

Invitation to Bid

Project: 2020 KENAI CITY DOCK REPAIRS

Release: July 10, 2020

Last day for Questions: July 20, 2020 by 2:00pm

Bids Due Date: July 27, 2020, no later than 2:00pm

Kenai City Hall

210 Fidalgo Avenue

Kenai, AK 99611

ATTN: Director of Public Works

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Advertisement for Bid

Project Name: 2020 KENAI CITY DOCK REPAIRS

Last Day for Questions: No later than 2:00pm July 20, 2020

Bid Due Date and Time: No later than 2:00pm July 27, 2020 at City Hall

Scope of Work: Project consists of repairs to the City Dock from damages caused by the last two earthquakes. Work includes repairs to cracked concrete structural elements, welding repairs to corroded rebar, installation of metal plates and grouting repairs, installation of a new cathodic protection system.

Bidders should contact the Public Works Department at (907) 283-8236 to be placed on the plans holders list. Questions shall be submitted to publicworks@kenai.city. Questions received from Plans Rooms will not be responded to.

Bids must be delivered in a sealed envelope clearly marked with the project name to the Public Works Department at the address above. Bid documents can be obtained on City of Kenai website at www.kenai.city or at City Hall for a non-refundable fee of \$30.00 including sales tax for each set of documents.

This contract will be subject to the provisions of the State of Alaska Title 36 Wage and Hour Administration Pamphlet Statutes and Regulations and will require 100% performance and payment bonds.

Publish: <u>Anchorage Daily News</u> – July 13, 2020

Peninsula Clarion - July 12, 2020

Posted to City Website July 10, 2020

CITY OF KENAI INSTRUCTIONS TO BIDDER

1. GENERAL

These instructions specify the form and procedures for the submission of a complete and acceptable bid. To obtain addenda in a timely manner, you should be on the City of Kenai's plan holder's list. Downloading project specifications and drawings from the City website or other online plans rooms does not place you on the City's plan holder's list. To be added to the plan holder's list, please contact the Public Works Department Administrative Assistant by phone (907) 283-8236 or by email at PublicWorks@kenai.city.

Project: 2020 Kenai City Dock Repairs

Last Day for Questions: July 20, 2020 by 2:00pm Bid Due Date and Time: July 27, 2020 by 2:00pm

2. EVIDENCE OF QUALIFICATIONS

Upon request of the City, a Bidder whose bid is under consideration for the award of the Agreement, shall submit promptly to the City, satisfactory evidence of the Bidder's financial resources, their experience, their performance in completing other projects of a similar nature, and the organization and equipment they have available for the performance of the Agreement.

3. BIDDER QUALIFICATIONS

Before the bid is considered for award, the City reserves the right to determine whether or not a Bidder is responsible and to require the Bidder to complete a Bidder Qualification Form and/or provide a current financial statement prepared by a Certified Public Accountant. The City shall determine whether a Bidder is responsible on the basis of the following criteria:

- The skill and experience demonstrated by the Bidder in performing Agreements of a similar nature.
- The Bidder's record for honesty and integrity.
- The Bidder's capacity to perform in terms of facilities, personnel, and financing.
- The Bidder's past performance under City Agreements. If the Bidder has failed in any material way to perform its obligations under any Agreement with the City, the Bidder may be determined as a non-responsible Bidder.
- A Bidder's representations concerning their qualifications will be construed as a covenant under the Agreement. Should it appear that the Bidder has made a material misrepresentation, the City shall have the right to terminate the Agreement for the Contractor's breach, and the City may then pursue such remedies as provided in the Agreement Documents or as provided by state statute, City code, or as appropriate.

Any final determination that a Bidder is non-responsible will be made by the City Manager. Such determination will be made in writing to the Bidder setting forth the reasons for such determination.

4. CONDITIONS AFFECTING THE WORK

The Bidder shall examine carefully the site(s) of the proposed work and the bid documents before submitting a bid. The submission of a bid shall be an admission that the Bidder has made such examination and is satisfied as to the conditions to be encountered in performing the work and as to the requirements and accuracy of the bid documents.

The City assumes no responsibility for any understanding or representations concerning conditions made by any of its officers, agents, or employees prior to the execution of this Agreement, unless such understanding or representations are expressly stated in the bid documents or Addenda.

The Bidder shall include in their bid, sufficient sums to cover all items required by the Agreement and the conditions of the site(s), and shall rely entirely upon their own examination in making their bid. The submission of a bid shall be taken as prima facie evidence of compliance with this paragraph.

If information or documentation required for submitting an accurate and complete bid is absent from these documents, the Bidder is required to notify the Public Works Director by facsimile (907) 283-3014, or by e-mail to PublicWorks@kenai.city.

SECURITY TO BE FURNISHED BY BIDDER [Bid Bond will now not be required]

If the bid exceeds \$100,000, a certified check, bank cashier's check, or bid bond, made payable to the City of Kenai amount equal to five (5%) percent of the total bid, shall accompany each bid as evidence of good faith, a guarantee that if awarded the agreement, the Bidder will execute the agreement and give bond as required. All Bidder's checks or bid bonds will be retained until the successful Bidder has entered into a satisfactory agreement and furnished bonds, as required. The successful Bidder shall furnish the City a Performance and Payment bond in the full amount of the Agreement and shall maintain the Bond in force during the continuance of the Agreement. The bonds must be furnished prior to the City's execution of the Agreement. The Bond shall be for the faithful performance of the Agreement in all respects including, but not limited to, payments for all materials and labor. All alterations, extensions of time, additional work, and other changes authorized by the Agreement Documents may be made without securing the consent of the Surety or Sureties. Power-of-Attorney for the person signing the Bond for the Surety must be submitted with the Bond. These bonds, in whatever amount required by the specific agreement, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25, and shall comply with all requirements for payment and submission of claims as provided by that chapter.

6. LICENSING

Alaska State Statutes requires that all businesses wishing to engage in business in Alaska obtain license(s). All Bidders are required to furnish with their bid, the applicable, current licenses required to perform the work. Applicable licenses may include the following: Contractor's License, Specialty Contractor License, and Alaska Business License. Failure to submit license(s) with the bid may result in rejection of the Contractor's bid.

7. TAX COMPLIANCE CERTIFICATE

No agreement will be awarded to any individual or entity that is in violation of the tax laws of the City of Kenai or the Kenai Peninsula Borough unless the violation is cured within ten business days of notice. The Tax Compliance Certificate must be signed by the Bidder only and submitted with the bid. The City will obtain verification of tax compliance from the Kenai Peninsula Borough for the successful bidder. Bids submitted without a completed Tax Compliance Certificate may be considered non-responsive.

8. INTERPRETATION OR CORRECTIONS OF BID DOCUMENTS

Bidders shall notify the Public Works Director promptly of any error, omission, or inconsistency that may be discovered during examination of the bid documents and the proposed work site(s). Requests from Bidders for interpretation or clarification of the bid documents shall be made in writing to the Public Works Director and shall arrive no later than the time and date specified in Section 1 of these Instructions to Bidders. Questions may be faxed to (907) 283-3014 or emailed to PublicWorks@kenai.city. The subject line of the email or fax must include the name of the project.

Oral questions may be presented at a pre-bid conference if one is provided for in Section 1 of these Instructions to Bidders. Interpretations, corrections, or changes, if any, to the bid documents shall be made by Addendum. Bidders shall not rely upon interpretations, corrections, and changes made in any other manner, including orally, at the pre-bid conference. Interpretations, corrections, and changes shall not be binding unless included in an Addendum. All Addenda issued during the time of bidding shall become part of the Agreement Documents. Questions or requests for clarifications shall be directed to the Public Works Director. Only written interpretations or corrections by Addendum shall be binding, and no other forms of interpretation or correction will be binding on the City of Kenai.

It is the Bidder's sole responsibility to ascertain that they have received all Addenda issued by the City of Kenai. Addenda will be issued electronically and/or by facsimile. All Addenda must be acknowledged in the space provided on the Bid Form. If no Addenda have been issued, write or type "zero" or "N/A" on the Bid Form in the space provided.

9. PREPARATION AND SUBMISSION OF BIDS

- Bids must be received at City Hall prior to the time and date specified in Section 1 of these Instructions to Bidders.
- Bids must be submitted on the Bid Form furnished. Bids must be completed in ink or by typewriter, and must be manually signed by an authorized person. If erasures or other changes appear on the forms, the person signing the bid must initial each erasure or change in ink.
- Bids shall specify a unit or lump sum price, typed or written in ink in figures, for each bid item called for. In case of error in the extension of prices, the unit price will govern. Bids may be rejected if they show any omissions, alteration of the forms, additions not called for, conditional or alternate bids not called for, qualified bids, or irregularities of any kind.
- It is expressly agreed that the quantities shown in the Bid Form, whether for a "Unit Price Bid" or in connection with a "Lump Sum Bid" on the Bid Form are approximate only for use as a basis for comparison of bids and are not to be taken to be either representations or

warranties. The City does not expressly, nor by implication, agree that the actual amount of work will correspond therewith.

- The Bid Form invites bids on definite plans and specifications. Only the amounts and information asked for on the Bid Form will be considered as the bid. Each Bidder shall bid upon the work exactly as specified and as requested on the Bid Form, and Bidders shall bid upon all alternates as indicated. When bidding on an alternate for which there is no charge, Bidder shall write the words "No Charge" in the space provided.
- One (1) complete bid package shall be completely sealed in an envelope clearly marked with the Bidder's company name, and the "Project Name" and "Bid Due Date" specified in Section 1 of these Instructions to Bidders. A complete bid package shall include the following documents:
 - o Bid Form
 - o Tax Compliance Certificate
 - Applicable Licenses
 - Non-Collusion Affidavit
 - Bid Bond with Power of Attorney (If bid exceeds \$100,000.00)
- Bids received without all the required documents may be considered non-responsive.
 Bids received after the bid due date and time will be considered non-responsive and will not be accepted.
- No responsibility shall be attached to the City for the premature opening of, or the failure to open a bid not properly addressed and identified.
- Please note that overnight delivery from the Lower 48 States is generally not available.
 Prospective Bidders should anticipate a minimum of two to three days delivery time for express, priority or expedited delivery services.

10. MODIFICATION OF BIDS

Bid modifications will be accepted by the City at publicworks@kenai.city and binding upon the Bidder where the modification:

- is received at City Hall prior to the time and date specified in Section 1 of these Instructions to Bidders.
- does <u>not</u> identify the adjusted Bid Total price. Only adjustments to the sealed bid will be accepted. For example:
 - CORRECT Decrease the Unit Bid Price of Item 20.22 Leveling Course by \$2.50 per ton and the Bid Total by \$2,500.
 - o CORRECT Increase the Unit Bid Price of Item 90.16 Mobilization and Demobilization and the Bid Total by \$5,000.
 - o INCORRECT Decrease the Bid Total by \$5,000 for a new Total of \$95,000.
- is signed by the same individual who signed the original bid.

Should there be more than one bid modification from a Bidder, only the last modification received prior to the deadline shall be applied to the bid. All earlier modifications shall be disregarded.

Any modification which fails to meet any requirement of this section shall be rejected, and the bid shall be considered as if no modification had been attempted.

It is the Bidder's responsibility to confirm the City's receipt of any bid modification.

11. WITHDRAWAL OF BID

At any time prior to scheduled closing time for receipt of bids, any Bidder may withdraw their bid, either personally or by written request.

After the scheduled closing time for receipt of bids, no Bidder will be permitted to withdraw their bid unless Notice of Award is delayed for a period exceeding forty-five (45) days.

A bid may not be withdrawn after opening without the written consent of the City.

12. ACCEPTANCE – REJECTION OF BIDS

The City reserves the right to reject any or all bids, to waive minor irregularities in any bids or in the bidding procedure, and to accept any bid presented which meets or exceeds said specifications and which is deemed to be in the best interest of the City. However, the requirements for timeliness and manual signatures shall not be waived. The City is not obligated to accept the lowest bid and is not responsible for bid preparation costs.

13. EXECUTION OF AGREEMENTS

The successful Bidder shall be required to execute an Agreement for the work within ten (10) days after receiving the Notice of Award and Agreement documents from City; if Contractor does not return executed copies within this time, then, at the option of City, the bid may be rejected.

