

ADDENDUM NO. 4

TO THE BID DOCUMENTS

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

CITY OF HOMER, ALASKA

Addendum Issue Date: January 6, 2023

Bid Submittal Date: January 19, 2023

Previous Addenda Issued: 3

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

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.

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

1. Responses to plan holder question

Question#1: Certification by Bidder; Use of American Iron and Steel Law. This form asks for a Project Loan Number and I cannot find it anywhere in the documents. Please provide that information or tell me it is not required with the bid.

Answer #1: You will be required to fill out the AIS form marked “Certification by Bidder” and submit that in Part A of the bid package. However, you may leave the line for “Project Loan No” blank.

Question #2: The DBE Compliance Statement; it asks for a RFP/Contract Number. Please provide or tell me if it is not required on the compliance statement.

Answer #2: The DBE Compliance Statement must be submitted in Part A of the bid package. The line for “RFP/Contract” is the name of the project, that being “E. Bunnell/Charles Way Water & Sewer Main Extension”. The DBE Participation Report does not need to be submitted with the bid as per the instructions on that form. When

the DBE Participation Report is submitted the line for "RFP/Project No" may be left blank.

2. It was discovered that there was a discrepancies between the number of pressurized sewer services and E-One life stations shown in the Plans and those shown in the rest of the bid package. The Plans showed 17 services and 10 E-Ones whereas the rest of the bid package showed 13 services and 8 E-Ones. New Special Provisions, a new Bid Form and Instructions to bidders are attached to correct these discrepancies. The Plans show the correct number for both pressurized sewer services and E-One life stations.
3. Several issues with the Plans were brought up during the pre-bid meeting:
 1. On sheet SS1, note 2 said "No E-One units installed for services shown on this sheet" but note 5 said to install E-Ones at 281 and 291 E. Bunnell Ave. Sheet SS1 has been revised to show E-Ones installed at 281 and 291 E. Bunnell Ave. with no contradictory information.
 2. On sheet SS2, note D3 said to use 8-mil polyethylene for encasement of the sewer manhole. An updated sheet changing the encasement to coal tar pitch meeting ASTM D-450 has been attached.
 3. On sheet SS3, the profiled called out the Sewer Main as 6" HDPE whereas everywhere else, it was shown as 2" HDPE. An updated sheet is attached with references to 6" HDPE removed.
 4. A potential bidder requested on-property details for properties with E-One's. New plan sheets SS1, SS3 and SS4 show locations for E-Ones and the lengths of connected discharge pipes.
 5. On sheet SS6, construction note 1 said that "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 casing." An updated sheet is attached changing this to "Directional drilling shall be utilized wherever required in the Plans and at the option of the Contractor at other locations."
 6. The UGE line adjacent to the sewer line on Allen Way was called out in the water plans. The attached W-2 and SS2 sheets have moved the callout to SS2.
4. It was discovered that on sheet SS3 of the Sewer Plans, the beginning limit of directional drilling was not established, but there is an end limit on SS4. The new SS3 sheet shows the beginning limit of directional drilling.

Attachments:

Bid Form, Instructions to Bidders, Special Provisions, Sewer Cover Sheet, Sheet SS1, Sheet SS2, Sheet SS3, Sheet SS4, Sheet SS6, Sheet SS7, Water Cover Sheet, Sheet W2, Survey Control Sheet

BID FORM

E Bunnell Ave/Charles Way Water & Sewer Main Extension

Scope A: E Bunnell Ave/Charles Way Water Main Extension

All of the following Bid Items are for the construction of the WATER MAIN & appurtenances.

ITEM NO.	SPEC NO.	BID ITEM DESCRIPTION	UNIT	QUAN TITY*	UNIT BID PRICE	TOTAL BID PRICE
1	101	Mobilization & Demobilization (Entire Project)	LS	1		
2	102	Construction Survey (Entire Project)	LS	1		
3	103	Traffic Control (Entire Project)	LS	1		
4	207A	Excavate & Backfill Non-Structural Trench Section	LF	825		
5	207B	Excavate & Backfill Structural Trench Section	LF	1,139		
6	220	Excavate & Backfill AC Pavement Structural Trench Section	LF	116		
7	602A	Furnish & Install 6" HDPE SDR11 Water Pipe	LF	1,627		
8	602B	Directional Drill 6" HDPE Water Pipe (material separate)	LF	134		
9	603	Furnish & Install 6" Gate Valve	EA	2		
10	603	Furnish & Install 8" Gate Valve	EA	1		
11	604	Furnish & Install Single Pumper Hydrant	EA	3		
12	606	Furnish & Install 1" Water Service Connection	EA	20		
13	609	Connect Existing 1" Water Service to Main Line	EA	2		
14	702	SWPPP Implementation (Entire Project)	LS	1		
15	704	Furnish & Install 4" Thick Insulation	BOARD FOOT	192		

Scope B: E Bunnell Ave/Charles Way Sewer Main Extension

All of the following Bid Items are for the construction of the SEWER MAIN & appurtenances.

ITEM NO.	SPEC NO.	BID ITEM DESCRIPTION	UNIT	QUANTITY*	UNIT BID PRICE	TOTAL BID PRICE
1	207A	Excavate & Backfill Non-Structural Trench Section	LF	977		
2	207B	Excavate & Backfill Structural Trench Section	LF	431		
3	502A	Furnish & Install 2" HDPE SDR 11 Sewer Pipe	LF	1,000		
4	502B	Directional Drill 2" HDPE Sewer Pipe (material separate)	LF	84		
5	503	Furnish & Install Sewer Manhole	EA	1		
6	510	Furnish & Install Sanitary Sewer Service	EA	2		
7	515	Furnish & Install Pressurized Sewer Service Stub-out	EA	17		
8	516	Furnish & Install Flushing Valve	EA	2		
9	519	Furnish & Install E-One Lift Station	EA	10		
10	704	Furnish & Install 4" Thick Insulation	BOARD FOOT	960		

Grand Total All Bid Items: \$ _____

Name of Bidding Company _____

Address of Bidding Company _____

Signature of Company Representative _____ Date _____

Printed Name of Company Representative _____

Phone#/Email _____

INSTRUCTIONS TO BIDDERS

City of Homer, Alaska

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

The City of Homer, Alaska is requesting bids from qualified firms and individuals for the project described herein.

The following subjects are discussed herein to assist you in the preparation of your bid.

- I. Introduction
- II. Scope of Services
- III. General Bidding Requirements
- IV. The Bid Package
- V. Tentative Project Schedule
- VI. Instructions to Bidders
- VII. Prevailing Wages
- VIII. Equal Opportunity Employment Certification
- IX. EPA Debarment Certification
- X. American Iron and Steel
- XI. Disadvantaged Business Enterprise Requirements

I. Introduction

The City of Homer requests bids for the East Bunnell Ave. and Charles Way Water and Sewer Main Extension Project. The purpose of this project is to construct a 6" HDPE water main and a 2" HDPE pressurized sewer main on East Bunnell Ave., Charles Way and Allen Way.

All work activity associated with the project shall be completed by August 31, 2023.

II. Scope of Services

The proposed work is located within the limits of the City of Homer and is illustrated on the plans entitled City of Homer Public Works Department E. Bunnell Ave./Charles Way Water and Sewer Main Extension Project.

The project consists of furnishing all labor, materials, equipment, tools, supervision and other facilities necessary for the performance of the work described herein and shown on the project drawings. The work includes, but is not limited to:

A. Water Main Extension

- Furnish and install 1,627 LF of HDPE Pipe on East Bunnell Ave., Charles Way and Allen Way.
- Excavate and backfill 1,139 LF of Structural Trench, 825 LF of Non-Structural Trench and 116 LF of AC Pavement Trench for the water line. Trench types are defined by details A, B and C on sheet W5 of the Plans.
- Directional Drill 134 LF of 6" HDPE Pipe on Charles Way near the intersection with Beluga Pl.
- Furnish and install two 6" Gate Valves and one 8" Gate Valve.
- Furnish and install 3 Single Pumper Fire Hydrants.

- Furnish and install 20 1” Copper Water Service Connections and connect 2 existing services to the main line.
- Furnish and install 192 board feet of 4” Thick Insulation.
- Perform Traffic Control.
- Perform Construction Survey.
- Implement SWPPP.

B. Sewer Main Extension

- Furnish and install 1,000 LF of 2” HDPE Pipe on East Bunnell Ave., Charles Way and Allen Way.
- Excavate and backfill 431 LF of Structural Trench and 977 LF of Non-Structural Trench. Trench types are defined by details A and B on Sheet SS5 of the Plans.
- Directional Drill 84 LF of 2” HDPE Pipe on Charles Way near the intersection with Beluga Pl.
- Furnish and install 10 E-One Lift Stations.
- Furnish and install 17 Pressurized Sewer Services.
- Furnish and install 2 Gravity Sewer Services.
- Furnish and install 2 Flushing Valves.
- Furnish and install 1 Sewer Manhole.
- Furnish and install 960 board feet of 4” Thick Insulation.

III. **General Bidding Requirements**

The work must be performed by a Contractor skilled and regularly engaged in the type of work called for under the Contract. Bidders must have a current contractor’s license issued by the State of Alaska. The license must apply to the work described in the Invitation. The City’s local bidder preference requirements apply to this contract. State prevailing wage rates will apply.

An electronic copy of Plans and Specifications is available on the City’s website <http://www.cityofhomer-ak.gov/rfps> or you may purchase hard copies at the Office of the City Clerk upon payment of \$100 per set (\$150 for overnight delivery). City of Homer Standard Construction Specifications 2011 Edition (containing general contract provisions) may also be downloaded from the city’s website. All fees are non-refundable. The City of Homer reserves the right to accept or reject any or all bids, to waive irregularities or informalities in the bids, and to award the contract to the lowest responsive, responsible bidder.

Performance and Payment bonds in the amount of 100 percent (100%) of the bid amount are required.

Bids must be submitted on the Bid Form and be received by **2:00 PM on Thursday, January 19, 2023** at the Office of the City Clerk, City of Homer 491 E. Pioneer Avenue, Homer, Alaska, 99603. **A bid bond is required.** Cashier checks in an amount equal to five percent (5%) of the bid are acceptable. Surety bonds are acceptable.

A Pre-Bid Meeting will be held at 2:00 p.m. on December 22, 2022 at the Cowles Council Chamber, City Hall 491 E Pioneer Ave Homer, Alaska 99603. This meeting will be conducted simultaneously via Zoom. Invitations will be distributed to all bidders listed on the Plan Holder’s List maintained by the City Clerk’s Office.

A Site Visit will be conducted immediately following the meeting.

IV. The Bid Package

The City of Homer requires a two-part Bid Package, Part A and Part B. Each portion of the Bid Package must be submitted in separate envelopes, which shall be combined into one single Bid Package, marked with the name of the project and the time/date of the bid opening.

At the bid opening, Part A is opened first and must be complete or Part B will not be opened and the bid will be rejected.

Part A of the bid contains:

- a. Addenda Acknowledgment Form
- b. If signature on the Bid is by an agent, other than an Officer of a Corporation, or of a member of a Co-partnership, a Power of Attorney must be submitted in Part A.
- c. EEO-1 Certification
- d. Equal Employment Opportunity Clause
- e. Equal Opportunity Statement of Acknowledgement
- f. EPA Debarment Certification
- g. American Iron and Steel Certification
- h. DBE Compliance Statement

Part A must be submitted, as part of the Bid Package, in a separate envelope marked Part A.

Part B of the bid contains:

- a. Bid Form
- b. Bid Bond

Part B must be submitted, as part of the Bid Package, in a separate envelope marked Part B.

VI. Instructions to Bidders

The City of Homer intends to award the contract to the lowest responsive, responsible bidder but reserves the right to accept or reject any or all proposals, to waive irregularities or informalities in the bids or bid process, and to award the contract to the bidder that best meets the criteria stated below.

A. Qualification of Bidders

It is the intention of the City of Homer to award this contract to the Bidder who furnishes satisfactory evidence they have the requisite experience, ability and sufficient capital, facilities and plant to prosecute the work successfully (and properly) and to complete it within the time allowed in the Contract at the least cost to the City of Homer for dollars spent for value received. Bidders will be required to fill out a questionnaire attesting to their qualifications.

B. Taxes

Attention is directed to the requirements of the General Conditions regarding the payment of taxes. All taxes that are lawfully assessed against Owner or Contractor in connection with the work shall be paid by the Contractor. The Bid prices shall include all such taxes.

The City of Homer is exempt from local sales taxes. The Contractor shall not include sales tax markup in his bid. However, in order to recoup sales tax the Contractor might pay at local vendors, the Contractor must secure a Tax Exempt card from the Kenai Peninsula Borough Tax Department.

C. Familiarization with the Work

Before submitting its Bid, each prospective Bidder shall familiarize itself with the work, labor conditions and all laws, regulations and other factors affecting performance of the work. Bidders shall carefully correlate their observations with the requirements of the Contract Documents and otherwise satisfy themselves of the expense and difficulties attending performance of the work. The submission of a Bid shall constitute an acknowledgement that the Bidder has thoroughly examined and is familiar with the Contract Documents and the provisions thereof. The failure or neglect of a Bidder to receive or examine any of the Bid Documents shall in no way relieve the bidder from any obligations with the respect to their Bid or to the Contract. Misinterpretation or a reputed lack of knowledge concerning the Bid will not serve as a basis for a claim for additional compensation.

Each Bidder shall visit the site of the work and completely inform themselves relative to construction hazards and procedures, the availability of lands, the character and quantity of surface and subsurface materials and utilities to be encountered, the arrangement and conditions of existing structures and facilities, the procedure necessary for maintenance of uninterrupted operations of existing facilities, the character of construction equipment and facilities needed for performance of the work, and facilities for transportation, handling and storage of materials and equipment. All such factors shall be properly investigated and considered in the preparation of the Bid.

