<b>LONG.:</b>		
<b>QUANTITY SPILLED:</b> <input type="checkbox"/> gallons <input type="checkbox"/> pounds		<b>QUANTITY CONTAINED:</b> <input type="checkbox"/> gallons <input type="checkbox"/> pounds		<b>QUANTITY RECOVERED:</b> <input type="checkbox"/> gallons <input type="checkbox"/> pounds	
<b>POTENTIAL RESPONSIBLE PARTY:</b>		<b>OTHER PRP, IF ANY:</b>		<b>VESSEL NAME:</b>	
<i>Name/Business:</i>				<b>VESSEL NUMBER:</b>	
<i>Mailing Address:</i>				<b>&gt; 400 GROSS TON VESSEL:</b>	
<i>Contact Name:</i>				<input type="checkbox"/> Yes <input type="checkbox"/> No	
<i>Contact Number:</i>				<b>CAUSE CLASSIFICATION:</b>	
<b>SOURCE OF SPILL:</b>			<input type="checkbox"/> <b>Under Investigation</b>		
<b>CAUSE OF SPILL:</b>			<input type="checkbox"/> Accident <input type="checkbox"/> Human Factors <input type="checkbox"/> Structural/Mechanical <input type="checkbox"/> Other		
<b>CLEANUP ACTIONS:</b>					
<b>DISPOSAL METHODS AND LOCATION:</b>					
<b>AFFECTED AREA SIZE:</b>		<b>SURFACE TYPE:</b> (gravel, asphalt, name of river etc.)		<b>RESOURCES AFFECTED/THREATENED:</b> (Water sources, wildlife, wells, etc.)	
<b>COMMENTS:</b>					

ADEC USE ONLY

<b>SPILL NAME:</b>		<b>NAME OF DEC STAFF RESPONDING:</b>		<b>C-PLAN MGR NOTIFIED?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>DEC RESPONSE:</b> <input type="checkbox"/> Phone follow-up <input type="checkbox"/> Field visit <input type="checkbox"/> Took Report		<b>CASELOAD CODE:</b> <input type="checkbox"/> First and Final <input type="checkbox"/> Open/No LC <input type="checkbox"/> LC Assigned		<b>CLEANUP CLOSURE ACTION:</b> <input type="checkbox"/> NFA <input type="checkbox"/> Monitoring <input type="checkbox"/> Transferred to CS or STP	
<b>COMMENTS:</b>		<b>Status of Case:</b> <input type="checkbox"/> Open <input type="checkbox"/> Closed		<b>DATE CASE CLOSED:</b>	
<b>REPORT PREPARED BY:</b>				<b>DATE:</b>	

# IT'S THE LAW!

AS 46.03.755 and 18 AAC 75.300

## REPORT OIL AND HAZARDOUS SUBSTANCE SPILLS

### During Normal Business Hours

call the nearest response team office:

**Central Alaska:** (907) 269-3063  
Anchorage Fax: (907) 269-7648

**Northern Alaska:** (907) 451-2121  
Fairbanks Fax: (907) 451-2362

**Southeast Alaska:** (907) 465-5340  
Juneau Fax: (907) 465-2237

### Outside Normal Business Hours

**Toll Free** 1-800-478-9300

**International** 1-907-428-7200



Alaska Department of  
Environmental Conservation  
Division of Spill Prevention and Response  
[www.dec.alaska.gov/spar/spillreport.htm](http://www.dec.alaska.gov/spar/spillreport.htm)

### Hazardous Substance

Any hazardous substance spill, other than oil, must be reported immediately.

### Oil – Petroleum Products

#### To Water

Any amount spilled to water must be reported immediately.

#### To Land

Spills in **excess of 55 gallons** must be reported immediately.

Spills in **excess of 10 gallons, but 55 gallons or less**, must be reported within 48 hours after the person has knowledge of the spill.

Spills of **1 to 10 gallons** must be recorded in a spill reporting log submitted to ADEC each month.

#### To Impermeable Secondary Containment Areas

Any spills in **excess of 55 gallons** must be reported within 48 hours.

### Additional Requirements for Regulated Underground Storage Tank Facilities

Regulated Underground Storage Tank (UST) facilities are defined at 18 AAC 78.005 and do not include heating oil tanks.

If your release detection system indicates a possible discharge, or if you notice unusual operating conditions that might indicate a release, you must notify the ADEC UST Program within 7 days.

**UST Program: (907) 269-3055 or 269-7679**

**Appendix E – Delegation of Authority Form  
Subcontractor Certifications**

**DELEGATION OF AUTHORITY**

I, \_\_\_\_\_ (name), hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at **Alder Lane** project site. The designee is authorized to sign any reports, stormwater pollution prevention plans and all other documents required by the permit.

\_\_\_\_\_ (name of person or position)  
\_\_\_\_\_ (company)  
\_\_\_\_\_ (address)  
\_\_\_\_\_ (city, state, zip)  
\_\_\_\_\_ (phone)

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA’s Construction General Permit (CGP), and that the designee above meets the definition of a “duly authorized representative” as set forth in Appendix I.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Name:** \_\_\_\_\_  
**Company:** \_\_\_\_\_  
**Title:** \_\_\_\_\_  
**Signature:** \_\_\_\_\_  
**Date:** \_\_\_\_\_

**SUBCONTRACTOR CERTIFICATION  
STORMWATER POLLUTION PREVENTION PLAN**

**Project Title: Old town Homer Water Main & Sanitary Sewer System Exp. - E. Bunnell Avenue,  
Allen Way, & Charles Way**

**Operator(s): City of Homer**

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

**I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the practices described in the SWPPP.** \_\_\_\_\_

This certification is hereby signed in reference to the above named project: \_\_\_\_\_

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of construction service to be provided:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_

Title:

Date:

**Appendix F – Permit Conditions**

**Notice of Intent**

**Confirmation of Delivery of NOI to ADEC**

**ADEC Authorization of Coverage**

**2022 Alaska Construction General  
Permit**





**Appendix H – Monitoring Plan and Reports**

**(not required for this project)**

**Appendix I – Training Records**

**Stormwater Pollution Prevention Training Log**

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Instructor’s Name(s): \_\_\_\_\_

Instructor’s Title(s): \_\_\_\_\_

Course Location: \_\_\_\_\_ Date: \_\_\_\_\_

Course Length (hours): \_\_\_\_\_

Stormwater Training Topic: *(check as appropriate)*

- Sediment and Erosion Controls
- Emergency Procedures
- Stabilization Controls
- Inspections/Corrective Actions
- Pollution Prevention Measures

Specific Training Objective: \_\_\_\_\_

\_\_\_\_\_

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		



**Appendix J - Corrective Action Form**

<b>Inspection Date</b>	<b>Inspector Name(s)</b>	<b>Description of BMP Deficiency</b>	<b>Corrective Action Needed (including planned date/responsible person)</b>	<b>Date Action Taken/Responsible person</b>

## Appendix K – Inspection Records

## Appendix L – Rainfall Records