14. AWARD OF AGREEMENT

It is the intent of the City to award the bid to the lowest, qualified, responsive and responsible Bidder. Unless otherwise stated in the bid documents, the Agreement, if awarded, shall be awarded to the responsible Bidder who submits the lowest responsive bid. When bid documents contain a base bid and alternates, only the total of the base bid and the alternates to be awarded shall be used to determine the low Bidder.

The amount of the Agreement shall be the total sum of the amounts computed from the estimated quantities and unit prices and/or the lump sum awarded by the City and specified in the Agreement.

On all bids, Notice of Award or rejection will be given within forty-five (45) days of bid opening. The notice will be in writing and signed by the Public Works Director. A Notice of Intent to Award, and no other act of the City of Kenai or its representatives, constitutes an acceptance of a bid. The acceptance of a bid shall bind the successful Bidder to execute the Agreement.

15. AGREEMENT AND PERFORMANCE AND PAYMENT BOND SIGNATURE INSTRUCTIONS WHEN BONDS ARE REQUIRED

The successful Bidder shall insert the full name and business of the Contractor in the Agreement and on the Performance and Payment Bond, hereinafter the Bond.

If the Contractor is a partnership or joint venture, all partners or joint ventures shall sign the Agreement and the Bond except that one partner or one joint venturer may sign for the partnership or joint venture when all other partners or joint venturers have executed a Power-of-Attorney authorizing one partner or joint venturer to sign. The Power-of-Attorney shall accompany the executed Agreement and the Bond.

If the Contractor is a Limited Liability Company (LLC), a person with appropriate authority to bind the LLC shall execute the Agreement and Bond unless a Power-of-Attorney or Corporate Resolution accompanies the executed Agreement and Bond.

If the Contractor is a corporation, the President or Vice-President and Secretary or Treasurer of the corporation shall execute the Agreement and the Bond unless a Power-of-Attorney or Corporate Resolution accompanies the executed Agreement and Bond.

The Bond shall be returned undated as to Agreement Date. The Agreement Date shall be inserted on the Agreement when the City signs the Agreement and the Bond shall be dated the same as the Agreement Date.

16. SPECIAL PROVISIONS

If funded in part or in whole by a grant or grants, the contractor and their subcontractors will be required to comply with the requirements of these grants, including insurance and purchasing requirements, if any. If any permits are included with the bid documents, e.g. a U.S Corp of Engineers wetland permit, all conditions of this permit must be met by the Contractor and their Subcontractors.

17. APPEAL PROCEDURE

KMC 7.15.120 Appeal procedures.

- (a) Any party submitting a bid or proposal for a contract with the City and who believes that they are adversely affected by the City's relevant ordinances, regulations, procurement process, or by any acts of the City in connection with the award of a City contract, may file a protest appeal with the City Clerk. All protest appeals must be to the City within five (5) calendar days of the issuance of the City's notice of its intent to award the contract. The appeal must be hand delivered, delivered by mail, or by facsimile and must comply with all requirements of this section. If the fifth day is a City-recognized holiday or a weekend, the deadline for appeal shall be the next work day. It is up to the protester to choose a method of delivery to assure timely receipt by the City.
- (b) Rejection of Appeal. The Clerk shall reject an untimely or incomplete appeals. Such rejection shall be final and may be appealed to the Superior Court pursuant to the Court Rules of Appellate Procedure.
- (c) The protest appeal must be in writing and shall include the following information:
- (1) The name, address, e-mail, and telephone (and facsimile if available) numbers of the protester;
- (2) The signature of the protester or the protester's representative;
- (3) Identification of the contracting agency and the solicitation or contract at issue:
- (4) A statement of the legal and factual grounds of the protest, including copies of relevant documents; and
- (5) The form of relief requested.
- (d) Stay of Award. If a timely and complete protest appeal is filed, the award of the contract shall be stayed until all administrative remedies have been exhausted, unless the City Manager determines in writing that award of the contract pending resolution of the appeal is in the best interests of the City.

- (e) Notice and Response. Notice of the stay and protest appeal shall be delivered to any party who may be adversely affected by the City Manager's decision by facsimile, first class mail or in person within three (3) business days of receipt of a properly filed appeal.
- (f) City Manager Decision. The City Manager shall issue a written decision to the appellant within ten (10) business days of the date the appeal is filed. If multiple appeals have been filed, they may be consolidated for purposes of the decision. Copies of the appeal and decision shall be provided to any interested party requesting one. The decision may include any lawful action, including without limitation an amendment of all or any part of the recommended award. For good cause shown, the City Manager may extend the date for the decision for such additional period as may be necessary.
- (g) If the City Manager sustains a protest in whole or in part, the City Manager shall implement an appropriate remedy. In determining an appropriate remedy, the City Manager shall consider the circumstances surrounding the solicitation or procurement including the seriousness of the procurement deficiencies, the degree of prejudice to other interested parties or to the integrity of the procurement system, the good faith of the parties, the extent the procurement has been accomplished, costs to the agency and other impacts on the agency of a proposed remedy, and the urgency of the procurement to the welfare of the City.
- (h) Notwithstanding subsections (a) and (b) immediately above, if the City Manager sustains a bid protest appeal in whole or part, the protester's damages shall not exceed the reasonable bid or proposal preparation costs.
- (i) Appeal to Superior Court. Appeals may be taken from the written decision of the City Manager within thirty (30) days of the date of the decision pursuant to Part VI of the Alaska Rules of Appellate Procedure.

(Ord. 2852-2015)

18. COMPLIANCE OR ACCEPTED ALTERNATES TO SPECIFICATIONS

Bidder hereby agrees that the material offered will meet all the requirements of the specifications in this solicitation unless alternates have been deemed acceptable by the City. Manufacturer's names, trade names, brand names, model and catalog numbers used in these specifications are for the purpose of describing and establishing general quality levels. Such references are not intended to be restrictive. Alternates will be approved via addenda, and only via addenda. Request for alternates must be submitted no later than the Last Day for Questions in the Advertisement for Bid. An alternate must be requested via email sent to the addresses in section 1 with an explanation giving in detail the extent of the alternate, the reason for which it is requested, and why the City should approve the alternate. Provide as much detail as possible. If multiple models or options are provided with your submittal data clearly indicate which you are requesting. The City of Kenai will be the sole judge of whether an alternative is acceptable to the items specified.

CITY OF KENAI BID FORM

TO: City of Kenai

Public Works Department 210 Fidalgo Avenue Kenai, Alaska 99611-7794

Kenai, Alaska 99611-7794

FROM:

Name of Bidder's Company or Business Entity

BIDDER'S DECLARATION & UNDERSTANDING

The undersigned, hereinafter called the Bidder, declares that the Bidder has carefully examined the Bid Documents including but not limited to: the Agreement, Addenda, Supplemental General Conditions, General Conditions, Drawings and Specifications, Invitation to Bid, Instructions to Bidders, this Bid Form, Advertisement, Releases, Affidavits, and supplemental documentation (e.g. Grant documentation, Title 36 or other State Statues), and the location(s) where work is to be performed for the project, and that the Bidder has satisfied themselves as to the contractual requirements, and quantity and condition of work involved.

It is expressly agreed that the quantities shown in the Bid Form, whether for a "Unit Price Bid" or in connection with a "Lump Sum Bid" on the Bid Form are approximate only for use as a basis for comparison of Bids and are not to be taken to be either representations or warranties. The City does not expressly, nor by implication, agree that the actual amount of work will correspond therewith.

The Bidder further declares that the only person or parties interested in the Bid are those named herein, that this Bid is, in all respects, fair and without fraud, that it is made without collusion with any official of the City of Kenai, and that the Bid is made without any connection or collusion with any person submitting another Bid.

The Bidder agrees not to withdraw this bid within forty-five (45) days after the actual date of the bid opening.

DOCUMENTS TO SUBMIT WITH THIS BID

- Bid Form
- 2. Tax Compliance Certificate
- 3. Applicable Licenses
- 4. Non-Collusion Affidavit
- 5. Bid Bond with Power-of-Attorney (If Bid exceeds \$100,000.00)

DOCUMENTS THE CITY OF KENAI IS TO RECEIVE WITHIN 10 DAYS AFTER NOTICE OF AWARD

The Bidder agrees that if this Bid is accepted he will deliver to the City of Kenai, within ten (10) calendar days of Notice of Award, the following:

- 1. Executed Agreement
- Certificate(s) of Insurances*
- 3. Construction Schedule
- List of Subcontractors
- 5. Performance and Payment Bond
- Power of Attorney and/or Corporate Resolution (See Instructions to Bidders)

* Refer to the General Conditions for insurance requirements. Note the additional insured and waiver of subrogation requirements.

TIME OF COMPLETION AND LIQUIDATED DAMAGES

Bidder agrees to commence and complete work as follows: Owner anticipates a Notice to Proceed on August 6, 2020 with Substantial Completion within 150 Calendar days from NTP.

<u>Liquidated Damages</u>. Liquidated damages will be charged at Three Hundred (\$300.00) for each calendar day that expires after the contract time required for substantial completion to the actual date of substantial completion as provided for in the Agreement Documents.

BID TABULATION AND SUMMARY

Bidder agrees to perform all of the work described and per the conditions in the Bid Documents for the prices stated on this Bid Form.

Prices are to be shown in both words and figures. In case of discrepancy, the amount shown in words will govern. In case of error in the extension of prices, the unit price will govern. Bidder understands that the City reserves the right to reject any or all bids and to waive irregularities in the bidding.

<u>BID GUARANTEE</u>: The Undersigned further agrees that the check or bid bond accompanying the bid is left in escrow with the City, that the amount of the check or bond is the measure of damages which the City will sustain by failure of the Undersigned to deliver said documents within ten (10) days after written notice of the award of contract to him or her, and that check shall become the property of the City, or the bid bond shall remain in full effect, should he or she so fail. But if this bid is not accepted within ninety (90) days of the date set for the opening thereof, or if accepted and the Undersigned delivers said Agreement, and performance, and labor, and material payment bonds as required, the check shall be returned to him or her and the bid bond shall become void.

EXECUTION OF BID

Bidder shall complete and submit all pages of the Bid Form.

I have received Addenda No(s).	and have included their provisions in my proposal.

I have examined both the Bid Documents and the work locations, and submit the following bid with the understanding that I agree:

- 1. To hold my bid open forty-five (45) consecutive calendar days.
- 2. To accept the provisions of the Bid Documents.
- 3. To enter into and execute an Agreement, if awarded, on the basis of my Bid.

I have received the Bid Documents for the Project: 2020 Kenai City Dock Repairs

- 4. To furnish all labor and materials and to accomplish the work in accordance with the Bid Documents.
- To accomplish Substantial Completion as specified above in TIME OF COMPLETION.