D. Interpretation of Bid Documents

All questions about the meaning or intent of the Contract Documents shall be submitted to the Office of the Director of Public Works in writing. Replies will be issued by Addenda and delivered to all parties recorded by the City Clerk's Office as having received the Bidding documents. **The City of Homer will not be held responsible for questions received less than (5) calendar days prior to the date of opening of Bids.** Only questions answered by formal written Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

The Bidder shall acknowledge receipt of all Addenda on the Addendum Form, which shall be properly signed by the Bidder. It shall be the Bidder's responsibility to inquire as to addenda issued.

E. Bid Bond

Each Bid shall be accompanied by a Bid Bond duly completed on the suggested form provided by a guaranty company authorized to conduct business in the State of Alaska, along with a General Power of Attorney form, if applicable, for payment to the City in the sum of five percent (5%) of the total amount of the Bid.

The amount payable to the City under the Bid Bond or the certified or cashier's check, as the case may be, shall be forfeited to the City in case of a failure or neglect of the Bidder to furnish, execute, and deliver to the City required Performance and Payment Bonds, Evidences of Insurance, necessary forms or material required by the Bid or failure to enter into, execute and deliver to the City the Contract on the form provided therefor,

within ten (10) working days after receipt of “Notice of Intent to Award Contract” by the City that the Contract is ready for execution. The "Award of Contract" will be made upon the execution of the Contract by the Bidder and the City.

F. Return of Bid Guarantee

Within thirty (30) days after the Bids are opened, the City will return the Bid Guarantees accompanying the Bids, which are not to be considered in making the award. The bid Guarantees of the three (3) lowest responsive Bids will be held until the Contract has been fully executed after which time the Guarantees will be returned to the respective Bidders whose Bids the Guarantees accompanied.

G. Contract Time

The Contract Time is an essential part of the Contract and it will be necessary for each Bidder to satisfy the City of his ability to complete the work within the time set forth in the Bid form. Provisions for delays, liquidated damages, and extensions of time are set forth in the Standard Construction Specifications. Time is of the essence in this contract.

H. Preparation of Bids

Bids must be submitted on the forms provided by the City and completed in all respects as required by the Bid Documents. Bids shall include all information requested herein, and be manually signed by the Bidder or the Bidder's duly authorized representative, with the Bidder's address and phone number. If the signature is by an agent, other than an Officer of a Corporation, or a member of a Co-partnership, a Power of Attorney must be submitted in Part A of the Bid; otherwise, the Bid will be rejected as non-responsive. **All Bids must be regular in every respect, and no alterations shall be made to the Bid form.**

If erasures or changes appear on the forms, each must be initialed by the person signing the Bid. No oral, telegraphic, electronic or telephone proposals will be considered.

Bid Packages, containing separate envelopes for Part A and Part B of the bid, will be received at the City Clerk's Office located at City Hall 491 East Pioneer Avenue, Homer, Alaska 99603, until the time indicated on the Invitation to Bid. Each Bid shall be submitted enclosed in a sealed, opaque envelope. **The envelope shall have the Bid title and date of Bid opening on the lower left-hand corner of the Bid Package.** The City is not responsible for the premature opening of, or failure to open, a bid not properly addressed and identified.

No consideration will be given by the City to a claim or error unless such claim is made to the City in writing within two (2) hours after the time of Bid opening. Written verification and supporting evidence of the error shall be delivered to the City Clerk within 24 hours of the Bid Opening (not including Saturday, Sunday or legal holidays) to allow consideration of the claim for error. Supporting evidence shall be original documents, including cost breakdown sheets, supplier quotes and other documents used to compute the Bid.

It is the bidder's responsibility to see that Bid Packages are deposited at the time and place set forth for the public opening of Bids. Bids not received by the time will not be considered responsive and shall not be considered.

VII. Labor Rates

A. State Labor Rates.

This project is covered by the State of Alaska Title 36 Laborer's and Mechanic's Minimum Rate of Pay (AS 36.05.010 & 36.05.050) Pamphlet No. 600, Issue 45, Effective September 1, 2022. It is the responsibility of the bidder to determine the current rates of pay required and to submit the proper certified payrolls to the State Department of Labor.

B. Federal Labor Rates

This project is funded, in part, by the U.S. Department of Environmental Protection and as such federal prevailing wages apply if they are higher than the State of Alaska's prevailing wages. Federal Wage Determinations are included herein.

The contractor must pay whichever rates are higher between the State and Federal labor rates.

VIII. Equal Opportunity Employment

Bidders must submit forms related to Equal Employment Opportunity with their bids, including:

- Equal Employment Opportunity Statement of Acknowledgement form
- Equal Employment Opportunity Clause (Provided with the bid package)
- EEO-1 Certification

IX. EPA Debarment Certification

Bidders must submit a Certification Regarding Debarment, Suspension and Other Responsibility Matters with their bids. This certification will be provided with the bid package.

X. American Iron and Steel

Any iron and steel products used in the project must be produced in the United States, unless a waiver is requested and received.

Waivers will only be granted if:

- a. It is inconsistent with the public interest;
- b. Iron and steel products not produced in the United States are not available in sufficient and reasonably available quantities and of a satisfactory quality; or
- c. Inclusion of iron and steel produced in the United States will increase the cost of the overall Project by more than 25 percent;

Conservation by the City, which then forwards the request to the US Environmental Protection Agency ("EPA") for consideration. EPA will make a copy of the request and information available to the Administrator concerning the request, and available to the public on an EPA website for at least fifteen days for informal public input prior to making a finding. Bidders must submit an American Iron & Steel Certification with their bids. This certification will be provided with the bid package.

IX. Disadvantaged Business Enterprise Requirements Apply

To be eligible for award of this contract, a bidder must execute and submit as part of its bid, a statement of compliance with the Disadvantaged Business Enterprises requirements. See the Compliance Statement contained herein.

SPECIAL PROVISIONS

E Bunnell Ave/Charles Way Water & Sewer Main Extension

The construction contract for this project will be administered in accordance with the General Provisions of the City's Standard Construction Specifications (2011).

MODIFICATIONS TO GENERAL PROVISIONS

SP – 1: Section 10.03 – Add New Article 3.13 – Dual Contract Bid

This project will be awarded as two contracts to the lowest responsive, responsible bidder. One of these contracts will be for the E. Bunnell Avenue/Charles Way Water Main Extension Project and the other will be for the E. Bunnell Avenue/Charles Way Sewer Main Extension Project.

SP – 2: Section 10.04 – Add New Article 4.6 – Scope of Work

The Work included under this Contract consists of furnishing all labor, materials, equipment, supervision, and other facilities necessary to successfully complete the Work set forth in the drawings, specifications, and the terms of the Contract, including, but not limited to the following work:

A. Water Main Extension

- Furnish and install 1,627 LF of HDPE Pipe on East Bunnell Ave., Charles Way and Allen Way.
- Excavate and backfill 1,139 LF of Structural Trench, 825 LF of Non-Structural Trench and 116 LF of AC Pavement Trench for the water line. Trench types are defined by details A, B and C on sheet W5 of the Plans.
- Directional Drill 134 LF of 6" HDPE Pipe on Charles Way near the intersection with Beluga Pl.
- Furnish and install two 6" Gate Valves and one 8" Gate Valve.
- Furnish and install 3 Single Pumper Fire Hydrants.
- Furnish and install 20 1" Copper Water Service Connections and connect 2 existing services to the main line.
- Furnish and install 192 board feet of 4" Thick Insulation.
- Perform Traffic Control.
- Perform Construction Survey.
- Implement SWPPP.

B. Sewer Main Extension

- Furnish and install 1,000 LF of 2” HDPE Pipe on East Bunnell Ave., Charles Way and Allen Way.
- Excavate and backfill 431 LF of Structural Trench and 977 LF of Non-Structural Trench for the sewer line. Trench types are defined by details A and B on Sheet SS5 of the Plans.
- Directional Drill 84 LF of 2” HDPE Pipe on Charles Way near the intersection with Beluga Pl.
- Furnish and install 2 Sanitary Sewer Services.
- Furnish and install 1 Sewer Manhole.
- Furnish and install 10 E-One Lift Stations.
- Furnish and install 17 Pressurized Sewer Services.
- Furnish and install 2 Flushing Valves.
- Furnish and install 960 board feet of 4” Thick Insulation

SP – 3: Section 10.05 – Modify Article 5.12 – Temporary Erosion Control During Construction

Add the following language:

“The City has prepared a Storm Water Pollution Prevention Plan (SWPPP), which will be included in an Addenda. The Contractor is required to implement the Best Management Practices in the SWPPP and otherwise comply with the terms of the SWPPP. Compensation will be paid under Bid Item #14 of Scope A, SWPPP Implementation.”

SP – 4: Section 10.05 – Modify Article 5.19 – Easement and Rights-of-way

Add the following language:

“The Contractor will be provided access to a laydown area for material storage, job shack, and other uses. The location of this area will be shown in the site map. The Contractor shall make independent arrangements for any additional space needed.”

SP – 5: Section 10.05 – Modify Article 5.25 - Unusual Work Hours

Add the following sentence:

“The noise level from work completed before 8:00 AM and after 8:00 PM cannot exceed 75 db at a distance of 50 feet.”

SP – 6: Section 10.07 – Modify Article 7.6 – Progress Payments

Remove the following language:

“Until such time as the work is accepted by the City, retainage shall be withheld in accordance with the following schedule:

Contract Completion Percentage	Retainage Percentage
0-75%	10%
76-95%	5%*
Over 95%	5%*

*May be reduced to these percentages depending upon satisfactory performance and adherence to the Contractor’s progress schedule, clean-up, Contract completion cost and other factor, in the judgement of the Engineer.”

And replace with:

“Until such time as the work is accepted by the City, 10% of the final payment application shall be withheld as retainage.”

MODIFICATIONS TO STANDARD SPECIFICATIONS

DIVISION 100 GENERAL DIVISION

SP – 7: Modify Subsection 102.1 General

Add the following paragraph:

“The Contractor shall submit all survey data with each pay application; Field Books with sketches, professionally scaled plan set redlines, electronic survey coordinates. These items shall be submitted in entirety within 10 days of the project completion. In addition, the as-built information shall also be in NAD 83 datum, the City of Homer will provide the coordinate system at the time of contract award.”

DIVISION 200 EARTHWORK

SP- 8: Modify Section 207 Trench Excavation & Backfill

Remove the following language from subsection 207.4:

“Trench excavation and compaction will be considered incidental to *Divisions 500 and 600* of these specifications.”

And replace with:

“Trench Excavation and backfill shall be measured by lineal foot (LF) of trench section with the dimensions shown on the Plans. Payment for Excavate and Backfill Structural Trench Section

and Excavate and Backfill Non-Structural Trench Section includes all labor, material and incidentals for excavating and backfilling.”

Add the following language under subsection 207.5:

“Payment shall be made under the following units:

ITEM	DESCRIPTION	UNIT
207A	Excavate & Backfill Non-Structural Trench Section	LF

ITEM	DESCRIPTION	UNIT
207B	Excavate & Backfill Structural Trench Section	LF”

SP – 9: Add New Section 220 Excavate & Backfill AC Pavement Trench Section

220.1 General

The work under this section consists of performance of all operations pertaining to the trench excavation and backfill within areas containing asphalt concrete pavement in accordance with the limits shown on the drawings and as directed by the Engineer.

220.2 Construction

The contractor shall excavate trenches within areas containing asphalt concrete pavement per HSCS Section 207. Bedding material shall be Class “C” per HSCS Section 211 and backfilled in conformance with HSCS Section 207. Classified Fill Type III and Leveling Course shall be installed in conformance with HSCS Sections 205 and 206, respectively. Asphalt Concrete shall be installed in conformance with HSCS Division 400.

220.3 Method of Measurement

Excavate and Backfill Asphalt Pavement Trench Section shall be measured by the lineal foot (LF) with the dimensions shown on the drawings and these specifications. Payment for Excavate and Backfill Asphalt Pavement Trench Section includes all labor, materials, and incidentals for excavating, backfilling, and placing asphalt concrete surfacing.

220.4 Basis of Payment

Payment shall be made under the following unit:

ITEM	DESCRIPTION	UNIT
220	Excavate and Backfill AC Pavement Structural Trench Section	LF

DIVISION 500 SEWER SYSTEMS

SP – 10: Modify Subsection 502.3 Construction

Add the following language:

“g. Horizontal Directional Drilling of HDPE Pipe

At least 7 days prior to mobilizing equipment the Contractor shall submit a detailed installation plan to the Engineer for approval. The plan shall include a detailed plan and profile of the bores and be plotted at a scale no smaller than 1 inch equals 20 feet horizontal and vertical. The plans shall also describe the process of insertion of the HDPE pipe into the opened bore hole. The plan shall include a description of the pullback procedure, ballasting, use of rollers, side booms and side rollers, coating protection, internal cleaning, internal gauging, hydrostatic tests, dewatering, and purging. The plan shall also include a list of major equipment and supervisory personnel and a description of the methods to be used.

The Contractor may request changes to the proposed vertical and horizontal alignment of the installation. Proposed changes shall be submitted in writing to the Engineer and receive approval of the Engineer prior to construction.

Directional drilling and pipe installation shall be done only by an experienced Contractor in directional drilling and whose key personnel have at least three (3) years experience in this work.

Horizontal directional drilling shall consist of the drilling of a small diameter pilot hole from one end of the alignment to the other, followed by enlarging the hole diameter for the pipeline insertion. The exact method and techniques for completing the directionally drilled installation will be determined by the Contractor, subject to the requirements of these Specifications.

The Contractor shall plot the actual horizontal and vertical alignment of the pilot bore at intervals not exceeding 30 feet. This “as built” plan and profile shall be updated as the pilot bore is advanced. The Contractor shall at all times provide and maintain instrumentation that will accurately locate the pilot hole and measure drilling fluid flow and pressure. The Contractor shall grant the Engineer access to all data and readout pertaining to the position of the bore head and the fluid pressures and flows.