\$	i dock repairs with concrete, grout, metal plates, etc.)
	(Amount Written in Words)
ADDITIVE ALTERNATE #1: (All work associ	·
	(Amount Written in Words)
TOTAL COST FOR BASE BID + ADDITIVE	
_	(Amount Written in Words)
to any combination of Base Bid and Deductiv An Agreement shall not be formed and no righ	er's budget for the Work, Owner reserves the right to award re Alternate that provides the best value to the City. Into shall exist under the Agreement until the final Agreement is to commence work immediately upon full execution of the
Agreement or such later time as defined in a	
By executing this Bid I certify that I have submitting this bid.	e authority to bind the Company or Business Entity
Name of Company or Business Entity	Date
Signature	Title
Print Name	Phone
Address	Fax
Address	 Email address

Tax Compliance Certification Kenai Peninsula Borough Finance Department

144 N. Binkley Street

Phone: (907) 714-2197

Soldofna, Alaska 99669-/599 www.kpb.us		or: (907) 714-217 Fax: (907) 714-237	
1.) Fill in all information requested.	2.) Sign and date. 3.) Submit v	vith solicitation, or oth	er. For Official Use Only
Reason for Certificate:		For Department	:
☐ Solicitation ☐ Other:		Dept. Contact:	
Business Name:			·
Business Type:	☐ Individual ☐ Corpora	ıtion 🗌 Partnershi	p Other:
Owner Name(s):			
Business Mailing Address:			
Business Telephone:		Business Fax:	
Email:			
contracting to do business with th	la Borough Code of Ordinan ne Kenai Peninsula Borough b	nces, Chapter 5.28.14 be in compliance with	elow. If no, please sign below.) 0, requires that businesses/individuals 1 Borough tax provisions. No contract Borough Code of Ordinances in the
REAL/PERSONAL/BUSINESS PROF	PERTY ACCOUNTS	TAX ACCOUNTS	S/STATUS (TO BE COMPLETED BY KPB)
ACCT. NO.	ACCT. NAME	YEAR LAST PAID	BALANCE DUE
			In Commission of Makin Commission
KPB Finance Department (signature	required)	Date	In Compliance 🗌 Not in Compliance
SALES TAX ACCOU	NTS	TAX ACCOUNTS	/STATUS (TO BE COMPLETED BY KPB)
	ACCT. NAME	FILED THRU	M/F'S BALANCE DUE
			In Compliance 🔲 Not in Compliance
KPB Sales Tax Division (signature rec	ųuired)	Date	
CERTIFICATION: I,(Name o	the		, hereby certify that, to the
(Name o best of my knowledge, the above i		(Title) (Date)	

Signature of Applicant (Required)

NON – COLLUSION AFFIDAVIT

(To be executed an	d submitted with Bid Proposal)
I,	of
l,	Firm Name
being duly sworn, do depose and state	: :
	n of which I am a member, who bid on the Contrac the construction of that certain construction projec
2020 KENAI	CITY DOCK REPAIRS
	of Alaska, have not, either directly or indirectly ed in any collusion, or otherwise taken any action in connection with such Contract.
	Signature
	Name
	Title
	Date
ACKNOWL	EDGMENT
STATE OF ALASKA)	
)ss THIRD JUDICIAL DISTRICT)	
The foregoing instrument was acknowl 2020, by	edged before me this day of
	NOTARY PUBLIC for State of Alaska My Commission Expires:

CITY OF KENAI AGREEMENT BETWEEN OWNER AND CONTRACTOR

MADE AS OF THE	DAY OF	2020.
BETWEEN the OWNER:	CITY OF KENA 210 Fidalgo Ave Kenai, Alaska S	enue
AND the CONTRACTOR:		
FOR the PROJECT: 2020	Kenai City Dock Repair	rs
The Owner and Contractor agree as set forth below.		

ARTICLE 1
THE WORK

The Contractor shall perform all the work required by the contract documents.

ARTICLE 2 ENUMERATION OF THE CONTRACT DOCUMENTS

The additional documents which are specifically incorporated into this Agreement by reference and which form the contract documents are:

- A. Any and all later modifications, change orders, and written interpretations of the contract documents issued by the Owner
- B. This Agreement
- C. Addenda
- D. Supplemental General Conditions (if any)
- E. General Conditions
- F. Drawings and Specifications Provided by Engineer. In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided.
- G. Drawings and Specifications in the latest edition of the Municipality of Anchorage Standard Specifications (M.A.S.S.) In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided. Contractor is responsible for obtaining the latest edition of the M.A.S.S
- H. The Request for Proposals / Invitation to Bid
- I. The Contractor's bid/proposal.

Any other attachments to this Agreement do not form a part of the Agreement but are for reference or proof of compliance with the requirements of the Agreement, except where the provisions of this Agreement provide such attachments will be or are a part of the Agreement.

These form the contract and what is required by any of the documents shall be as binding as if required by all. The intention of the contract documents is to require the furnishing of all labor, material, equipment, and other items necessary for the proper execution and completion of the work and to prescribe the terms and conditions of the contract and payment, so as to include work and materials which may be necessary to produce the intended results.

* M.A.S.S. is the Municipality of Anchorage Standard Specifications, and Divisions 20 through 80 are hereby incorporated into these Contract Documents. Division 10 is specifically excluded. The Contractor is responsible for checking to ensure they have the most current version. Specifications, drawings, and general provisions provided by the Owner (City of Kenai) or their Agents (Engineers, Architects, or others as appointed by the City) take precedence over the M.A.S.S.

ARTICLE 3 TIME OF COMMENCEMENT AND COMPLETION

Work shall commence upon receipt of the Notice to Proceed. All work must be substantially completed within __150__ days after the date of the Notice to Proceed. Liquidated damages will be charged against the Contractor as provided below.

ARTICLE 4 CONTRACT SUM

The Owner shall pay the Contractor as provided in this contract the total sum price of \$______ for the successful completion of the specified work.

ARTICLE 5 PROGRESS PAYMENT

Progress payments shall be made per the General Conditions.

ARTICLE 6 FINAL PAYMENT

Final payment shall be made per the General Conditions. The Contractor shall request the final inspection at least five (5) days in advance of the anticipated date of inspection. If all work has not been satisfactorily completed, the Contractor shall be liable for all costs incurred by the Owner in making such inspection.

ARTICLE 7 NOTICES

All legal notices relating to this contract, including changes of address, shall be mailed to the Owner and the Contractor at the following addresses:

CONTRACTOR

OWNER
CITY OF KENAI
Public Works Director
210 Fidalgo Avenue
Kenai, AK 99611

ARTICLE 8 INDEMNIFICATION

No provision in the contract documents lessens, alters, or makes inapplicable the requirement for indemnification stated in the General Conditions or other documents incorporated into the contract by this Agreement.

ARTICLE 9 JURISDICTION: CHOICE OF LAW

This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.

ARTICLE 10 ATTACHMENTS

In the event there is any difference between an attachment to the original of this Agreement on file with the City of Kenai Public Works Department and any attachment to a copy of the Agreement, the attachments to the original filed with the Public Works Department shall control.

ARTICLE 11 LIQUIDATED DAMAGES

Owner and Contractor recognize that time is of the essence in performance of this contract and the Owner will suffer financial loss if the work is not substantially complete within the time specified above, plus any extensions thereof allowed in accordance with contract documents. They also recognize the delays, expense and difficulties involved in proving the actual loss suffered by Owner if the work is not substantially complete on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty) Contractor shall pay Owner https://documents-contract-time-required-for-substantial-completion-to-the-actual-date-of-substantial-completion-determined-as-set-out-in-the-Contract-Documents. The Owner and Contractor agree that this amount is a reasonable forecast of just compensation for the harm that is caused by the delay.

ARTICLE 12 NO THIRD-PARTY BENEFICIARY

This Agreement is intended solely for the benefit of each party hereto. Nothing contained herein shall be construed or deemed to confer any benefit or right upon any third party.

OWNER and CONTRACTOR each binds themselves, their partners, successors, assigns and legal representatives in respect to all covenants, Agreements and obligations contained in the Contract Documents.

IN WITNESS WHEREOF, the parties have caused this Agreement to be executed in their respective names or by their duly authorized representatives as of the date and year above written.

OWNER:		CONTRACTOR:
CITY OF KENAI By: Name: Title:		By: Name: Title:
STATE OF ALASKA))ss.	STATE OF ALASKA))ss.
THIRD JUDICIAL DISTRICT)	THIRD JUDICIAL DISTRICT)
THIS IS TO CERTIFY that on this day of, 20 Paul Ostrander, City Manager, City of Kenai, Alaska, being pers known to me or having produced satisfactory evidence of identifical appeared before me and acknow the voluntary and authorized exe of the foregoing instrument on be said City.	onally ation, rledged cution	THIS IS TO CERTIFY that on this day of, 2020 (title) being personally known to me or having produced satisfactory evidence of identification, appeared before me and acknowledged the voluntary and authorized execution of the foregoing instrument on behalf of said corporation.
NOTARY PUBLIC FOR ALASKA My Commission Expires:		NOTARY PUBLIC FOR ALASKA My Commission Expires:
Approved by Legal: Approved by Finance:		

GENERAL CONDITIONS OF THE CONTRACT BETWEEN OWNER AND CONTRACTOR

ARTICLE 1 CONTRACT DOCUMENTS

- 1.1 The contract documents enumerated in the Agreement between Owner and Contractor form the final and completely integrated contract between the parties and supersede any prior statements, negotiations, agreements, documents or representations, written or oral. What is required by any one contract document is deemed to be required by all documents.
- 1.2 The contract documents consist of documents designated as contract documents and enumerated in the Agreement between Owner and Contractor.
- 1.3 The contract documents do not include any documents unless specifically enumerated in Agreement between Owner and Contractor.
- 1.4 Unless specifically provided otherwise in the contract documents the parties to this agreement intend that Contractor will obtain all permits, inspections, tests, bonds, and insurance required by state or federal law, rule, regulation or order, or local ordinance or rule or regulation or the contract documents, whichever requirement is greater, and provide all labor, equipment, transportation, water, heat, utilities, tools, scaffolding, materials, supplies, facilities, and services necessary for performance of the contract and that the cost of these requirements be included within the contract price. The parties further intend that the cost of all overhead, supervision, and other incidental expenses required or occasioned by the contract is included in the contract price. The parties also intend that minor items required to produce complete functional system(s) and sub-system(s) are deemed to be required by the contract documents at the contract price whether or not specifically expressed. The requirements stated in this provision apply whether or not the execution or completion of the work is temporary or permanent and whether or not it is incorporated or to be incorporated in the work or final product.
- 1.5 The requirements of the contract documents and the duties and rights of each party may be amended subsequent to execution of this contract only by:
 - 1. A written amendment to the contract signed by both parties; or,
 - A change order issued pursuant to ARTICLE 9.1
- 1.6 The term "Work" includes all procurement, labor, materials, products, equipment, erection, installation, and alterations necessary to complete the construction envisioned by this contract. The term "Project" refers to the overall construction, of which the work required by the contract may be the whole or may be a part. The term "Architect" also refers to Registered Engineers as appropriate.
- 1.7 The contract between Owner and Contractor shall be executed and returned by Contractor within the time required in the instructions to bidders. A written Notice to Proceed with the work will be issued to Contractor within five (5) days after Owner has executed the contract, except as provided in ARTICLE 4.1.3.
- 1.8 Should any provision or requirement of one portion of the contract documents conflict with any other portion of the contract documents, unless otherwise provided herein, the conflict will be resolved by reference to the contract documents in the following order of priority:
 - A. Any and all later modifications, Change Orders, and written interpretations of the Contract Documents issued by the Owner
 - B. The Agreement
 - C. Addenda
 - D. Supplemental General Conditions (if any)
 - E. General Conditions

¹ Unless otherwise stated, all references to an ARTICLE refer to the articles of these general conditions.

- F. Drawings and Specifications Provided by Engineer. In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided.
- G. Drawings and Specifications in the latest edition of the Municipality of Anchorage Standard Specifications (M.A.S.S.) In the case of an inconsistency between Drawings and Specifications or within either Document not clarified by addendum, the better quality or greater quantity of Work shall be provided. Contractor is responsible for obtaining the latest edition of the M.A.S.S.
- H. The Request for Proposals / Invitation to Bid
- I. The contractor's bid/proposal.
- 1.9 In case of difference between small and large scale drawings, the large scale drawings shall govern. Schedules on any contract drawing shall take precedence over conflicting information on that or any other contract drawing. On any of the drawings where a portion of the work is detailed or drawn out and the remainder is shown in outline, the parts detailed or drawn out shall apply also to all other like portions of the work.
- 1.10 In the event Contractor believes a discrepancy exists in the contract documents, Contractor shall submit the issue to the Project Representative together with Contractor's proposed course of action for performance of the work. Project Representative shall respond within seven (7) working days or advise Contractor that a response cannot be given within that time. If response will take more than seven (7) working days, Project Representative shall take steps to provide a response within a reasonable time. Any action taken by Contractor prior to or without Owner's response shall be at Contractor's own risk and expense.
- 1.11 Words and abbreviations which are not defined in the contract documents, but which have well known technical or trade meanings, shall be construed in accordance with the common meaning established by sound architectural or engineering practice in the State of Alaska.
- 1.12 Drawings, Specifications, other documents prepared for this project, and copies of them that are furnished by Owner and/or Architect or Consultant for this project, whether or not the documents or project are completed, shall be the property of Owner. All rights of use are reserved to Owner for this project and any subsequent project in which Owner participates in construction. Owner specifically relieves Architect or Consultant of any responsibility or liability pertaining to any subsequent use of the documents, in whole or in part, where those documents bear the stamp of a subsequent Architect or Consultant and are used for a subsequent project.
- 1.13 An electronic version of contract documents, typically in pdf format on a disc, will be furnished to the Contractor without charge. Contractor shall check all documents furnished immediately upon receipt and shall promptly notify Owner of any discrepancies.
- 1.14 The contract documents shall not be construed in any way as limiting Contractor's responsibility to perform the work completely, nor shall any prior customs or trade practices be held to constitute a waiver of the requirements of the contract documents or any portion of them.
- 1.15 The individual(s) executing the contract represent that they have the legal authority to execute the contract as or on behalf of Contractor in accordance with the bid instructions and the contract documents.
- 1.16 Execution of the contract by Contractor is a representation that Contractor has visited the site, become familiar with the local conditions under which the work is to be performed, has correlated personal observations with the requirements of the contract documents and enters this contract with knowledge of those conditions.

ARTICLE 2 ADMINISTRATION OF THE CONTRACT

2.1 The term "Project Representative" shall mean a person or entity employed by or under contract to Owner to be Owner's on-site designated representative. The term Project Representative shall include the Project Representative's employees.

- 2.2 The terms "Architect" or "Engineer" (hereinafter used interchangeably) shall mean the person or entity contracted by the City of Kenai to provide design services for the project. Architect or Engineer also includes employees of the Architect or Engineer. Architect shall provide professional services during construction as described herein below or as authorized by Owner.
- 2.3 Project Representative will provide administration of this contract and all communication made to Owner, Architect or Engineer by Contractor shall be made through Project Representative.
- 2.4 Project Representative will be Owner's primary representative during construction until final payment has been made and the project has been closed out. Owner's instructions to Contractor shall be made through Project Representative, who shall have authority to act on behalf of Owner to the extent set forth in this contract.
- 2.5 Project Representative shall not have the authority to require additional work, changes in the work, modifications or waivers of the rights, work or duties required by the contract documents or the right to bind Owner to any change in specifications or drawings without the written consent of Owner except as provided herein.
- 2.6 Project Representative shall have authority to allow minor deviation in the requirements of the contract documents by Field Order to a maximum cumulative amount of \$5,000.00 per each additional work item, change in work, modification or waiver in the work. Field Orders are to be incorporated into a subsequent Change Order.
- 2.7 Project Representative will render interpretations of the contract documents necessary for the proper execution or progress of the project. All interpretations and decisions of Project Representative shall be consistent with the intent of the contract documents and shall be in writing.
- 2.8 Matters relating to design intent will be referred to the design Architect whose decisions will be final, consistent with the intent of the contract documents.
- 2.9 Project Representative, Architect, and authorized representatives of Owner shall have access to the project site and to the work at all times and shall be afforded every reasonable facility for ascertaining whether or not the work is in accordance with the requirements and intent of the contract documents.
- 2.10 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be resolved pursuant to ARTICLE 12.
- 2.11 Project Representative shall have the authority: 1) to reject work which does not conform to the contract documents; 2) to require additional inspections or testing of any work during, prior to, or after fabrication, installation, or completion; 3) to specify both remedial work necessary to correct defective work and the time within which such work must be performed.
- 2.12 On the basis of on-site observations and inspections Project Representative will keep Owner informed of the progress of the work, and will endeavor to guard Owner against defects and deficiencies in the work. If Project Representative determines that any construction method, sequence, material, technique, safety precaution, act or omission of Contractor, Contractor's subcontractors, suppliers, or any of their agents, is detrimental to the progress, quality or safety of the work or to Owner's interest, then Project Representative shall inform Owner promptly, and Owner may, among other things, stop the work and order remedial measures. This provision shall not eliminate or reduce the responsibilities or requirements placed upon contractor and/or subcontractors by the contract documents and shall not place any liability upon the owner for action or omission in regard to this provision.
- 2.13 In accordance with the requirements of ARTICLE 8.5, Project Representative will determine amounts owing to Contractor and will recommend that Owner issue payment in the amount determined due.
- 2.14 Project Representative, with the concurrence of Owner, will determine the dates of Substantial Completion and Final Completion. The Architect will receive and forward to Owner for Owner's review, written warranties and related documents required by the contract and assembled by Contractor.

2.15 Project Representative's duties, responsibilities, and limitations of authority will not be modified without written consent of Owner and Project Representative.

ARTICLE 3 OWNER GENERAL RIGHTS AND DUTIES

- 3.1 At Owner's option, Owner may undertake any or all tasks of Project Representative described in ARTICLE 2.
- 3.2 Owner's directions to Contractor will be made in writing either directly or through Project Representative in accordance with ARTICLE 2. No verbal representation shall be binding upon any party unless confirmed in writing.
- 3.3 Owner shall have the right to perform work related to the project under separate contract(s) in accordance with the provisions of ARTICLE 6.
- Owner shall have the right to issue change orders from time to time which may alter the scope of work required by the contract documents. All change orders will be subject to provisions of ARTICLE 9.
- 3.5 Owner will have the authority to reject work which does not conform to the requirements of the contract documents and to require such remedial work at no charge to Owner as is necessary to correct the defective work. Where defective work is being performed by Contractor and Contractor fails to correct the defective work within a reasonable period of time as set out in ARTICLE 10, or repeatedly fails to carry out the work in accordance with the contract documents, Owner shall have the authority to order an immediate halt to all defective work. Any losses suffered by Contractor as a result of the halt shall be borne by Contractor without recourse to Owner. Issuance of a stop-work order shall not be construed as constituting a breach of the agreement nor authorize Contractor to refuse to perform other portions of the work which Owner has not halted.
- 3.6 Owner shall have the right to terminate the contract or suspend performance of the contract as set out in these general conditions or other contract documents.
- 3.7 Owner shall promptly pay Contractor all sums properly due as provided by ARTICLE 8. If Owner fails to issue payment for a period of forty-five (45) days after the certificate of payment has been approved by Project Representative, without a written statement indicating why payment is being withheld, then Contractor may terminate the contract upon seven (7) days written notice to Owner and may recover from Owner payment for all work executed and for any proven losses sustained upon any materials, equipment and tools, including a reasonable profit and overhead.
- 3.8 Owner and Contractor warrant that neither party will maintain an action against the other for punitive or exemplary damages.

ARTICLE 4 CONTRACTOR'S GENERAL RIGHTS AND DUTIES

4.1 EXAMINATION OF SITE AND CONTRACT DOCUMENTS

- 4.1.1 The term "Contractor" means the person or entity identified in the Agreement which has contracted with Owner to perform the work of the contract. This definition includes a responsible officer of Contractor's organization or its authorized representative who shall be made known to Owner.
- 4.1.2 Contractor represents by execution of the Agreement that Contractor has carefully examined the contract documents and the site upon which the work is to be performed and has developed familiarity with the nature, extent, site access, and risks involved in the work and with all local conditions and applicable statutes, ordinances and regulations that may affect the performance of the work. Contractor assumes full responsibility for having correlated Contractor's study of the contract documents and observation of the site. Contractor represents that Contractor has studied all available surveys and investigation reports of subsoil and latent physical conditions of the site and has made such additional surveys and investigations as Contractor deemed necessary for the performance of the work at the contract price, within the time specified and in accordance with the requirements of the contract documents.

- 4.1.3 Contractor shall not begin work until given a Notice to Proceed, which will be issued as promptly as possible after the Agreement has been executed by all parties. If Owner is required to delay issuance of a Notice to Proceed for more than five (5) working days because of fault of Contractor or other reasons which Owner deems sufficient, then Contractor shall be notified in writing of the delay and when issuance of the Notice to Proceed is anticipated.
- 4.1.4 Before commencing any part of the work, and prior to undertaking each subsequent phase of the work, Contractor shall carefully study the plans and specifications and check and verify all previous work and pertinent dimensions, figures and amounts shown in them and shall make all applicable field measurements. Contractor shall at once report in writing to Owner any apparent conflict, ambiguity, discrepancy, error or other omissions which Contractor may discover. Contractor shall be liable to Owner for failure to notify Owner of any conflict, ambiguity, discrepancy, error or other omissions which Contractor discovered, but failed to report to Owner and shall be responsible for providing a remedy.
- 4.1.5 Contractor shall lay out the work from established base lines and bench marks indicated on the drawings and shall be responsible for all measurements in connection therewith. Contractor will be held responsible for the execution of the work to such lines and grades. It shall be the responsibility of Contractor to maintain, preserve, or replace all stakes and other marks.
- 4.1.6 Drawings showing location of equipment, piping, etc., are diagrammatic and job conditions will not always permit installation in the location shown. If a situation occurs which may require relocation of an item or system which substantially differs from the location called for in the contract documents, it shall be brought to Owner's attention immediately and the relocation determined with the concurrence of Architect or Engineer. If Contractor relocates such items without approval, Contractor will be responsible for any cost or expense for removal or further relocation necessitated by installation without approval.

4.2 SUBMITTALS

- 4.2.1 Within 10 days after the effective date of the notice to proceed and prior to commencement of work, Contractor shall submit to Owner the construction progress schedule and schedule of values required in Articles 4.2.2, 4.2.3 and 4.2.4. The schedule of values and progress schedule must be acceptable to owner and provide reasonable divisions of contract work with corresponding payment. No payment will be made under this contract prior to completion of this requirement. In cases of a unit bid project, the bid schedule on the bid form will be the schedule of values.
- 4.2.2 In accordance with the requirements governing submittals as provided in the contract documents, Contractor shall prepare and submit to Owner a detailed progress schedule for the work which reveals and identifies the critical path of progress, which is consistent with the work and time required by the contract, and which shall provide for the most expeditious and practicable execution of the work. Float time between work items is part of the project and not property of the Contractor. Float time is defined as the amount of time that spans from completion of one previously scheduled activity and extends to the point at which the next scheduled activity is set to begin.
- 4.2.3 Contractor shall also provide Owner with a proposed schedule of values upon submittal of a detailed progress schedule for the work. The schedule of values shall be allocated to various portions of the work and be prepared in such a form and supported by such data to substantiate its accuracy as reasonably required by Owner. Each item of work shall include all applicable profit and overhead. This schedule of values, unless objected to by owner shall be the basis for progress payments made to Contractor and shall include specific lump sum amounts for "Final Payment." This line item shall be in conformance with guidelines specified in ARTICLE 8. Contractor, at the request of Owner, shall amend the progress schedule and the schedule of values as the work progresses.
- 4.2.4 The schedule of values must show a complete breakdown of all phases of the work required by the contract documents. Payment will be in accordance with ARTICLE 8. Pay requests, schedules of value and progress schedules must correspond.
- 4.2.5 Contractor shall submit for Architect's and Owner's approval all product data required by the contract documents in conformance with the dates specified in the detailed progress schedule. Such data include illustrations, standards, schedules, performance charts, instructions, brochures, diagrams, or other

- information necessary to assist Architect in determining whether a proposed product meets the intent of the contract documents.
- 4.2.6 Contractor shall also submit physical samples of materials, equipment or workmanship where required by the contract documents. After approval by Owner and Architect, the sample shall be established as the minimum standard of work, material, equipment or other quality which will be acceptable for work of which the sample is representative.
- 4.2.7 Submittal of shop drawings by contractor constitutes a representation by contractor that the submittal and work, or products required or to be used in accordance with that submittal, will meet or exceed the criteria and conditions of the contract documents and that performance of the work identified in those submittals will meet the progress schedule.
- 4.2.8 Before initiating any work for which shop drawings are required, Contractor shall obtain Architect's approval of the shop drawings, which include drawings, diagrams, schedules and other data specially prepared by Contractor, a subcontractor, a manufacturer, a supplier or distributor to illustrate in detail that portion of the work. Contractor shall review, approve, and submit all shop drawings, whether prepared by himself/herself or subcontractor or supplier. It shall be the duty of Contractor to provide a whole or complete system and to coordinate all work depicted by a particular shop drawing with the work required by other shop drawings for that portion of the work or for related or adjacent work.
- 4.2.9 Contractor shall provide a copy of all transmittal letters to Project Representative at the time the submittal is made to Architect. Architect will review Contractor's submittals only for conformance with the design concept of the work and the information given in the contract documents. Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component. Architect will return reviewed submittals to Contractor with written comments and forward one set to Project Representative with reasonable promptness so as to cause no delay. A minimum of five (5) sets of submittals shall be required.
- 4.2.10 Should Architect reject any proposed shop drawings, product data or sample, Contractor shall resubmit revised drawings, samples or product data and draw Architect's attention to any deviation or revisions other than those requested by Architect.
- 4.2.11 All of Contractor's submittals shall be made in conformance with the dates specified in the detailed progress schedule with reasonable promptness and in such sequence as to cause no delay in the work of Owner or any separate contractor.
- 4.2.12 The Contractor shall provide two (2) hard copies and an electronic .PDF file of the operation and maintenance manuals for equipment and systems incorporated in the work.