When requested, the Contractor shall provide explanations of this position monitoring and steering equipment. The Contractor shall employ experienced personnel to operate the directional drilling equipment and, in particular, the position monitoring and steering equipment. No information pertaining to the position or inclination of the pilot bores shall be

withheld from the Engineer. Each exit point shall be located as shown with an over-length tolerance of 10 feet and an alignment tolerance of 2 feet left/right.

After the pipe is in place, cleaning pigs shall be used to remove residual water and debris. After the cleaning operation, the Contractor shall provide and run a sizing pig to check for anomalies in the form of buckles, dents, excessive out-of-roundness, and any other deformations. The sizing pig run shall be considered acceptable if the survey results indicate that there are no sharp anomalies (e.g. dents, buckles, gouges, and internal obstructions) greater than 2 percent of the nominal pipe diameter, or excessive ovality greater than 5 percent of the nominal pipe diameter. For gauging purposes, dent locations are those defined above which occur within a span of five feet or less. Pipe ovality shall be measured as the percent difference between the maximum and minimum pipe diameters. For gauging purposes, ovality locations are those defined above which exceed a span of five feet. Reaming operations shall be conducted to enlarge the pilot after acceptance of the pilot bore. The number and size of such reaming operations shall be conducted at the discretion of the Contractor.

The maximum allowable pull exerted on the HDPE pipelines shall be measured continuously and limited to the maximum allowed by the pipe manufacturer so that the pipe or joints are not over stressed. The lead end of the pipe shall be closed during the pullback operation. A swivel shall be used to connect the pipeline to the drill pipe to prevent torsional stresses from occurring in the pipe.

The pipelines shall be adequately supported by rollers and side booms and monitored during installation so as to prevent over stressing or buckling during the pullback operation. Such support/rollers shall be spaced at a maximum of 60 feet on centers, and the rollers to be comprised of a non-abrasive material arranged in a manner to provide support to the bottom and bottom quarter points of the pipeline allowing for free movement of the pipeline during pullback. Surface damage shall be repaired by the Contractor before pulling operations resume.

The contractor shall at all times handle the HDPE pipe in a manner that does not over stress the pipe. Vertical and horizontal curves shall be limited so that wall stresses do not exceed 50% of yield stress for flexural bending of the HDPE pipe. If the pipe is buckled or otherwise damaged, the damaged section shall be removed and replaced by the Contractor at his expense. The Contractor shall take appropriate steps during pullback to ensure that the HDPE pipe will be installed without damage.

During the drilling, reaming, or pullback operations, the Contractor shall make adequate provisions for handling the drilling fluids, or cuttings at the entry and exit pits. To the greatest extent practical, these fluids must not be discharged into the waterway. Pits constructed at the entry or exit point area shall be so constructed to completely contain the drill fluid and prevent its escape to the adjacent property, beach or waterways. The

position of the drill string shall be monitored by the Contractor with the downhole survey instruments. Contractor shall compute the position in the X, Y and Z axis relative to ground surface from downhole survey data a minimum of once per length of each drilling pipe (approximately 31 foot interval). Deviations from the acceptable tolerances described in the Specifications shall be documented and immediately brought to the attention of the Engineer for discussion and/or approval. The profile and alignment defined on the construction drawings for the bores define the minimum depth and radius of curvature. At no point in the drilled profile shall the radius of curvature of the bore be less than 1,600 feet. The Contractor shall maintain and provide to the Engineer, upon request, the data generated by the downhole survey tools in a form suitable for independent calculation of the pilot hole profile.

During the entire operation, waste and leftover drilling fluids from the pits and cuttings shall be dewatered and disposed of in accordance with all permits and regulatory agencies requirements. Remaining water shall be cleaned by Contractor to meet permit requirements. Technical criteria for bentonite shall be as given in API Spec. 13A, Specification for Oil Well Drilling Fluids. Any modification to the basic drilling fluid involving additives must describe the type of material to be used and be included in Contractor’s drilling plan presented to the Engineer.”

SP – 11: Modify Subsection 502.5 Basis of Payment

Delete all language and replace with:

“Payment shall be made under the following units:

ITEM	DESCRIPTION	UNIT
502A	Furnish and Install 2” HDPE SDR11 Sewer Pipe	LF

ITEM	DESCRIPTION	UNIT
502B	Directional Drill 2” HDPE Sewer Pipe	LF”

SP – 12: Add New Section 515 Pressurized Sewer Services

515.1 General

The work under this section consists of performing all operations necessary for excavation, backfill, and compaction required for pressure sewer services and all other miscellaneous items as specified in this section. The Contractor shall make the actual connection, lay the service line, and set the valve box.

515.2 Materials

Material used in the construction of pressure sewer services shall conform to the following specifications:

- a. Pipe: ASTM D-3035, ASTM F-714, AND ASTM D-3350.
- b. Valve:
 - Polyvalve poly-water fittings shall be used for valves and corporation stops on HDPE service lines
 - Curb boxes must be furnished with stationary operating rods. Mueller brand only is accepted.
 - The curb box shall provide a clear and unobstructed access to the valve to enable the City of Homer operation of the valve. Key boxes or valve boxes shall be of an acceptable construction as outlined in the standard specifications, Section 603.3, Furnish and Install Valves, Article 603.2, materials and standard details.

515.3 Construction

Excavation and backfill for sanitary sewer service connections shall be in accordance with HSCS Division 200, Standard Specifications for Earthwork, Section 207, Trench Excavation and Backfill, of these specifications.

The service connections shall be bedded with non-frost susceptible material, with a fine granular texture containing no material larger than one and one-half inches (1-1/2"). The bedding shall be laid the full extent of ditch and up to the spring line of the service connect. Piping may be bedded with native soils if approved in advance by the Engineer.

All pressure sewer service lines, fittings, and connections will be inspected for leaks under system pressure prior to backfilling.

515.4 Method of Measurement

Furnish and Install Pressure Sewer Service shall be measured as completed units in place. This item will include all materials and installation. Excavation and backfill shall be paid under separate bid items.

515.5 Basis of Payment

Payment shall be made under the following unit:

ITEM	DESCRIPTION	UNIT
515	Pressure Sewer Service Connection	EA

SP – 13: Add New Section 516 Furnish and Install Terminal Flushing Valve

516.1 General

The work under this section consists of providing all materials and operations pertaining to construction and installation of terminal flushing valves.

516.2 Material

Material used in the construction of terminal flushing valves shall conform to the following specifications:

- a. Pipe: ASTM D-3035, ASTM F-714, AND ASTM D-3350.
- b. Precast concrete eccentric cone: ASTM C-478-69. Cones shall be Type (A), eccentric, unless otherwise approved. Cement for mortar used in the construction of manholes shall conform to the requirements of ASTM C-150, Type II. Sand shall conform with AASHTO Specification M-45. The mortar shall be composed of one (1) part cement and three (3) parts sand. The joints shall be made so as to produce a smooth, regular, watertight surface. Only enough water shall be added to provide plasticity in placing the mortar.
- c. Manhole cover and frame: The tensile strength of the gray cast iron for manhole frames and covers shall be thirty thousand pounds per square inch (30,000 psi) minimum, conforming with the requirements of ASTM A-48 and the requirements for transverse breaking load shall be two thousand (2,000) pounds, conforming with the requirements of ASTM A-438. Contact surfaces between frames and covers shall conform to the standard details of these specifications. Where lockable manhole covers are specified, the Contractor shall submit Shop Drawings of the locking device for approval of the Engineer.

516.3 Construction

Excavation and backfill for the construction of terminal flushing valves shall be in accordance with Division 200, Section 207 Trench Excavation and Backfill, of these specifications.

516.4 Method of Measurement

Terminal Flushing Valves shall be measured by each unit, complete in place.

516.5 Basis of Payment

Payment shall be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
516	Furnish and Install Terminal Flushing Valve	EA

SP – 14: Add New Section 519 Furnish and Install E-One DH071 Grinder Pump

519.1 General

This specification covers the installation of E-One Sewer System’s E-One DH071 grinder pump as detailed and specified in the plans and these special provisions.

The contractor’s attention is directed to the following E-One System’s publications:

1. DH071/DR071 Drawings (Standard Details in PDF and Autocad format)
2. DH071/DR071 Installation Instructions (Manual in PDF format)

These publications are available at:

<https://eone.com/sewer-systems/products/grinder-pump-systems/d/dh071>

519.2 Construction

The contractor shall install the E-One DH071 grinder pumps per the manufacturer’s instructions and the construction notes shown in the plans.

The contractor shall locate all buried on-site utilities before any excavation work. Buried on-site utilities may include, gas, electric, telecommunications, boiler heat tubes between buildings, and sewer.

519.3 Method of Measurement

Furnish and Install E-One DH071 Grinder Pump shall be paid for by each unit (EA).

519.4 Basis of Payment

Payment for Furnish and Install E-One DH071 Grinder Pump includes all labor and incidentals for furnishing and installing the units, complete in place including all wiring and plumbing connections. Payment shall be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
519	Furnish and Install E-One DH071 Grinder Pump	EA

DIVISOIN 600 WATER SYSTEMS

SP – 15: Modify Subsection 602.3 Construction

Add the following language:

“f. Horizontal Directional Drilling of HDPE Pipe

Refer to item “g. Horizontal Directional Drilling of HDPE Pipe” in subsection 502.3 as added in SP-10 of these Special Provisions.

g. System Dimensional Tolerances:

Polyethylene pipe ends shall be dressed for field butt fusion as necessary. End surfaces shall be smooth and their orientation perpendicular to the pipe centerline axis and shall be suitable for field butt fusion.

h. Installation of HDPE Pipe

(1) General:

Installation of all components shall be accomplished using the pipe manufacturer's recommendations. Unless the Contractor's personnel are experienced in the installation of polyethylene piping systems, the pipe suppliers shall be requested to provide personnel to instruct the Contractor in the handling, installation and testing of their products. This shall include, but not be limited to, the Pre-Construction Planning Meeting. The Contractor shall pay for the on-site services of a pipe supplier representative to provide the necessary instruction.

(2) Pipe Laying:

- a. The Contractor shall provide machinery, tools, and facilities for the safe and efficient execution of the work. Pipe and accessories shall be lowered into the trench in a manner that will prevent damage to pipe and fittings. Pipe and

accessories shall be inspected for defects prior to their being lowered into the trench. Any defective, damaged or unsound material shall be repaired or replaced as directed by the Engineer. All foreign matter or dirt shall be removed from the interior and ends of pipe and accessories before they are lowered into position in the trench. Pipe shall be kept clean during and after laying.

- b. The pipe may be joined above ground, and lowered in the trench afterwards.
- c. Radius of bends shall not be less than the minimum set by the pipe manufacturer. Bedding and backfill shall be as shown on the drawings and specified in the Contract Documents.
- d. After pipe is laid, care shall be taken to avoid the entrance of dirt or water from the trench into the pipe by the use of tight pipe seals. No pipe shall be laid when the trench bottom is under water, or when, in the Engineer's opinion, the trench conditions or the weather are unsuitable for such work. If water is in the trench, the seal shall remain in place until the trench is pumped completely dry.
- e. Any pipe which has floated shall be removed from the trench and be re-laid as directed by the Engineer.
- f. After each section of joined pipe has been laid in the trench and all connections made, the Engineer and Contractor shall perform a joint visual inspection to ensure that the pipe is completely intact, and all mechanical connections have been made according to supplier's recommendations and specifications.
- g. Grade tolerance on water lines shall be +/- 0.05ft/40ft and +/- 0.10ft cumulatively.

3. Pipe Location Tape

- a. The detectable tape shall be installed directly above the pipe in the trench and shall be approximately 12 inches above the pipe. The tape shall be placed during backfill operations.
 - b. Tape installation shall be performed in a continuous operation. A 4 foot overlap shall be provided between the ends of rolls.
- 1. Locator Wire
 - a. The wire shall be installed directly above the pipe in the trench and shall be approximately 24 inches below finish grade. The wire shall be placed during backfill operations.

- b. Locator wire installation shall be performed in a continuous operation. Wire shall be spliced as required to form a continuous strand along the length of the pipeline. The locator wire shall be brought to the surface at the point of connection at each end of the 8" HDPE pipeline and at the 8" gate valve at Station 22+14.00.”

SP – 16: Modify Subsection 602.6 Basis of Payment

Delete all language and replace with:

“Payment shall be made under the following units:

ITEM	DESCRIPTION	UNIT
602A	Furnish and Install 6” HDPE SDR11 Water Pipe	LF

ITEM	DESCRIPTION	UNIT
602B	Directional Drill 6” HDPE Water Pipe	LF

SP – 17: Modify Subsection 602.4 Flushing and Testing

Make the following change to item (b):

“

In the second paragraph, delete the sentence: *“The Contractor, at its option, can either use a pressure test or a leakage test”* and substitute the following in its place: *“The Contractor shall perform a pressure test.”*

Add the following language to item (c):

1. Disinfection tests will be performed by the City.
2. The Contractor must submit a disinfection plan to the engineer before work begins on the project.

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 300 feet of the disinfection water discharge point. Alternatively, if no City sanitary sewer manhole or cleanout is located within 300 feet of the disinfection water discharge point, the disinfection water shall be retained in 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.”

SP – 18: Add New Section 609 Connect Existing Water Service to Main Line

609.1 General

The work under this section consists of performing all operations necessary for connections of an existing water service to a new main line and all other miscellaneous items as specified in this section. All mains shall be chlorinated, flushed, and pressure tested by the Contractor before service connections are made.