4.3 SAFETY AND CONTROL OF SITE

- 4.3.1 Contractor is deemed to be in physical control of the work site. Contractor shall confine Contractor's operations at the site to those areas described in the contract documents or permitted by applicable statutes, ordinances or permits.
- 4.3.2 Contractor shall not unreasonably encumber the site with materials, equipment or ancillary construction. Contractor shall be responsible for eliminating or minimizing to the extent reasonably possible, public hazards and inconveniences which might result from this work.
- 4.3.3 Contractor shall at all times keep the premises free from accumulation of excess snow, waste materials or rubbish and shall keep adjacent public road clear of mud and dust caused by Contractor's activities. At the completion of the work, Contractor shall remove all waste materials and rubbish from the project as well as Contractor's tools, equipment and surplus materials. The removal and disposal of waste materials, rubbish, or other material, shall be accomplished in accordance with all local, state and federal requirements.
- 4.3.4 Contractor shall be responsible for initiating, maintaining and supervising all necessary safety precautions in connection with this work and shall be responsible for ascertaining and adhering to all applicable federal, state, and local standards, laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the safety of persons or property or their protection from damage, injury, or loss.

- 4.3.5 Contractor's duty to maintain a safe and secure project site shall include all precautions necessary to assure the safety and protection against injury and damage, of all employees engaged in the work and any other person who may be affected by the work including Owner's agents and employees; Contractor's agents and employees; and members of the general public. Contractor shall assure the safety and protection of all work, materials and equipment which may be upon the site; utilities and other property of Owner including portions of structures and utilities not designated for removal or relocation, trees, shrubs, lawns, walks, pavements and roadways. Contractor duties include but are not limited to protection of project site from vandalism. Such precautions shall further include but not be limited to protection from dangers from hazardous materials.
- 4.3.6 Contractor shall take all necessary measures to prevent members of the general public from entering upon the site without the permission of Owner or Contractor.
- 4.3.7 Contractor shall comply with all OSHA requirements, give all safety notices, erect and maintain all reasonable safeguard notices and barriers, including danger signs and fences which may be required to protect the site and limit access to it.
- 4.3.8 In the event of an emergency, the Contractor will take all means necessary to minimize all damage to or exposure from effects of a catastrophic event. In such case, the Contractor may consult with Owner or seek Owner's assistance. The responsibility for protection of the site, work, and all material remains with the Contractor.
- 4.3.9 Contractor shall designate a person in Contractor's employ at the site to be primarily responsible for the prevention of accidents, identification of all applicable safety standards, statutes and regulations, including but not limited to those addressing hazardous material, and full compliance therewith. This person shall be Contractor's Superintendent unless otherwise designated by Contractor in writing to Owner.
- 4.3.10 Should Project Representative or other representative of Owner ascertain that a safety danger exists, Project Representative or Owner may order an immediate cessation of all dangerous activity and a correction of any safety hazard. Written notice of the order to stop work or to correct the safety hazard shall be made to Contractor as soon as practicable. Contractor shall have no recourse against Owner for any alleged losses or delays arising from this section unless the order to stop work or correct safety deficiency is wholly without basis.
- 4.3.11 Should Contractor elect to utilize explosives or other hazardous materials or equipment, or should Contractor be required to do so for the execution of the work, Contractor shall first give jurisdictional authorities and Owner notice of the intention to utilize hazardous materials, explosives or equipment at a particular time and date. Contractor shall use the utmost care in utilizing such materials and shall use only properly qualified and licensed personnel.
- 4.3.12 Contractor shall correct any damage to the property of Owner or other parties which arises out of the activities or omissions of Contractor, Contractor's agents, subcontractors, employees, personnel or suppliers. Contractor shall commence remedial activities within seven (7) days from the date of the damage. If Contractor fails to do so, Owner or the affected party may utilize his own forces to correct or replace the damaged property and Contractor shall promptly reimburse Owner or the affected party for all losses and costs thereupon. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor.

4.4 SUPERVISION AND QUALITY OF THE WORK

4.4.1 Contractor shall supervise and direct the work using the best skill and attention. Contractor is responsible for, and agrees to comply with all applicable local, state and federal ordinances, laws, regulations and statutes. Contractor shall be solely responsible for all construction means, methods, techniques, sequences and procedures, and for the schedule and coordination of all portions of the work to be performed under the contract. Contractor shall also be required to coordinate the work with that of any other contractor working on the project so as to minimize delay, inconvenience, and expense to both. Where identified in writing by Owner at any time, Contractor shall be required to coordinate the work with any partial use of the site that Owner deems necessary.

- 4.4.2 All materials and equipment shall be applied, installed, connected, erected, used, cleaned, prepared or conditioned in accordance with the instructions of the applicable manufacturer, fabricator or processor except as otherwise provided in the plans and specifications.
- 4.4.3 Contractor shall keep on the job site at all times during work progress, a competent resident superintendent capable of reading and thoroughly understanding the plans and specifications. The superintendent will be Contractor's representative at the site and all communications given to the superintendent shall be as binding as if given to Contractor directly. In the event Contractor decides to replace the superintendent, Contractor shall submit to Owner a written notice including the proposed new superintendent's qualifications. The superintendent shall not be replaced without this written notice and a statement of non-objection by the Owner.
- 4.4.4 Contractor shall provide sufficient, competent, and suitable qualified personnel to survey and lay out the work and to perform all construction required by the contract documents. Contractor is responsible for maintaining good discipline and order at the job site at all times and shall not employ any unfit person or anyone not skilled in the task assigned to that person.
- 4.4.5 Contractor shall be fully responsible to Owner for the acts and omissions of Contractor's employees and agents, Contractor's subcontractors and their employees and agents, and any other persons performing any of the work for the benefit of Contractor.
- 4.4.6 Contractor shall not permit the possession or use of alcohol or controlled substances on the site, and shall remove from the site any person who possesses, uses, or is under the influence of alcohol or controlled substances. Contractor shall require all Contractor's agents, subcontractors, employees or suppliers who perform work on site to sign a statement that they have been informed and will abide by the above policy. A copy of all such statements shall be kept at the job site throughout the duration of Contractor's work.
- 4.4.7 Contractor warrants to Owner that all work will be free from faults and defects and meeting or exceeding the requirements of the contract documents and all local, state, and federal legal requirements. All work not so conforming to these standards will be considered defective, and Owner may require its correction.

4.5 DIVISION OF THE WORK

4.5.1 The division of the work into various specialties and divisions in the contract specifications and drawings shall not bind Contractor in apportioning the work among various subcontractors, specialty contractors or workers, and Contractor's own employees.

4.6 TITLE 36 AND OTHER STATUTORY REQUIREMENTS

- 4.6.1 Contractor shall give and post all notices and comply with all federal, state, and local laws, ordinances, regulations, requirements and any lawful order of any public authority bearing on the performance of the work, and shall notify Owner in writing if the drawings and specifications or the contract documents are at variance therewith. If Contractor knows or should know that Contractor is performing work contrary to such legal requirements without giving written notice to Owner in time for Owner to give a stop work order, the Contractor shall bear all costs to remedy that work and to bring it into conformance with the applicable requirements. In the event Contractor fails to reimburse Owner as set forth herein, Owner may set off the amount due Owner from any amount due Contractor. This requirement does not lessen or alter the requirement for indemnification stated in ARTICLE 4.13.
- 4.6.2 Contractor and subcontractors shall strictly comply with all requirements of Title 8, Chapter 30 of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract.
- 4.6.3 Contractor or subcontractors of the contractor shall pay all employees unconditionally as required by AS 36.05.040 and any other applicable laws or regulations. Wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the Contractor or subcontractors and laborers, mechanics, or field surveyors. The wages are determined for the region in which the work is done and the rates are issued by the Alaska State Department of Labor (see attached Title 36 wage schedule). The scale of wages to be paid shall be posted by Contractor in a prominent and easily accessible place at the site of the work. If it is found that a laborer, mechanic or field surveyor employed by the Contractor or subcontractor has been or is being paid a rate of wages less than the rate

of wages required by this contract, Owner may, on written notice to Contractor hold Contractor in immediate default and terminate Contractor's right to proceed with the work or that part of the work for which there is a failure to pay the required wages, and Owner may prosecute the remaining work to completion by contract or otherwise, holding Contractor and Contractor's sureties liable for any costs in excess of the contract price. In the event Owner permits Contractor to pursue further work under the contract, Owner shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the Contractor or subcontractors the difference between the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work and the rates of wages in fact received by laborers, mechanics, or field surveyors.

4.6.4 A copy of certified payrolls shall be provided to the Project Representative with each Progress Payment Request.

4.7 PROJECT RECORDS

- 4.7.1 Contractor shall maintain at the project site copies of plans and technical specifications, approved shop drawings and manufacturers' information sheets, and other contractor documents which are necessary for the expeditious and correct execution of the work.
- 4.7.2 Contractor shall maintain at the project site a complete daily job report showing job conditions, work activities started, in progress, interrupted and completed; work force, including identification and number of Contractor's employees and subcontractors by craft; receipt and disposition of materials and equipment; tests performed, visiting personnel and any accidents on a particular day. Owner shall have access to the daily report at all times. A copy of each daily report shall be provided to Project Representative at the end of each week.
- 4.7.3 Contractor shall keep one record copy of all specifications, drawings, addenda, modifications, and shop drawings at the job site in good order and annotated to show all changes made during the construction process. These shall be available to Owner during construction and turned over to Owner prior to final completion of the work.

4.8 ALLOWANCES

4.8.1 Contractor shall include in the contract sum all allowances stated in the specifications or plans, and all items covered by these allowances shall be supplied in such amounts, or by such a person, as Owner may direct. The allowance shall include the cost to Contractor, less applicable trade discounts, of materials and equipment required by the allowance; delivery at the site, applicable taxes; Contractor's cost for unloading and handling on the site, for labor, installation, overhead, profit and other expenses incurred by Contractor. Whenever the cost of the allowed item exceeds or is less than the allowance, the contract sum shall be adjusted equitably by change order.

4.9 NONDISCRIMINATION

- 4.9.1 Contractor must comply with all federal and state laws, rules, regulations and orders, and all local ordinances, regulations and rules concerning wages, taxes, social security, workers' compensation, nondiscrimination, licenses, registration requirements, and similar provisions governing employment of individuals.
- 4.9.2 Contractor will not discriminate against any employee or applicant for employment or refuse employment to a person, or bar a person from employment, or discriminate against a person in compensation or in a term, condition, or privilege of employment because of the person's race, religion, color, or national origin, or because of the person's age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, or parenthood when the reasonable demands of the position do not require distinction on the basis of age, physical or mental disability, sex, marital status, changes in marital status, pregnancy, parenthood, or political affiliation. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause. Contractor further agrees to insert this provision in all subcontracts hereunder and to require the subcontractors to insert this provision in their subcontracts.

Notwithstanding the prohibition against employment discrimination on the basis of marital status or parenthood stated above, an employer may, without violating this provision, provide greater health and retirement benefits to employees who have a spouse or dependent children than are provided to other employees.

- 4.9.3 Contractor shall state, in all solicitations or advertisements for employees to work on contract jobs, that all qualified applicants will receive consideration for employment in accordance with the above referenced nondiscrimination clause.
- 4.9.4 Contractor shall comply with the reporting requirements which the State of Alaska may establish by regulation.
- 4.9.5 Contractor shall include the provisions of these paragraphs in this section in every subcontract or purchase order under this contract so as to be binding upon every such subcontractor or vendor of Contractor under this contract.