609.2 Material

a. Pipe

Existing service lines are anticipated to be ¾-inch to 1-inch copper pipe. The Contractor shall use soft drawn seamless copper, (Type K) pipe matching each existing service pipe size where additional length is needed to connect to the main. All services 1 ½” and smaller shall be constructed of Type K copper.

b. Corporation Stops

- Corporation stops shall be flare type, brass only matching the size of the existing line. Mueller brand or approved equal is accepted.
- Iron pipe thread corporation stops will be used for HDPE service lines. Poly Cam HDPE/IP fittings shall be used for connection of the HDPE to the service valves.

609.3 Construction

a. Excavation and Backfill

The Contractor shall provide all excavation, backfill, and compaction necessary to install water source lines in accordance with *Division 200, Standard Construction Specifications for Earthwork, Section 207, Trench Excavation and Backfill* of these specifications.

b. Service Connection

A corporation stop or main valve shall be installed at a point in the service line as close to the main water supply as possible. There shall be line pressure in the main at all times connections are being made.

The Contractor shall make the connection to the City of Homer’s main water supply in a manner consistent with the standard specifications and standard details. The connections shall be inspected by the Engineer or appointed representative at the time the connection is made or the excavation be exposed in its entirety for his inspection.

c. Excavation

Excavation for service connections shall be unclassified and the Contractor shall excavate whatever substances are encountered to the depth required for the connections. It shall be the Contractor's responsibility to familiarize himself with depth of water mains for the project.

Trenches shall be of sufficient width at the bottom to allow for laying of the particular service (minimum width will be two and one-half feet (2-1/2') for single services). Excavation of all fill materials to virgin ground is required to provide safety for workmen utilizing the trench.

The Contractor shall expose the mains to be tapped for distances of four feet (4') in length. Excavation on both sides of the pipe shall be carried to the bottom of the pipe. Excess excavation below the required level shall be backfilled and compacted with sand or gravel at the Contractor's expense as directed by the Engineer.

No water service shall be installed within a horizontal distance of ten feet (10') from a sewer service.

The Contractor shall be responsible for, and shall bear the expenses incurred, in the event that a main should be damaged during excavation or back-filling. The City of Homer's Public Works Department will be notified immediately of any damage and will provide oversight of the repair. The City of Homer Public Works Department will provide personnel for operation of all gate valves and may provide personnel and/or equipment necessary for the repair. The Contractor shall bear the cost of all materials, labor and other expenses incurred by the City.

d. Backfill

Trench backfill shall commence only after the water service lines and appurtenances have been properly completed and inspected. The backfill material, free from large clods or stones, shall be placed by the Contractor in conformance with the codes and regulations of the City of Homer. Backfill shall be placed and compacted in conformance with *Section 207 Trench Excavation and Backfill*, of these specifications.

Backfill shall not be placed in frozen trenches.

A plastic or rubber coated #2 copper thaw wire shall be attached to the corporation stop on three-fourth inch (3/4") and one inch (1") corporation stops by an approved method. On one and one-half inch (1-1/2") and two inch (2") connections, the thaw wire shall be attached to the saddle on the main.

e. Hydrostatic Testing

All 3/4" through 2" water service lines, fittings, and connections will be inspected for leaks under system pressure prior to backfilling. All water service lines larger than 2" shall undergo the

requirements for Flushing, Hydrostatic Testing, and Disinfection as specified in *Section 602.4* of these specifications.

609.4 Method of Measurement

Trench excavation, compaction, and existing service line connections for water service connections shall be measured as completed units. Imported gravel backfill will be paid under the appropriate pay item or by letter of agreement.

609.5 Basis of Payment

Payment shall be made under the following unit:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
609	Connect Existing ¾" to 1" Water Service to Main Line	EA

DIVISION 700 MISCELANEOUS CONSTRUCTION

SP – 19: Add New Section 711 SWPPP Implementation

711.1 General

This work shall consist of the construction and maintenance of BMPs in accordance with the SWPPP and the performance of all other work required by the SWPPP.

711.2 Method of Measurement

SWPPP Implementation shall be measured as a lump sum.

711.3 Basis of Payment

The accepted quantity of SWPPP Implementation shall be paid at the contract unit price, complete and in place.

Payment will be made under:

<u>Pay Item</u>	<u>Description</u>	<u>Unit</u>
711	SWPPP Implementation	LS

CITY OF HOMER

E BUNNELL AVENUE / CHARLES WAY / ALLEN WAY

SANITARY SEWER MAIN EXTENSION

NOVEMBER 22, 2022



LOCATION MAP

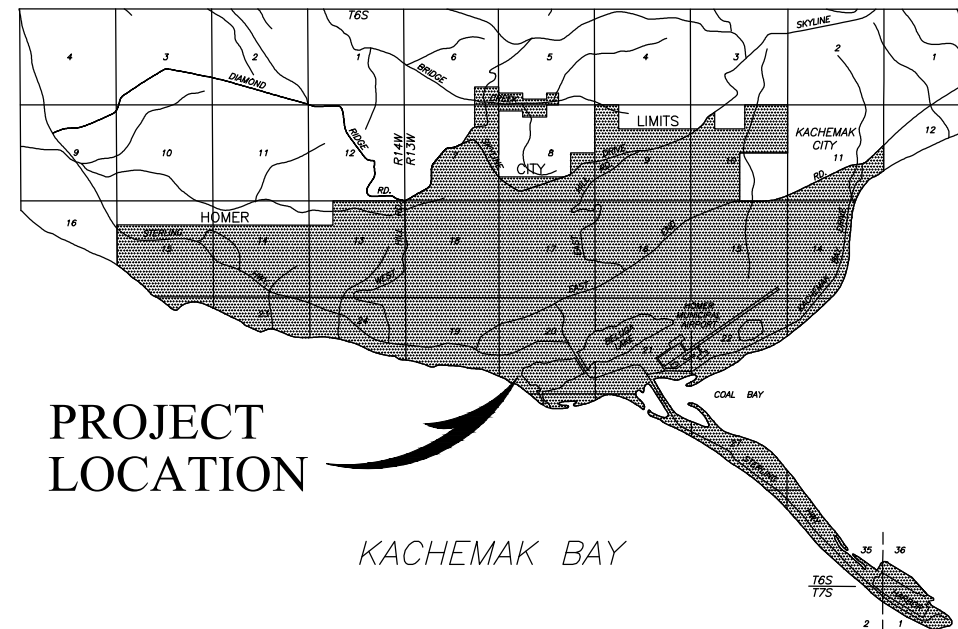
Homer City Council

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

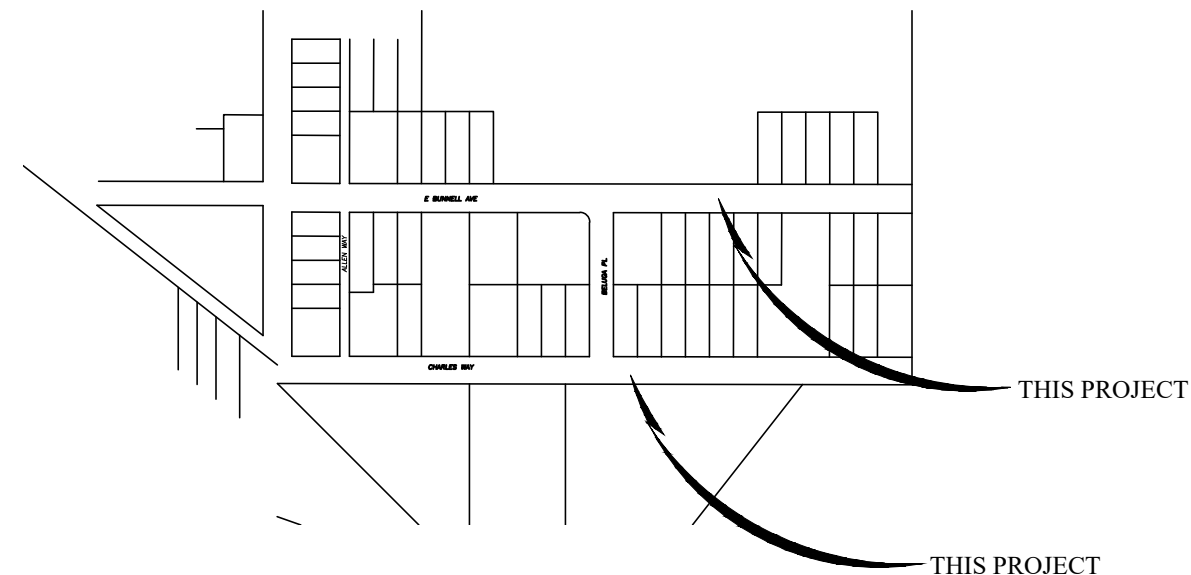
SCALE: 1" = 1 MILE

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
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SURVEY CONTROL/ALIGNMENT DATA	LS-1

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.



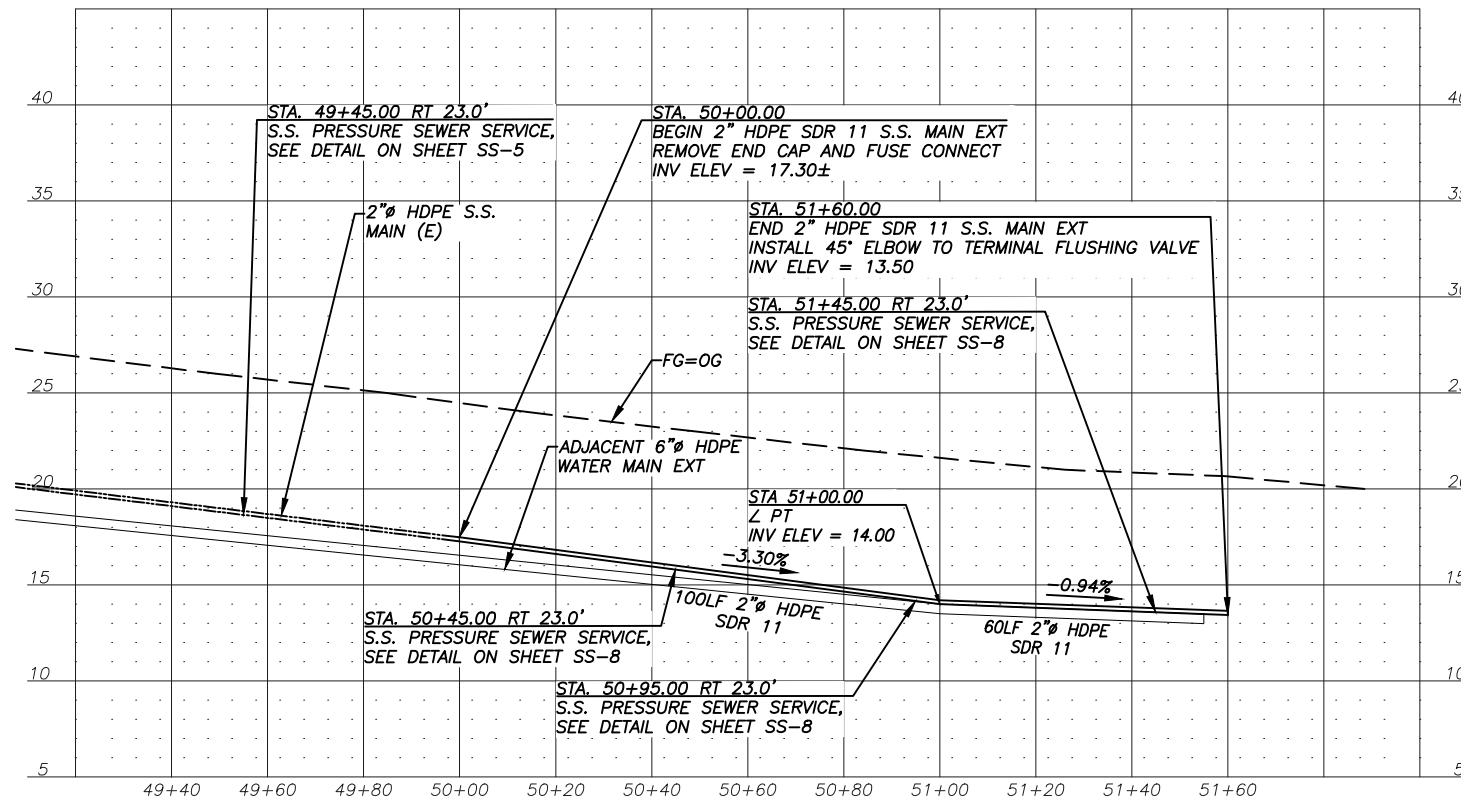
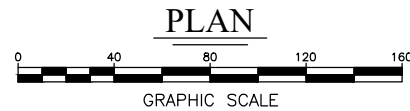
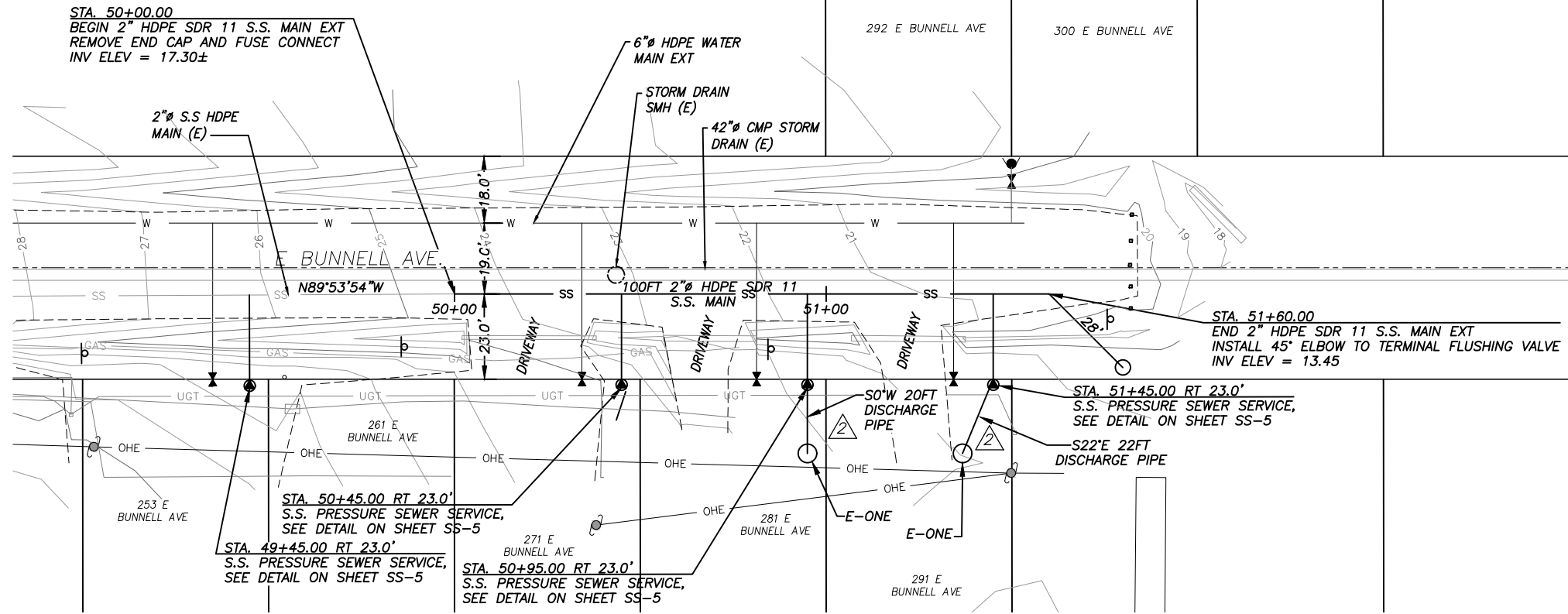
VICINITY MAP