4.10 TAXES

- 4.10.1 Contractor shall pay all sales, consumer, use and other taxes for the work or portions thereof provided by Contractor which are legally enacted at the time bids are received, whether or not yet effective.
- 4.10.2 Contractor shall comply with Owner's requirements for payment of taxes. This contract is specifically subject to the provisions of City of Kenai Code, as it now stands or as it may be amended, including but not limited to termination of the contract for non-compliance. If the violation arises from failure to file or remit sales taxes, no payment will be made to Contractor until all filings have been made and all amounts due are paid.

4.11 PERMITS, FEES, AND NOTICES

- 4.11.1 Contractor shall secure the building permit from the City of Kenai at no cost. Unless otherwise provided in contract documents, Contractor shall secure and pay for all other legally required permits and government fees, licenses and inspections necessary for the proper execution and completion of the work. These are customarily secured after execution of the contract. These costs are part of the contract price. This provision does not lessen the requirements set out in ARTICLE 1.4.
- 4.11.2 Contractor is required to comply with all permits obtained by Owner for project, if any. Contractor is responsible for requesting information from Owner regarding any applicable permits obtained by Owner.

4.12 ROYALTIES AND PATENTS

4.12.1 Contractor shall pay for all royalties and license fees. Contractor shall defend all suits or claims for infringement of any patent rights and shall save Owner harmless from loss on account thereof.

4.13 INDEMNIFICATION

4.13.1 The contractor shall indemnify, hold harmless, and defend the City at its own expense from and against any and all claims, losses, damages or expenses, including reasonable attorney's fees, of, or liability for, any wrongful or negligent acts, errors, or omissions of the contractor, its officers, agents or employees, or any subcontractor under this contract. The contractor shall not be required to defend or indemnify the City for any claims of, or liability for, any wrongful or negligent act, error, or omission solely due to the independent negligence of the City. If there is a claim of, or liability for, the joint negligence of the contractor and the independent negligence of the City, the indemnification and hold harmless obligation shall be apportioned on a comparative fault basis. Apportionment shall be determined upon final determination of percentage of fault. If any such determination is by settlement, the percentage of fault attributed to each party for purposes of this indemnification provision shall only be binding upon the parties included in the settlement agreement. "Contractor" and "City" as used in this article include the employees, agents, officers, directors, and other contractors who are directly responsible, respectively, to each. The term "independent negligence of the City" is negligence other than in the City's selection, administration, monitoring, or controlling of the contractor and in approving or accepting the contractor's work.

ARTICLE 5 SUBCONTRACTORS AND SUPPLIERS

5.1 DEFINITIONS AND RESPONSIBILITIES

- 5.1.1 A subcontractor is a person or entity having a direct contractual relationship with Contractor, or with one of Contractor's subcontractors, to perform any of the work at the site. A supplier is any manufacturer or person or firm providing materials, equipment or assemblies to Contractor or to one of the subcontractors for inclusion in this project.
- 5.1.2 All contracts between Contractor, subcontractors and suppliers (whether or not in privity with Contractor) shall be in accordance with the terms of this contract and shall incorporate the General Conditions of this contract. Contractor shall include in such contracts, and require its inclusion in any subcontracts, a provision holding any subcontractor or supplier (whether or not in privity with Contractor) directly accountable to Owner for work which fails to meet the requirements of the contract documents, or which prevents Contractor or any subcontractor from performing work. This direct accountability to the Owner shall be in addition to Contractor's liability for any such failure.
- 5.1.3 The provisions in this ARTICLE shall not be construed as creating a right of recourse, or any direct contractual relationship, between Owner or Owner's agents and any subcontractor, supplier, or manufacturer (whether or not in privity with Contractor).
- 5.1.4 Contractor shall make all necessary copies of these contract documents available to Owner and to each subcontractor and shall require each subcontractor to make copies of these contract documents available to each of Contractor's subcontractors, if any.
- 5.1.5 Contractor shall be fully responsible for enforcing discipline among subcontractors, their employees and their subcontractors, and for insuring that each subcontractor performs the work in accordance with the contract documents and all safety regulations.
- 5.1.6 Contractor shall have the discretion to require subcontractor(s) to provide payment or performance bonds for work of the subcontractor(s).

5.2 AWARDS TO SUBCONTRACTORS AND SUPPLIERS

- 5.2.1 At Owner's request Contractor shall submit to Owner a list of all principal subcontractors and material suppliers and shall not contract with any proposed person or organization to whom Owner voices a reasonable objection. This provision applies to substitution of subcontractors or suppliers subsequent to Owner's initial objection to a proposed person or entity. Such list shall be submitted in accordance with Division 1 requirements as provided in the contract specifications.
- 5.2.2 Rejection of a proposed subcontractor or material supplier shall not entitle Contractor to any increase in the contract sum or time.
- 5.2.3 At Owner's request Contractor shall submit to Owner a copy of any subcontract and any purchase orders for materials and equipment prior to purchase of such items.

5.3 CONTRACTOR PAYMENTS TO SUBCONTRACTORS AND SUPPLIERS

- 5.3.1 Recognizing the importance of maintaining the integrity of a public contract, Contractor warrants that Contractor will pay all subcontractors and material suppliers at least monthly on or about the 20th day of each month upon approval of the subcontractors' and materials suppliers' billing, for all apparently acceptable work performed on the site during the preceding month and for all apparently acceptable material incorporated into the project or delivered and properly stored at the site during any month for which Contractor has received payment from Owner. If Owner retains a percentage of sums due, Contractor may retain a like percentage, but when retainage is paid, Contractor must pay to the subcontractor or supplier interest on retainage equal to interest rate paid to Contractor by Owner.
- 5.3.2 In furtherance of Contractor's warranty under this ARTICLE and ARTICLE 8, Owner, may require Contractor to declare Contractor's status of accounts with any or all the subcontractors and suppliers. A proof of payment to subcontractors and suppliers shall be made in a form acceptable to Owner. If Contractor

breaches this warranty and fails to pay each subcontractor and materials supplier within 45 days after a monthly billing has been presented, then Owner reserves the right to withhold sufficient sums from Progress Payments due to Contractor and to issue payment to the subcontractors or material suppliers directly. This ARTICLE shall not be construed as creating a right in the subcontractors or material suppliers to have direct recourse against Owner for payment. Contractor expressly agrees that Owner will not be liable for any exercise of Owner's discretionary right under this section, and Contractor agrees to release and indemnify Owner for any claims arising therefrom, either by Contractor directly or by any subcontractor or material supplier. Likewise, this ARTICLE shall not be construed as creating a right in Contractor's surety or any other subrogated party to have direct recourse against Owner for failure to withhold sums pursuant to this section.

ARTICLE 6 SEPARATE CONTRACTS

- 6.1 Owner has the right to award separate contracts for work on the project that is not included in this contract.
- When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the contract documents in each case shall mean the Contractor who executes each separate contract.
- 6.3 Contractor shall afford other contractors and Owner's own forces reasonable opportunity for the introduction and storage of materials and equipment and for the execution of their work and shall properly connect and coordinate Contractor's work with theirs as required by the contract documents.
- Any costs caused by defective or ill-timed work under separate contracts shall be borne by the party responsible thereof and shall be paid promptly.
- When separate contracts are let within the limits of any one project, each Contractor shall conduct the work so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors. Contractors working on the same project shall cooperate with each other as directed.
 - Each Contractor involved shall assume all liability, financial or otherwise, in connection with his or her contract and shall protect and save harmless the Owner from any and all damages or claims that may arise because of inconvenience, delays, or loss experienced because of the presence and operations of other Contractors working within the limits of the same project.
- If any part of Contractor's work depends upon work performed by Owner or any separate contractor, prior to proceeding with the work, Contractor is required to report to Owner any apparent discrepancies, defects or delays in the other work which impede proper execution of the work required by this contract. If Contractor fails to report such unsuitable work by another contractor to Owner, then Contractor shall be deemed to have accepted the unsuitable work and any liability for all deficiencies, damages and costs which arise as a result of the defective work or of Contractor's use or covering of the unsuitable work.
- 6.7 Should Contractor or any subcontractor delay or cause damage to the work or property of any other contractor or person, Contractor shall repair the damage or settle the claim and shall further, to the extent allowed by law, indemnify, defend, and hold Owner harmless from any and all claims, costs, expenses, injury, damages, or loss of any kind, including attorneys' fees, court costs, or arbitration costs, which arise out of such delay or damage.
- 6.8 Should a dispute arise between Contractor and separate contractors as to the responsibility for completing, finishing or cleaning up particular work or a portion of the work, Owner may complete, finish or clean up the disputed portion and apportion the cost among Contractors responsible as Owner shall determine to be equitable.

ARTICLE 7 BONDS AND INSURANCE

7.1 PERFORMANCE AND PAYMENT BONDS

7.1.1 For contracts with a contract sum of one hundred thousand dollars (\$100,000) or greater, or as otherwise specified in the request for bid, Contractor shall provide as part of the basic contract sum, a performance bond and a payment bond, each in the amount of 100% of the contract amount, prior to Owner's execution

of the contract. Contractor shall have no recourse of any kind against Owner, if Owner declines to award a contract due to Contractor's failure to provide the required bonds. These bonds, in whatever amount required by the specific contract, shall be administered and deemed governed by the provisions of Alaska Statutes Title 36, Chapter 25 and shall comply with all requirements for payment and submission of claims as provided by that chapter.

- 7.1.2 All bonds shall name Owner as the beneficial party and shall protect Owner for a period of at least one year subsequent to the date of final payment upon this contract. All bonds shall be executed upon a form acceptable to Owner and by a surety company licensed to do business within the State of Alaska and acceptable to Owner. The form of the bond shall provide that Owner shall have at least thirty (30) days prior notice of any lapse in bond coverage. The bond payment shall be applicable to all subcontractors or material suppliers (whether or not in privity with Contractor) who might attempt to assert a claim against Owner.
- 7.1.3 Owner may inform the surety as to the general progress and status of the work. A copy of all communications with the surety company shall be provided promptly to Contractor upon request.
- 7.1.4 In the event Contractor refuses, or is unable to make payments to laborers, subcontractors or material suppliers, or to complete the work, or to correct defective work, within the times provided by this contract, Owner may elect to call upon Contractor's surety to rectify Contractor's default. Contractor shall first be given seven (7) calendar days written notice (effective when mailed) of Owner's intentions to call upon the surety company and Owner shall specify to Contractor the basis for the proposed course of action. If Contractor fails to correct the default within the time provided, Owner shall promptly call upon the surety.
- 7.1.5 Prior to final payment or reduction in retainage, Contractor shall provide written consent of each affected surety releasing Owner from any further claims arising from payment to Contractor and obligating the surety company to rectify any default, nonpayment, defective work, error, omission or deficiency of Contractor.
- 7.1.6 Contractor and Owner expressly agree that Owner shall be entitled to retain from payments to Contractor amounts in excess of normal retainage if these additional amounts may be necessary to indemnify Contractor's surety for any payment or corrective work which the surety might be required to undertake. This additional retainage will be made only upon written directive by Contractor's surety specifying the reason for retaining extra amounts, the amounts to be retained and agreement of the surety to reimburse Owner for any interest which may be due Contractor under the provisions of the Alaska Statutes.

7.2 CONTRACTOR'S INSURANCE

- 7.2.1 The services to be rendered under this contract are those of an independent Contractor.
- 7.2.2 Contractor and all subcontractors, if any, shall be responsible for the purchase and maintenance of all insurance required by law and at a minimum purchase the insurance coverage as specified in ARTICLE 7.2.5 and 7.2.6 below, and any other insurance coverage as may be specified in ARTICLE 7.2.11 SUPPLEMENTARY GENERAL CONDITIONS OF INSURANCE, if attached and forming a part of this contract. Such insurance shall be by a company/corporation currently rated "A-" or better by A.M. Best.
- 7.2.3 This insurance coverage required by ARTICLE 7.2.5 and 7.2.6, and ARTICLE 7.2.11 if attached, shall be in acceptable form, and for the amounts specified by the City of Kenai, or as required by law, whichever is greater.
- 7.2.4 The insurance policies shall remain in force for the life of the contract and shall be a part of the contract price.
- 7.2.5 Commercial general liability with minimum coverage of \$1,000,000 and automobile liability insurance with minimum coverage of \$1,000,000 combined single limit bodily injury and property damage per occurrence. This insurance shall be primary and exclusive of any other insurance carried by the City of Kenai. The commercial general liability insurance shall be without limitation on the time within which the resulting loss, damage, or injury is actually sustained.
- 7.2.6 Per Alaska State Statutes, Worker's Compensation and Employers Liability Insurance shall be provided for all employees who are performing work under this contract.

- 7.2.7 Certificate(s) of Insurance shall be provided by Contractor and all subcontractors, or their Insurance Companies and/or their Agents, naming the City of Kenai as an additional insured for the work specified in this contract with a waiver of subrogation for commercial general liability insurance and automobile liability insurance. The certificates of insurance must reference the specific contract by name. Workers compensation insurance must be endorsed for waiver of subrogation against the City. Certificates of Insurance, acceptable in form and content, will be delivered to Owner at the address designated for legal service in the agreement, at or prior to presentation of the contract for execution by owner.
- 7.2.8 There shall be no cancellation or material change of the insurance coverage, or intent not to renew the insurance coverages as specified in this contract, without thirty (30) days prior written notice to the City of Kenai. Notice of cancellation, material change in coverage, or intent not to renew will be delivered to the address designated for legal notice in the agreement.
- 7.2.9 Upon renewal or change in policies during the contract, Certificates of Insurance shall be delivered to the address designated for legal notice in the agreement.
- 7.2.10 Owner shall have the option to purchase and maintain such insurance as will protect Owner against property losses or liability claims, which may arise from operations under the contract. Insurance providing coverage against fire and extended coverage perils, may, at Owner option, provide coverage to the full insurable value of the project and insure the interests of Contractor and all subcontractors as their interests may appear. Any recovery for loss insured pursuant to this General Condition is to be adjusted to Owner and made payable to Owner as trustee for the insured, as their interests may appear. This section does not modify the contractor or subcontractors' responsibility to provide insurance as required in ARTICLE 7.
- 7.2.11 May be added in supplementals as Supplementary General Conditions of Insurance.

ARTICLE 8 MEASUREMENT, PAYMENT AND COMPLETION

8.1 SCOPE OF PAYMENT

8.1.1 Unless altered by change order, Contractor shall be paid only that sum set forth in the agreement between Owner and Contractor as Contractor's compensation for performance of all work required by the contract documents.

8.2 LUMP SUM PAY ITEMS

- 8.2.1 Each bid item is characterized as either a lump sum item or a unit price item in the bid documents. Where the item is bid at a lump sum price, no additional compensation shall be paid to Contractor for additional work required because Contractor failed to include items or quantities in Contractor's estimate or a subcontractor's estimate, or failed to utilize proper construction means, methods, procedures or sequence or by virtue of any decision of Contractor.
- 8.2.2 Contractor is required to provide and pay for all requirements necessary for the proper execution and completion of the contract unless specifically excluded by the contract documents. The costs are part of the contract price. The requirements include but are not limited to the requirements stated in ARTICLE 1.4.
- 8.2.3 All materials and equipment incorporated in the work shall be new except as otherwise provided in the contract documents. All materials and equipment shall meet or exceed the requirements of the plans and specifications and Contractor shall furnish, if requested, satisfactory evidence as to the source, kind and quality of any materials and equipment.

8.3 UNIT COST ITEMS

8.3.1 Quantities appearing in the bid schedule are approximate and are prepared for comparison of bids. Payment to Contractor will be for actual quantities of work performed and materials furnished in accordance with the contract documents. Scheduled quantities of work and materials may be increased, decreased or eliminated as provided herein.

8.4 APPLICATION FOR PAYMENT

- 8.4.1 Applications for payment shall be based on Contractor's submitted schedule of values, as approved by Owner per Section 4.2. Schedule of values shall be prepared in such form and supported by such data as may be required by Owner to substantiate its accuracy prior to Contractor's first application for payment.
- 8.4.2 The schedule of values shall include quantities of work, unit prices and other items comprising the contract price. It shall subdivide the work into each component part in sufficient detail to serve as the basis for progress payments during construction.
- 8.4.3 With each subsequent application for progress payment, Contractor shall provide a schedule of values to Owner showing all work which has been performed to date together with the value thereof, and the percentage of work completed.

8.5 PROGRESS PAYMENTS

- 8.5.1 Progress Payments shall be made monthly, based upon the amount of apparently acceptable work performed at the site and apparently acceptable materials purchased for the project and properly stored at the site during the previous month. Disbursement of progress payments will not effect a transfer of the risk of loss from the Contractor to the Owner for invoiced equipment or material. The risk of loss of the work and all material and equipment not yet incorporated in the work is the liability of the Contractor until substantial or final completion, whichever is earlier.
- 8.5.2 The value of work performed and materials stored shall be set forth in Contractor's revised schedule of values. If requested by Owner, Contractor shall promptly provide Owner any additional information necessary to ascertain the value of the work performed or the cost of materials stored at the site during the previous month. Each updated Schedule of Values shall be in the form of a notarized affidavit. Proof of certified payroll shall be provided per ARTICLE 4.
- 8.5.3 By application for payment, Contractor warrants and guarantees to Owner that title to all work, materials, and equipment for which payment is requested will pass to Owner either by incorporation in the construction and after substantial completion or upon receipt of payment, whichever occurs later, that such title will be clear of all liens, claims, security interests, and other encumbrances, except for liens to be released later prior to final payment and specifically identified on the application for payment, and that all such work, materials, and equipment are of acceptable quality.
- 8.5.4 Each application for payment shall be made no later than the tenth day of each month for work performed during the preceding month. Progress Payment requests shall be submitted to Project Representative for analysis and recommendation to Owner.
- 8.5.5 Project Representative will review Contractor's application for payment within seven (7) working days after receipt and if Project Representative ascertains that the amounts set forth therein are properly due and owing to Contractor, then Project Representative shall issue a Certificate of Payment to Owner. If Project Representative determines that only a portion of the sum requested is then properly due and owing to Contractor, then Project Representative may issue a Certificate of Payment in a lesser amount or may reject the application altogether. Project Representative will notify in writing both Contractor and Owner of the reasons for reduction or rejection of any application for Progress Payment.
- 8.5.6 Project Representative's issuance of a Certificate of Payment constitutes a representation that the work has progressed to the point indicated and that to the best of Project Representative's professional knowledge and information, Contractor is entitled to payment in the amounts certified.

8.6 RETAINAGE

8.6.1 After receipt from Project Representative of the Certificate for Payment, Owner shall make payment to Contractor within thirty (30) days. Owner shall have the option to retain up to 10% of the full amount of the Certificate for Payment plus lump sum amounts for material and equipment not properly stored, or subject to damage prior to use. Amounts retained by Owner may be held by Owner until project completion. If the project involves grant money or the City has entered into a written contract with the state to provide state funds, payment will be made in accordance with AS 36.90.200-270.

8.6.2 Owner may withhold additional sums of money from progress payments in an amount sufficient to safeguard and protect Owner against any apparently meritorious claims against Contractor by any party other than Owner, and for any work which Owner ascertains to be defective or not meeting the requirements of the contract documents.

8.7 CONDITIONS OF PAYMENT

- 8.7.1 Project Representative may refuse to approve all or any part of any request for progress payment if, in Project Representative's opinion, it would be incorrect to make the representation to Owner set out in ARTICLE 8. Project Representative may also refuse to approve all or any part of any request for progress payment, if subsequently discovered evidence or the results of subsequent inspections or tests nullify any payment previously approved.
- 8.7.2 Owner may withhold payment to the extent necessary to protect Owner from loss resulting from:
 - Defective or damaged work;
 - B. Claims or liens which have been filed or may be reasonably expected;
 - C. Contract price reduction by modifications or change orders;
 - D. Owner cost to correct or complete defective work;
 - E. Unsatisfactory prosecution of the work by Contractor, including but not limited to failure to furnish adequate submittals or to clean up the work or site;
 - F. Reasonable evidence that the work cannot be completed for the unpaid balance of the contract sum;
 - G. Failure of Contractor to make payment properly due to subcontractors, employees, suppliers or utilities:
 - H. Reasonable evidence to believe the work cannot be completed within the contract time.
 - I. Damage to Owner's property not replaced or repaired in timely manner.

When the grounds for withholding payment are removed, payment shall be made for amounts withheld.

8.7.3 Neither the issuance of a Certificate of Payment, nor the making of any progress payment, nor the partial or entire use of the project by Owner shall constitute an acceptance of any work not in accordance with the contract documents nor shall it constitute a waiver of any right accruing to Owner or of any duty of Contractor.

8.8 SUBSTANTIAL COMPLETION

- 8.8.1 Substantial Completion is defined as the state of construction at which the work is sufficiently complete and in accordance with the contract documents, so that Owner could occupy and utilize the work or a specific portion of it, for its intended use.
- 8.8.2 When Contractor considers the work substantially complete Contractor shall notify Project Representative in writing and request a Substantial Completion inspection. The request shall be made a minimum of three business days in advance. The notice shall include a comprehensive list of items to be completed, reasons they are not completed and a date of anticipated completion. The notice shall also include copies of all code compliance inspections, the Certificate of Occupancy, if applicable, and any other documents required by the contract.
- 8.8.3 Project Representative shall schedule the Substantial Completion inspection and notify Contractor. The inspection will be performed by Project Representative, Architect, Design Engineers, and Owner personnel in the presence of Contractor. Should this inspection find the work not substantially complete, Owner may terminate the inspection and promptly notify Contractor in writing of the conditions for reinspection. Any deficiencies identified by this inspection will be listed and promptly furnished to Contractor for remedial action.
- 8.8.4 If Contractor has requested that Project Representative and Owner make an inspection to ascertain Substantial Completion, and if the work is not then substantially complete, Contractor shall be liable for all costs Owner, Architect, and Project Representative have incurred in making the inspection.

- 8.8.5 If it is determined on the basis of inspection that the work is substantially complete, Project Representative will issue a Certificate of Substantial Completion. Included in the certificate shall be a list of items which must be completed or corrected before final payment and the time within which such items shall be complete and corrected. Failure to include an item on this list does not alter the responsibility of Contractor to complete all work in accordance with contract requirements.
- 8.8.6 Certificate of Substantial Completion shall state the date of Substantial Completion and the respective responsibilities of Owner and Contractor for the maintenance, insurance and security of the work. Certificate of Substantial Completion shall specifically authorize Owner to take possession of the premises and utilize them for their intended purpose. Owner's beneficial occupancy of the premises shall make reasonable allowance for the performance of the work which Contractor must complete prior to final completion.
- 8.8.7 If Contractor fails to complete or correct work required by the Certificate of Substantial Completion within the time allowed, then the Certificate of Substantial Completion shall be voided and the contract time expended by Contractor shall be counted, and the acceptability of the work shall be inspected as if a Certificate of Substantial Completion had not been issued.
- 8.8.8 Upon Substantial Completion of the work and upon application by Contractor and certification by Project Representative, Owner shall make payment, reflecting adjustment in retainage, if any, for such work as provided in the contract documents.