SCALE: 1" = 200'

REVISIONS			
NO.	DESCRIPTION	DATE	APR
	SHEET LS-1 ADDED	1/12/23	JSB



TRACT B W R BENSON'S SUB NO 6



PROFILE

NOTES:

1. BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
2. 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.
3. 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.
4. FOR E-ONE AND DISCHARGE PIPE DETAILS SEE SHEET SS-7. INSTALL E-ONE LIFT STATIONS AT:
 - 4.1. 281 E. BUNNELL AVENUE
 - 4.2. 291 E. BUNNELL AVENUE

REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	NOTE 2 DELETED, NOTE NUMBERING REORDERED	1/12/23	JSB
2	E-ONE AND DISCHARGE PIPES ADDED TO PLAN	1/12/23	JSB
3	NOTE 4 REVISED	1/12/23	JSB



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

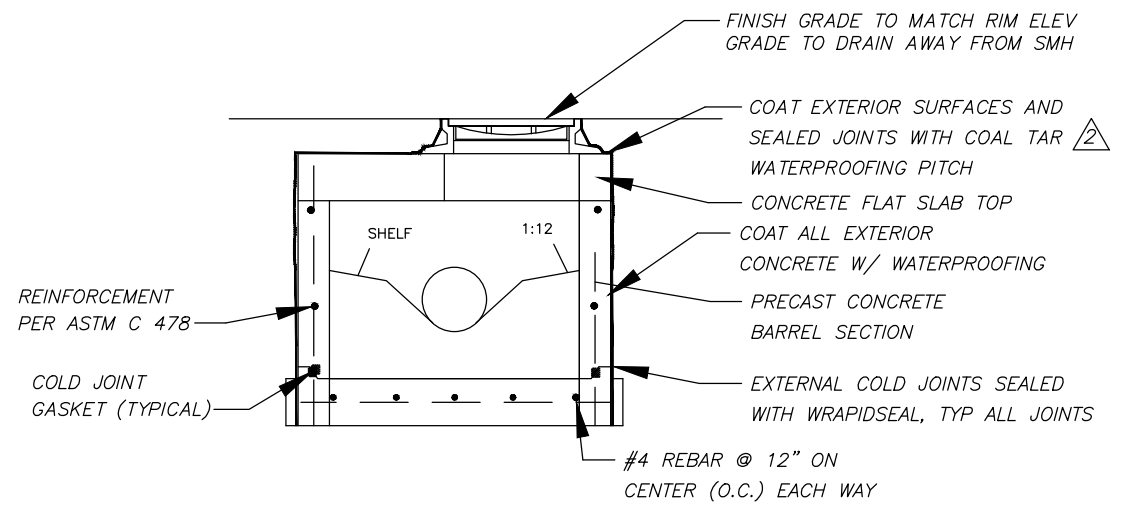
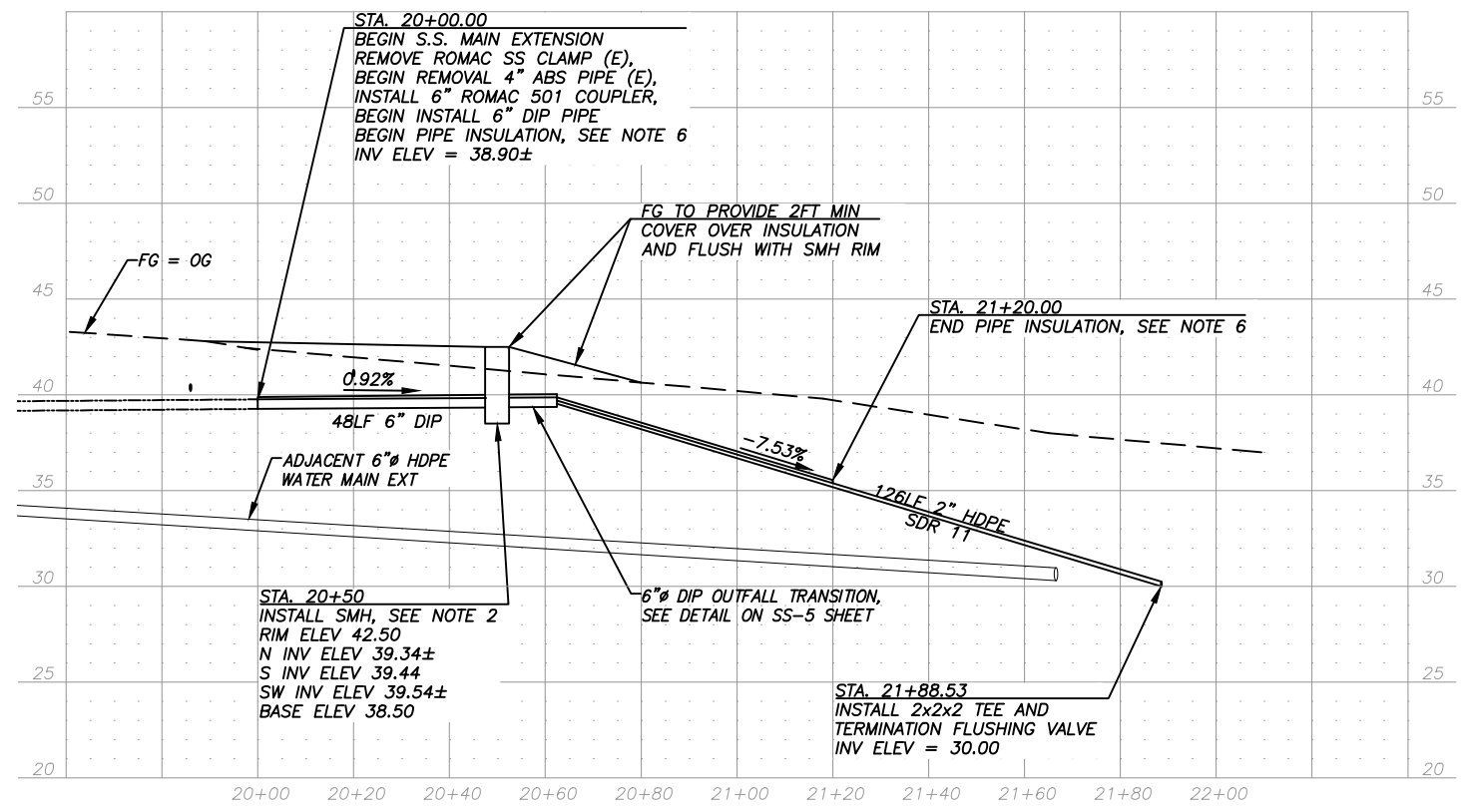
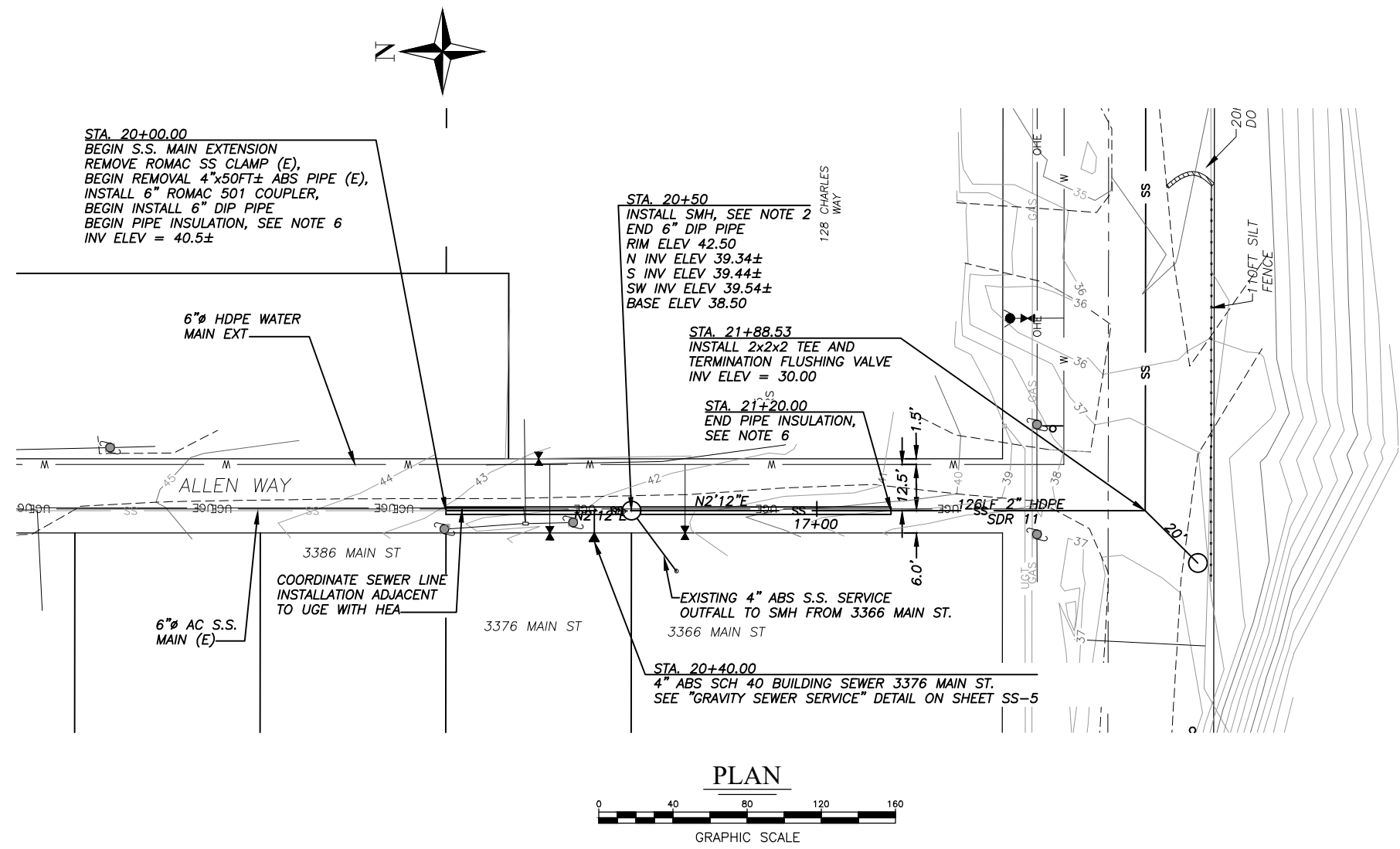


E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY
ALLEN WAY S.S. MAIN PLAN + PROFILE
STA 20+00.00 to 21+88.53

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



- NOTES:**
- A. FOR PLAN VIEW OF MANHOLE AND CONNECTIONS, SEE "SEWER MANHOLE INSTALLATION DETAILS" ON SHEET SS-6.
 - B. FOR DETAILS NOT SHOWN, SEE STD DETAILS, 500.02, 500.03, 500.05, 500.06, 500.08, 500.09, AND 500.12.
 - C. BACKFILL AROUND MANHOLE WITH NFS MATERIAL FULL DEPTH.
 - D. COATINGS AND WATERPROOFING:
 - D.1. EXTERIOR COATING SHALL BE COAL TAR WATERPROOFING PITCH MEETING ASTM D-450 SPECIFICATION OR APPROVED EQUAL.
 - D.2. ALL EXTERIOR JOINTS, INCLUDING GRADE RINGS AND SURFACE CASTINGS, SHALL BE WRAPPED WITH WRAPIDSEAL MANHOLE ENCAPSULATION SYSTEM.
 - D.3. COLD JOINT GASKETS ARE TO BE RAM-NEK PREFORMED CONCRETE JOINT SEALANT BY HENRY COMPANY, INC., VISCOTAQ VISCOPASTE (1/2"x1" PROFILE) OR EQUAL.

REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	MODIFIED UGE CALLOUT ADDED	1/12/23	JSB
2	REVISED MANHOLE WATERPROOFING	1/12/23	JSB

- 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.

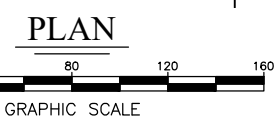
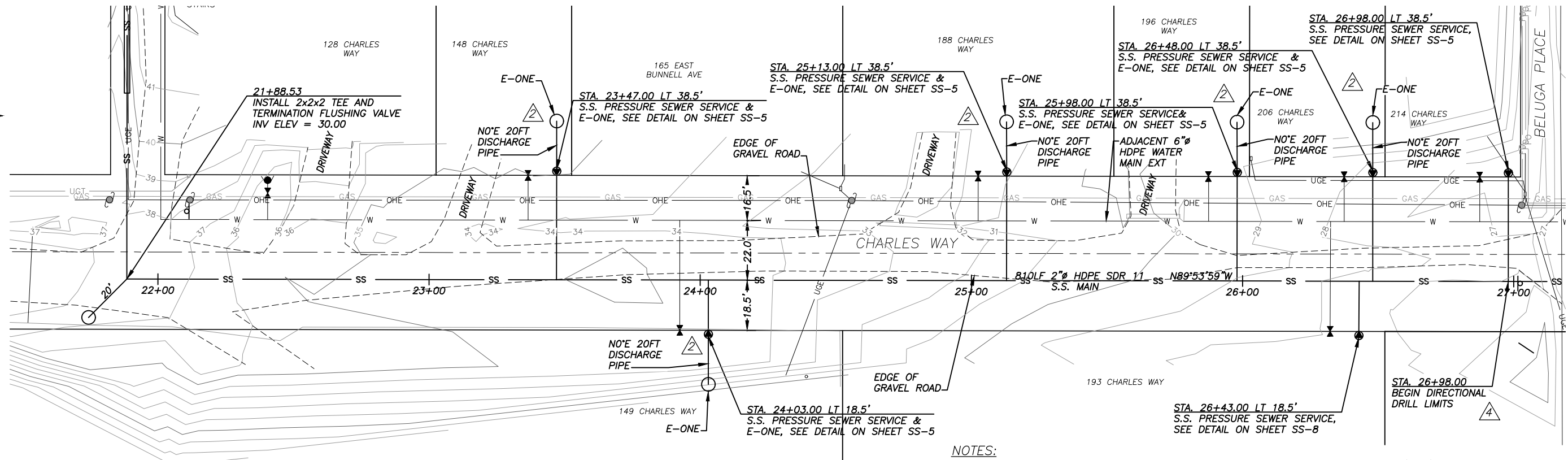


**E. BUNNEL AVENUE / CHARLES WAY / ALLEN WAY
CHARLES WAY S.S. MAIN PLAN + PROFILE
STA 21+88.53 to 27+20.00**

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

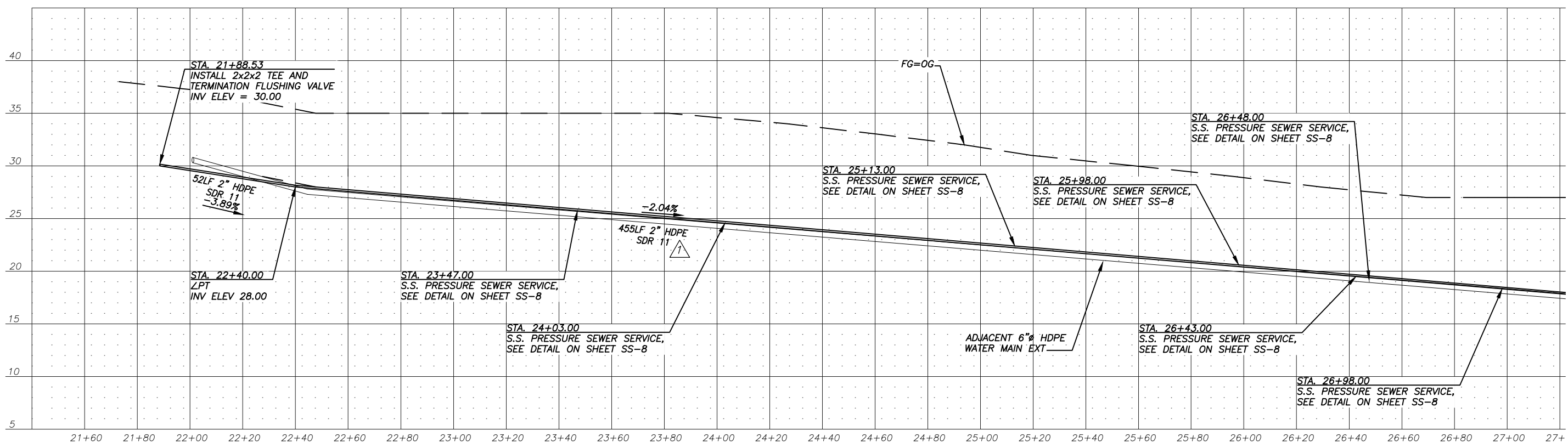
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SCALE: AS NOTED
PROJ. NO.: 2022019

SHEET NO.:
SS-3

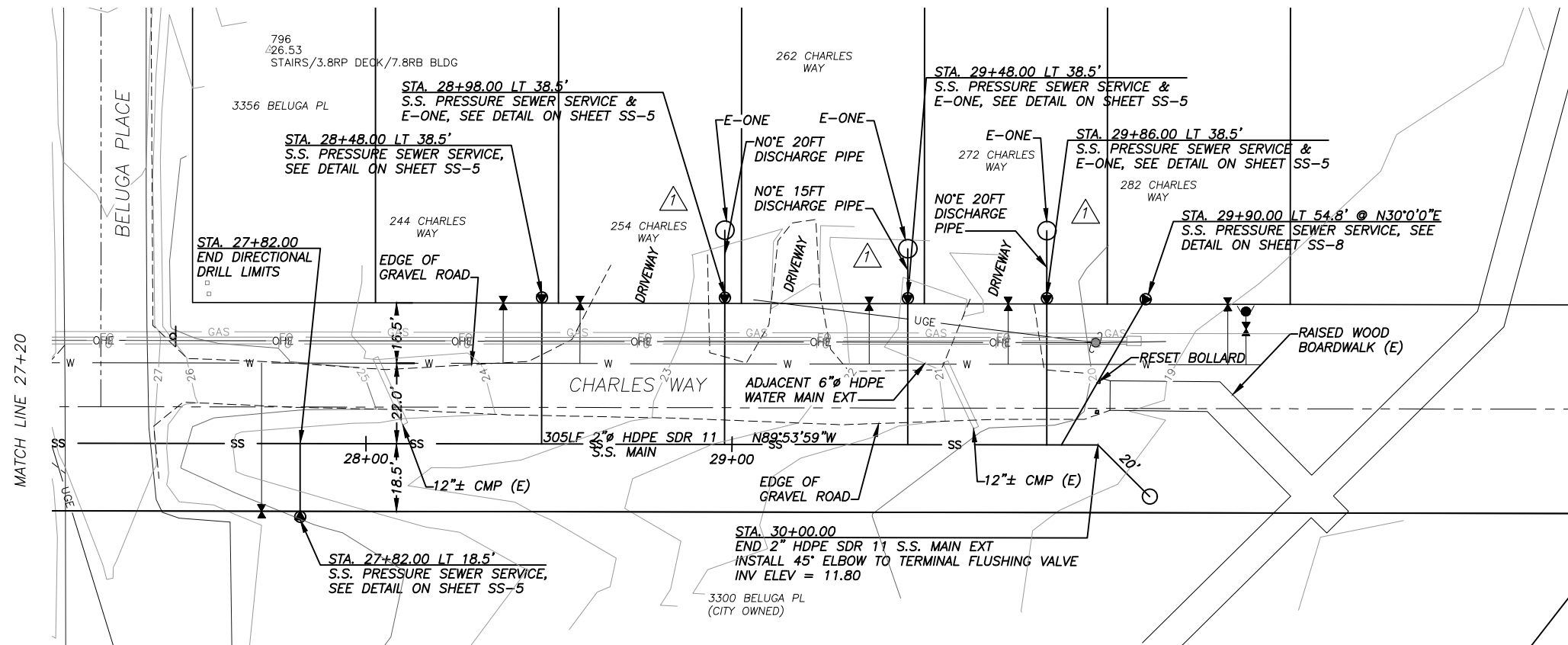


- NOTES:**
- BEFORE PERFORMING ANY EXCAVATIONS, CALL ALASKA DIGLINE AT 811, (800) 478-3121, OR (907) 278-3121.
 - FOR E-ONE AND DISCHARGE PIPE DETAILS SEE SHEET SS-7. INSTALL E-ONE LIFT STATIONS AT:
 - 148 CHARLES WAY
 - 149 CHARLES WAY
 - 188 CHARLES WAY
 - 196 CHARLES WAY
 - 206 CHARLES WAY
 - UNITS 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.

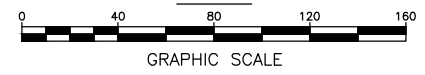
REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	WATER MAIN SIZE CORRECTED	1/12/23	JSB
2	E-ONE AND DISCHARGE PIPE ADDED TO PLAN	1/12/23	JSB
3	NOTE 2 REVISED	1/12/23	JSB
4	BEGIN DIRECTIONAL DRILL CALLOUT ADDED	1/13/23	JSB



PROFILE

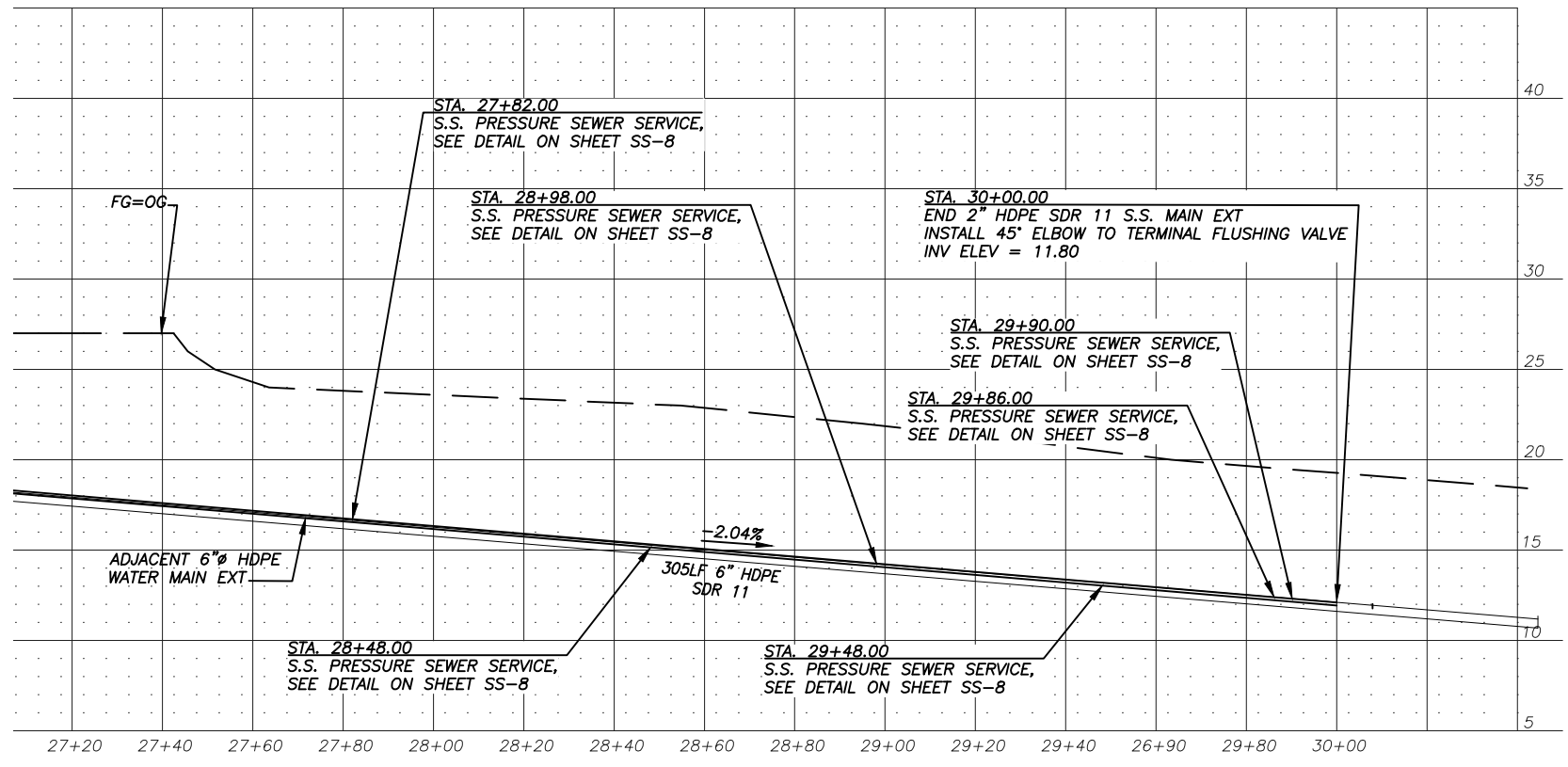


PLAN



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. FOR E-ONE AND DISCHARGE PIPE DETAILS SEE SHEET SS-7. INSTALL E-ONE LIFT STATIONS AT:
 - 5.1. 254 CHARLES WAY
 - 5.2. 262 CHARLES WAY
 - 5.3. 272 CHARLES WAY



PROFILE

REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	E-ONE AND DISCHARGE PIPE ADDED TO PLAN	1/12/23	JSB
2	NOTE 5 REVISED	1/12/23	JSB

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
 CHK'D: JSB
 SCALE: AS NOTED
 PROJ. NO.: 2022019

SHEET NO.:
SS-4

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	↓
PIPE CULVERT W/ END SECTION	▭
FIRE HYDRANT	●
VALVE OR RISER	⊗
EXISTING VALVE OR RISER	⊗
PRESSURIZED SEWER SERVICE POLY VALVE	⊗

REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	NOTE 1 CORRECTED	1/12/23	JSB

NOTES:

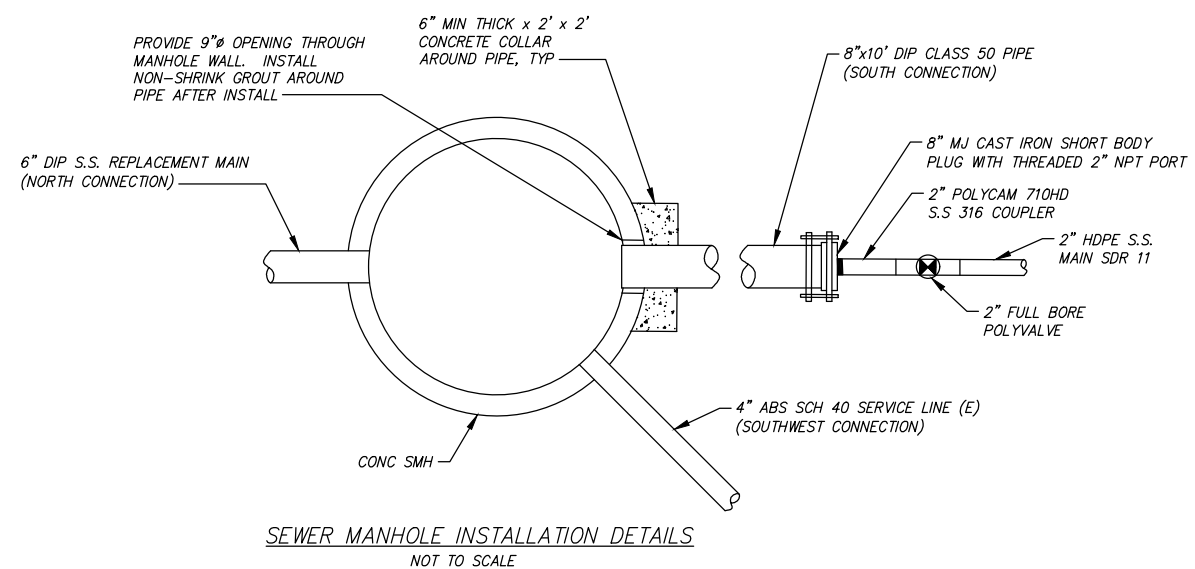
- Before performing any excavations, call Alaska Digline at 811, (800) 478-3121, or (907) 278-3121.

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 REQUIRED IN THE PLANS AND AT THE OPTION OF THE CONTRACTOR AT OTHER LOCATIONS.
- 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.



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

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

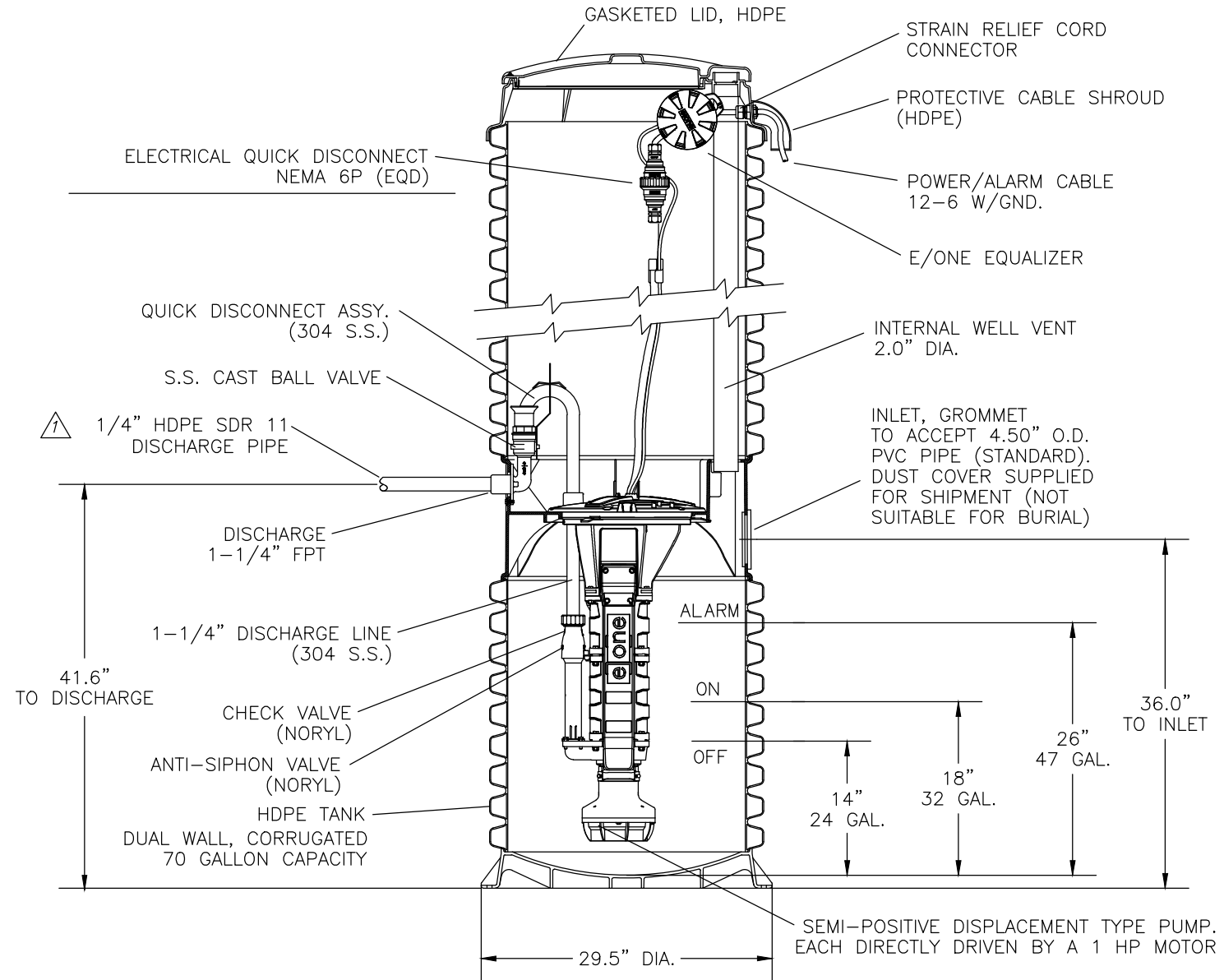
DATE: 11/22/2022
 CHK'D: JSB
 SCALE: AS NOTED
 PROJ. NO.: 2022019

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

REVISIONS			
NO.	DESCRIPTION	DATE	APR
△	DISCHARGE PIPE INFORMATION ADDED	1/12/23	JSB

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

SHEET NO.:

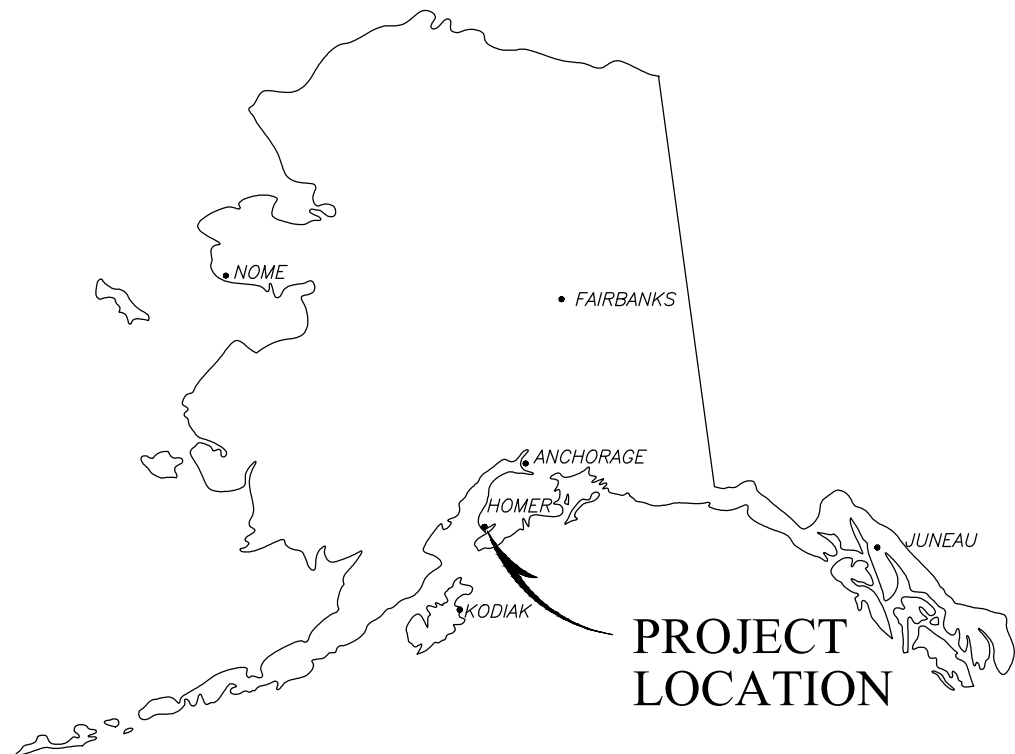
SS-7

CITY OF HOMER

E BUNNELL AVENUE / CHARLES WAY / ALLEN WAY

WATER MAIN EXTENSION

NOVEMBER 2, 2022



LOCATION MAP

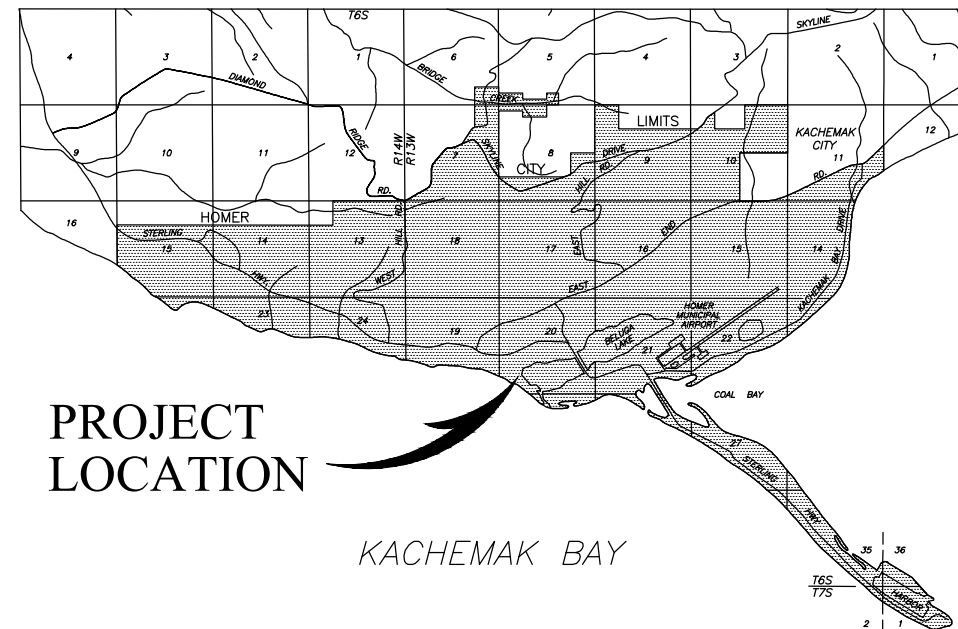
Homer City Council

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

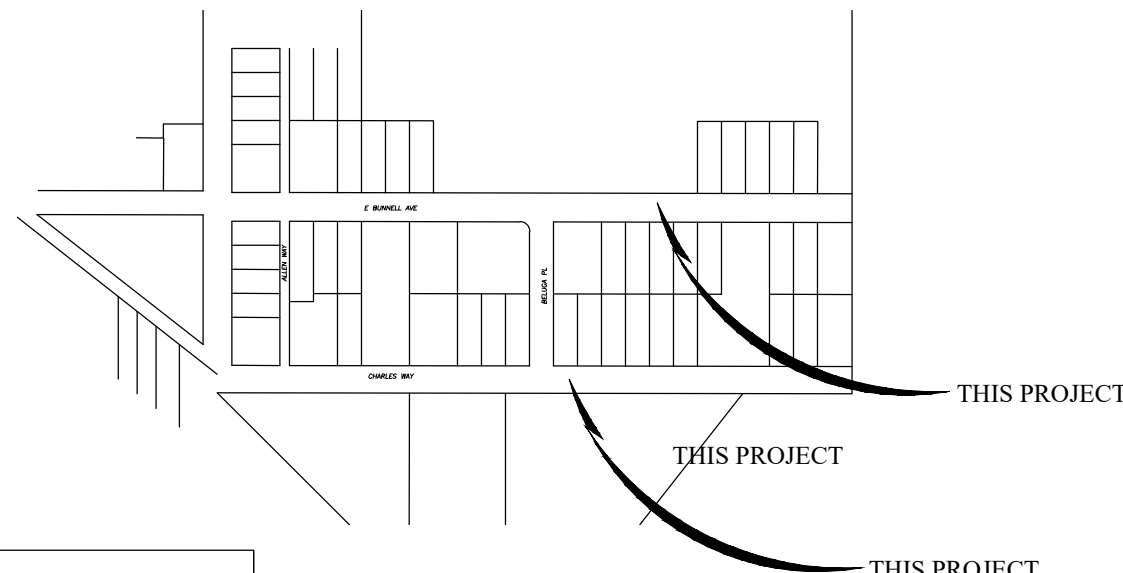
INDEX TO DRAWINGS

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*
- SURVEY CONTROL/ALIGNMENT DATA*

SHEET

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



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.

REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	SHEET LS-1 ADDED	1/9/23	JSB

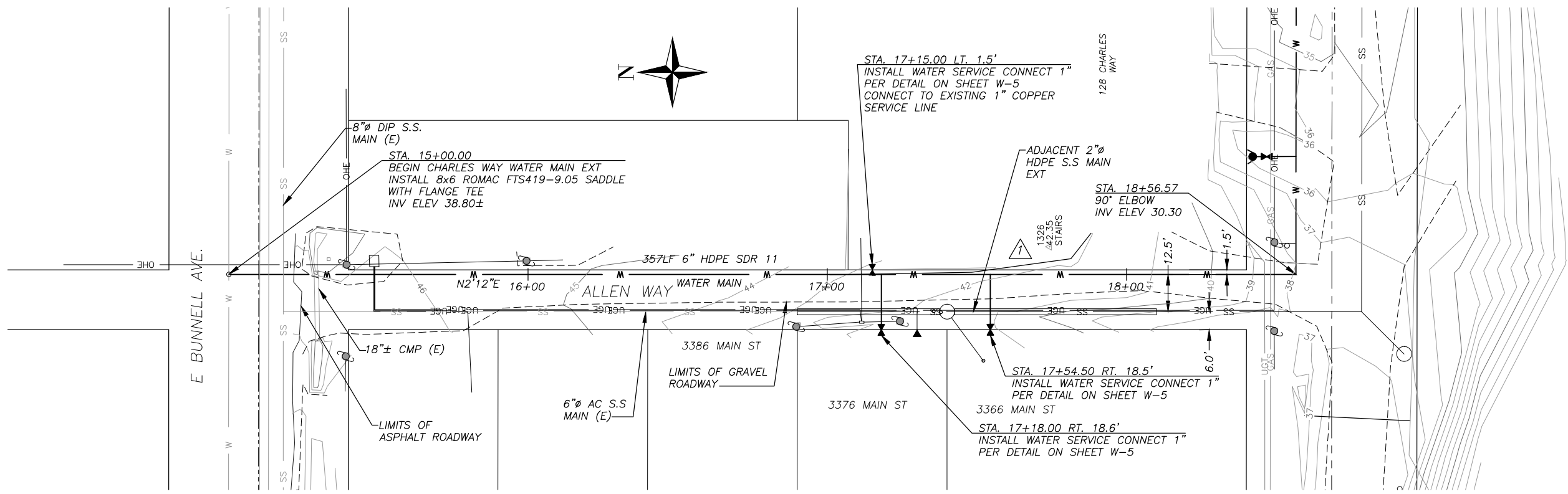


**E. BUNNELL AVENUE / CHARLES WAY / ALLEN WAY
ALLEN WAY WATER MAIN PLAN + PROFILE
STA 15+00.00 to 18+56.57**

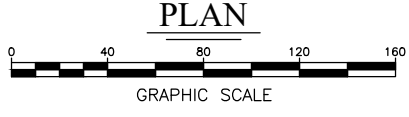
BISHOP ENGINEERING, LLC
PO BOX 2501 HOMER, ALASKA 99603
(907) 299-7609

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

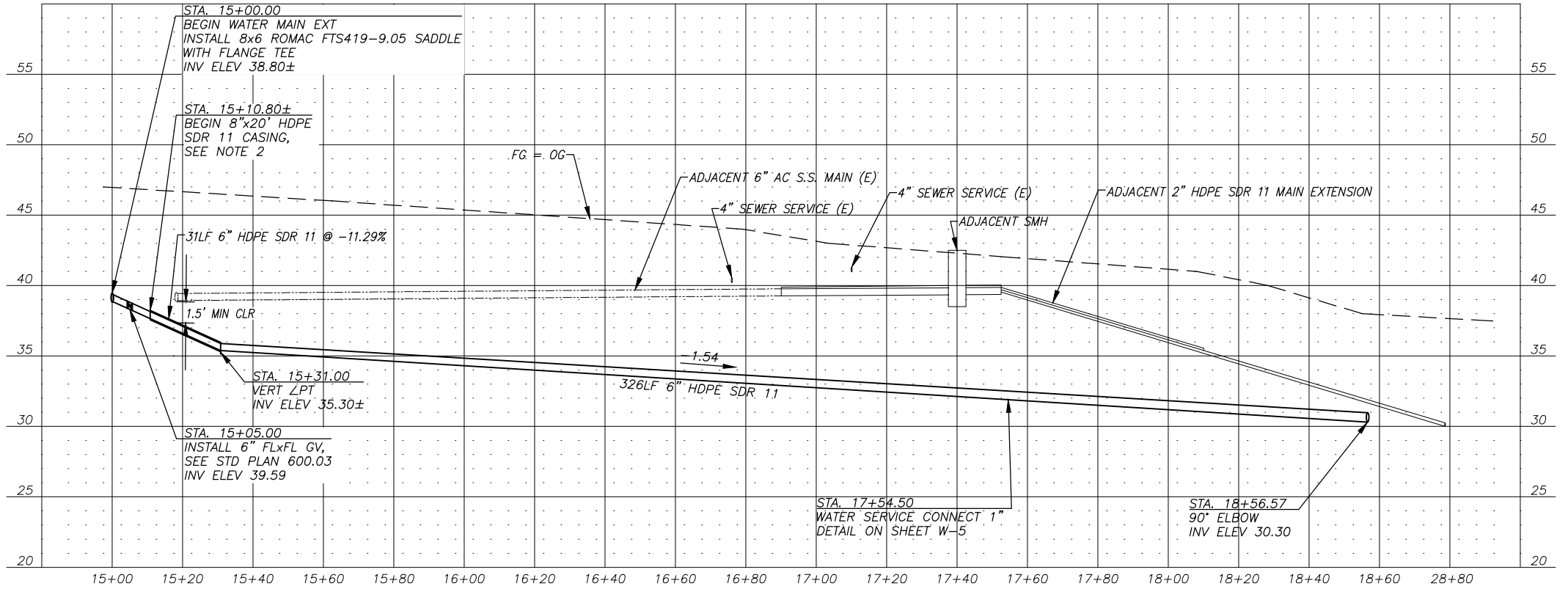
SHEET NO.:
W-2



REVISIONS			
NO.	DESCRIPTION	DATE	APR
1	UGE CALLOUT RELOCATED TO SS-2	1/9/23	JSB



- 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

SURVEY CONTROL

BASIS OF BEARING

1. BASIS OF BEARING FOR THIS SURVEY WAS DETERMINED BY A HIGH PRECISION GPS SURVEY USING TOPCON DUAL-FREQUENCY HiPer V RECEIVERS, DIFFERENTIALLY CORRECTED AND PROCESSED WITH MAGNET OFFICE VERSION 3.1 SOFTWARE. NAD83 ALASKA STATE PLANE GRID COORDINATES (U.S. SURVEY FEET) OBTAINED FROM THE GPS OBSERVATIONS WERE BASED ON THE NGS PUBLISHED VALUES FOR FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" (PID TT0155).

2. TRUE BEARINGS AND DISTANCES WERE DETERMINED BY ROTATING AND SCALING FROM GRID USING FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" AS A SCALING POINT. TRUE BEARINGS WERE DETERMINED BY ROTATING GRID INVERSE AZIMUTHS $-1^{\circ}17'13.4''$. TRUE DISTANCES WERE OBTAINED BY DIVIDING GRID INVERSE DISTANCES BY 0.999986696.

3. THE RESULTING SCALED COORDINATES WERE TRANSLATED TO A LOCAL COORDINATE SYSTEM BASED ON FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" $N=100,000$ $E=100,000$. ALL COORDINATE VALUES REPRESENT GROUND DISTANCES IN U.S. SURVEY FEET ORIENTED TO TRUE NORTH.

BASIS OF VERTICAL DATUM

BASIS OF VERTICAL DATUM FOR THIS SURVEY IS THE NAVD88 NGS PUBLISHED VALUE FOR FEDERAL BASE NETWORK CONTROL STATION "HOMAIR" (PID TT0155). ORTHOMETRIC HEIGHTS (ELEVATIONS) WERE DETERMINED FROM ELLIPSOID HEIGHTS USING GEOID12B. ELEVATIONS ARE IN U.S. SURVEY FEET.

PROJECT CONTROL POINTS

CP-1
 $N=100,291.8984$
 $E=90,918.1574$
 $EL=31.43$

PK NAIL IN NORTH EDGE PAVEMENT AT E. BUNNELL / BELUGA PL.

CP-2
 $N=99,703.9900$
 $E=90,910.6442$
 $EL=23.73$

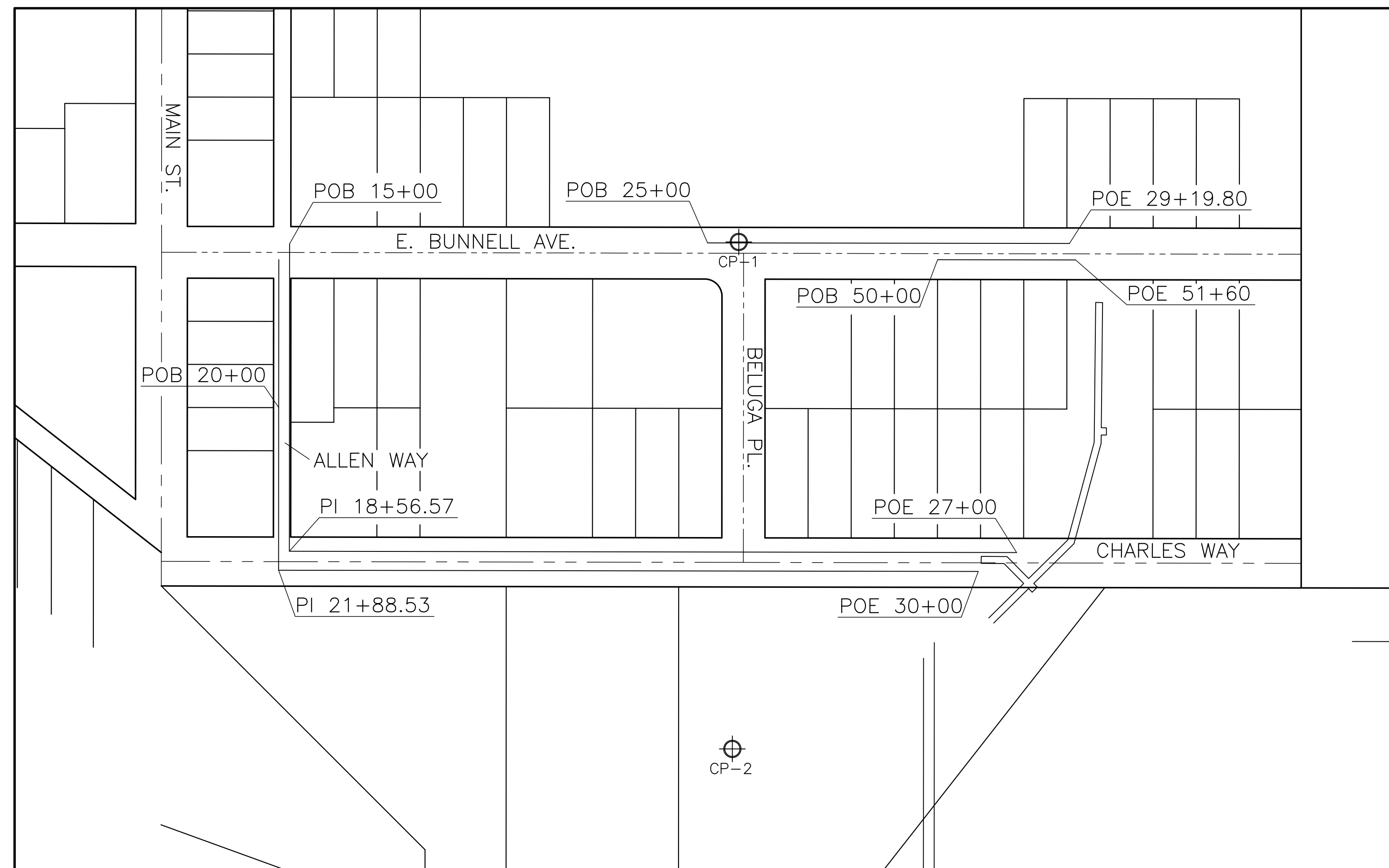
PK NAIL IN WEST EDGE PAVEMENT BELUGA PL. AT NORTH EDGE PARKING AREA

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM PROPERLY REGISTERED AND LICENSED TO PRACTICE LAND SURVEYING IN THE STATE OF ALASKA, THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE MONUMENTS SHOWN HEREON ACTUALLY EXIST AS DESCRIBED, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT TO THE BEST OF MY KNOWLEDGE.

DATE 12/29/2022 REGISTRATION NO. 7538-S

Stephen C. Smith
 REGISTERED LAND SURVEYOR



ALIGNMENT DATA

ALLEN WAY / CHARLES WAY WATER		
STATION	NORTHING	EASTING
POB 15+00	100,289.7512	90,397.1581
PI 18+56.57	99,933.1767	90,396.9297
POE 27+00	99,931.7005	91,240.3538

BUNNELL AVENUE WATER		
STATION	NORTHING	EASTING
POB 25+00	100,290.8904	90,881.8780
POE 29+19.80	100,290.1460	91,301.6773

ALLEN WAY / CHARLES WAY SEWER		
STATION	NORTHING	EASTING
POB 20+00	100,099.7414	90,384.5364
PI 21+88.53	99,911.2074	90,384.4157
POE 30+00	99,909.7871	91,195.8803

BUNNELL AVENUE SEWER		
STATION	NORTHING	EASTING
POB 50+00	100,271.3875	91,148.7132
POE 51+60	100,271.1038	91,308.7130

**E. BUNNELL AVE./CHARLES WAY/ALLEN WAY
 WATER & SEWER EXTENSIONS**
 SURVEY CONTROL
 ALIGNMENT DATA

PREPARED FOR
 CITY OF HOMER, ALASKA
 3575 HEATH STREET
 HOMER, ALASKA 99603

BISHOP ENGINEERING, LLC
 PO BOX 2501 HOMER, AK 99603-2501
 (907) 299-7609 www.bishop-engineering.com

DATE DEC. 2022
 DRAWN SCS
 CHECKED JSB
 SCALE AS SHOWN
 PROJ. NO. 2022-16

SHEET NO.

LS-1