8.9 FINAL COMPLETION AND WARRANTY PERIOD

- 8.9.1 The terms Final Completion and Warranty Period refer to, respectively, the finalization of the construction phase and a one-year warranty period following the Substantial Completion. Final Completion shall be represented by a lump sum dollar amount identified on the schedule of values. Final Payment represents a sum of money to perform all tasks necessary from Substantial Completion to Final Completion, including completion of final punch list, completion of as-built data, turnover of all warranty information, notarized acknowledgments of payments, and relinquishment of claims against Owner.
- 8.9.2 When Contractor considers the work ready for Final Completion, Contractor shall forward to Project Representative an application for final payment including (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the work have been paid or otherwise satisfied, (2) consent of surety, if any, to payment, (3) irrevocable, notarized proof of payment and relinquishment of claim against Owner, issued by every subcontractor (whether or not in privity with Contractor), material supplier and other party who might assert a claim against Owner, and (4) all other documentation required by the contract documents. Project Representative and Owner shall promptly inspect the work to see that it is fully performed and complete, that all portions of the work are acceptable and that the contract is fully performed aside from completion of the Warranty Period. After Project Representative has made a determination that these requirements have been met, Project Representative shall prepare and recommend that Owner issue a Certificate of Final Completion and Final Payment.
- 8.9.3 Project Representative's approval of Final Payment constitutes an additional representation by Project Representative to Owner that to the best of Project Representative's knowledge and information, all conditions which Contractor must fulfill prior to being entitled to Final Payment have in fact been fulfilled in accordance with the contract documents.
- 8.9.4 If any party refuses to relinquish its claim, or if Owner considers that any item or portion of the work: (1) is of doubtful acceptability under the contract documents; or (2) may diminish the value of the work; or (3) may prove to be ultimately unreliable; or (4) may prove to be less functional than required by the intent of the contract, then Owner, in lieu of refusing Final Payment to Contractor, may allow Contractor to furnish a bond in a form and in an amount satisfactory to indemnify Owner against losses occasioned thereby. If any additional costs to settle the claim or to correct work of doubtful quality accrue to Owner in excess of the indemnity available to Owner, Contractor shall refund to Owner all differences and costs which Owner might be compelled to pay, including all litigation costs and reasonable attorney fees.
- 8.9.5 Acceptance of final payment by Contractor constitutes an explicit waiver of all claims which Contractor might assert against Owner except those previously made in writing and identified by Contractor as unsettled at the time of the Application for Final Payment.

- 8.9.6 Final Payment to Contractor shall constitute a waiver of all claims which Owner might assert except those arising from: (1) unsettled claims; (2) faulty or defective work (3) failure of the work to comply with the requirements of the contract documents; (4) warranties required by this contract or that by their terms do not expire upon completion of the contract.
- 8.9.7 If, after Substantial Completion, Warranty Completion is delayed through no fault of Contractor, or by the issuance of change orders affecting Final Completion, Owner may, upon recommendation of the Project Representative, extend the contract time by a reasonable period and accept certified applications for further Progress Payments.
- 8.9.8 Upon completion of all requirements identified in ARTICLE 8 as "Final" the funds representing Final Payment shall be released to Contractor along with the Certificate of Final Completion. Upon issuance of Certificate of Final Completion all contract sums shall be accounted for to Contractor and shall be paid to Contractor. However, any and all applicable bonds shall not be released until after the Warranty Period.

8.10 TIME AND LIQUIDATED DAMAGES

- 8.10.1 The time permitted for construction of the work will run from issuance of Notice to Proceed through the dates for Substantial Completion as specified in Agreement between Owner and Contractor, unless a specific completion date is specified.
- 8.10.2 The term "day" as used in this contract shall mean "calendar day" unless specifically stated otherwise.
- 8.10.3 All warranty periods and obligations accruing to Contractor through completion of the work shall be considered to begin on the date of Substantial Completion, unless otherwise agreed to separately in writing by Owner and Contractor.
- 8.10.4 Contractor shall begin the work as soon as possible after the date identified in Notice to Proceed and shall prosecute the work expeditiously and with adequate labor and materials.
- 8.10.5 Liquidated damages will be applied in the amount set out in the Agreement.
- 8.10.6 Claims for extension of time will be considered only if they affect "critical path" items specifically identified in the detailed progress schedule or in any applicable Supplementary Conditions. Claims for extension of the contract time must be made in writing to Owner not more than twenty (20) days after the reason for requested extension appears.

ARTICLE 9 CHANGES IN THE WORK, CONTRACT PRICE, AND TIME

9.1 CHANGE ORDERS

- 9.1.1 Without invalidating this contract, Owner may, at any time, order additions, deletions, or revisions in the work. All such changes must be authorized by written change order. Upon receipt of a change order, Contractor shall proceed with the work in accordance with applicable requirements of the contract documents. If any change order entails an increase or decrease in the contract price or an extension or curtailment of the contract time, adjustment will be made as provided herein.
- 9.1.2 Extra work will be paid for either at a fixed price specified in the change order (using unit prices or a lump sum amount) or on a time and materials basis.
- 9.1.3 Project Representative may authorize minor changes, alterations or deviations in the work in accordance with ARTICLE 2. These changes shall be authorized by written Field Order to be included in a subsequent Change Order.
- 9.1.4 Any additional work performed by Contractor without a properly executed change order will not entitle Contractor to an increase in the contract amount or to an extension of the contract time, except in the case of emergency threatening life, safety or property.

9.2 ISSUANCE OF CHANGE ORDER

- 9.2.1 The contract sum constitutes the total compensation to Contractor for the work required by this contract. The contract price may be changed only by a properly executed change order. Any request for increase in the contract price shall be based upon written notice delivered to Project Representative within ten (10) days after the reason for the proposed increase appears. Change order proposals must be accompanied by all pertinent data and documentation, including a detailed estimate showing costs, quantities, unit prices and markups for overhead and profit.
- 9.2.2 Project Representative shall analyze Contractor's change order proposal and shall make a recommendation to Owner within a reasonable period of time. If Owner accepts the proposal, Project Representative shall prepare the change order for execution by Contractor and Owner.
- 9.2.3 The value of any work added or deleted by change order shall be determined by one of the following methods:
 - A. Application of unit prices set forth in the bid: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit.
 - B. Application of mutually accepted unit prices for work not covered by bid unit prices: unit prices shall include all direct and indirect costs of the work, including labor, equipment (whether owned or rented), materials, home office expense, all overhead and profit.
 - C. Mutual acceptance of a lump sum: Contractor's lump sum proposal must include an itemized breakdown of all costs of Contractor, subcontractors and suppliers. Breakdowns shall show quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.
 - D. At Owner's option, Contractor may be directed to proceed with additional work on a "time and materials" basis which may also stipulate a maximum "not to exceed" amount. Contractor will be required to maintain and submit detailed records showing all quantities and prices of labor, materials, equipment and other direct costs. To direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.
- 9.2.4 When both additions and credits for related work or substitutions are involved in any one change, the allowance for overhead and profit shall be based on the net change. All related items within a proposal shall be considered as a single item for purposes of computing overhead and profit.
- 9.2.5 When Contractor is directed to proceed on a time and materials basis, costs of the work shall be submitted daily for approval by Project Representative and may only include:
 - Actual payroll costs for employees, as substantiated by certified payroll, in the direct employ of Contractor for the times actually utilized in prosecution of the additional work, including allowance for benefits which Contractor customarily provides its employees;
 - B. The actual substantiated cost to Contractor for all material and equipment incorporated into the work, including transportation and storage expenses;
 - C. The actual substantiated amounts of payments by Contractor to subcontractors for work performed by the subcontractors;
 - D. Any costs of special consultants to the extent authorized by Owner:
 - E. Substantiated equipment rental costs at reasonable market rates;
 - F. Additional supervision and travel costs reasonably related to the work performed;
 - G. Increased bond premiums:
 - H. Additional license fees, permits, or applicable taxes;

I. Minor incidental expenses such as telegrams and long distance telephone charges.

To these direct costs shall be added the allowable combined overhead and profit as provided in ARTICLE 9.4.

- 9.2.6 Unless specifically agreed to by Owner in writing, the cost of additional work shall not include any portion of Contractor's general overhead, nor any sum attributable to Contractor's prosecution and supervision of the principal work at the site, nor any overtime expense, unless specifically agreed to by Owner in writing. Contractor shall not be compensated for any casualty or other losses or expenses attributable to negligence of Contractor or any person in its employ or any subcontractor or supplier.
- 9.2.7 Payment to Contractor shall be made only for the actual quantities of work performed and accepted or materials furnished, in conformance with the contract or applicable change order. When the accepted quantities of work or materials vary from the quantities stated in the bid schedule, Contractor shall accept as payment in full, payment at the original contract unit prices for the quantities of work and materials furnished, completed and accepted; except as provided in the contract documents.

9.3 UNIT PRICES

- 9.3.1 When unit prices are used, and where the final quantity of a major contract item varies more than 25% above or below the bid quantity, either party to the contract may request an equitable adjustment in the contract unit price of that item. A major contract item is an item equal to 10% or more of the total contract.
- 9.3.2 When the final quantity of work is less than 75% of the bid quantity, the equitable adjustment shall be made for those units of work done and accepted, except that the total payment for the item shall not exceed 75% of the total amount bid for the item.
- 9.3.3 To determine unit prices for authorized changes or additions in the work that alter the quantity of work under a lump sum pay item, adjustment to the pay item will be determined by multiplying the added or deleted quantity by the quotient of the contract lump sum price and the estimated quantity shown on the original plans. Payment will be made under a new contract item established for that purpose. Adjustments will be made as a change order to the contract.
- 9.3.4 No allowance shall be made for any increased expenses, loss of expected reimbursement or loss of anticipated profits suffered or claimed, either directly from such alterations in quantities or indirectly from unbalanced allocations among the contract items by Contractor, or any other causes.

9.4 ALLOWABLE OVERHEAD AND PROFIT

- 9.4.1 When the value of change order work is determined by the lump sum method or by the time and materials method, the following definitions and percentages shall apply.
- 9.4.2 Direct costs are defined as the net cost to Contractor to accomplish a given change. Costs of bonds and insurance associated with the change shall be applied after addition of indirect costs.
- 9.4.3 Indirect costs are defined as general operational charges relating to the accomplishment of a given change, including but not limited to small tools, incidental job burdens and general office expense.
- 9.4.4 Overhead and Profit: Allowances for all indirect costs shall be identified as combined overhead and profit and shall not exceed the percentages in the following schedule:

A. Additive work:

- (1) Prime Contractor:
 - (a) 15% of the direct costs of own work in excess of \$1,000.00; 20% when the total value of own work is equal to or less than \$1,000.00.
 - (b) 8% of the direct costs of work performed by subcontractors not including subcontractor's overhead and profit.
 - (c) 8% of the direct costs of equipment.
- (2) Subcontractors: percentages represented in subsections (a) and (b) are a maximum percentage

- allowed regardless of the tier or number of subcontractor(s) performing the work:
- (a) 15% total of the work performed by subcontractors in excess of \$1,000.00; 20% total of the work performed by subcontractor equal to or less than \$1,000.00.
- (b) 8% of the direct costs of equipment.
- (3) In no case shall overhead and profit exceed 23% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work exceeds \$1,000.00. In no case shall overhead and profit exceed 28% of the direct costs of work or 16% of the direct costs of equipment when the cost of the work is equal to or less than \$1,000.00.

B. Deductive work:

(1) Prime Contractor: 4% of the direct cost of deleted own work.

9.5 CONCEALED CONDITIONS

- 9.5.1 This ARTICLE applies only when concealed conditions substantially at variance with the conditions set forth in the contract documents are encountered and these conditions were not foreseeable by Contractor or reasonably inferable from information provided by Architect or Owner in the bidding documents.
- 9.5.2 If it is determined the Contractor could not predict the concealed conditions as set forth under ARTICLE 9.5.1, Owner may issue a change order for the performance of additional work required with an equitable adjustment in the contract sum. Contractor shall not begin work upon any concealed condition until Owner has approved a written change order

ARTICLE 10 TESTING AND CORRECTION OF WORK

10.1 TESTS AND INSPECTIONS

- 10.1.1 Contractor shall be responsible for securing permits and approvals from entities having jurisdiction over the work. Contractor will provide any special testing or inspections required by the contract documents. Contractor shall notify Owner 48 hours prior to performing testing. Contractor shall not cover work that requires testing, inspection or approval until such testing, inspection, or approval has been completed. Owner reserves the right to approve the testing agency.
- 10.1.2 Neither observation by Owner nor inspections, tests, or approvals by Owner or Owner's testing agency shall relieve Contractor from Contractor's obligation to perform the work in accordance with the contract documents.

10.2 UNCOVERING OF WORK

- 10.2.1 If any work is covered or buried contrary to contract requirements or Owner's written request, such work shall be uncovered at Owner's request for inspections, tests or approvals. Uncovering and recovering shall be at Contractor's expense, unless Contractor has given notice of intent to cover the work and Owner has not acted with reasonable promptness to provide any necessary tests, inspections or approvals.
- 10.2.2 If any work has been covered which Owner has not specifically requested to observe prior to covering, or if Owner considers it necessary or advisable that covered work be inspected or tested by others, then Contractor shall, at Owner's request, uncover, expose or otherwise make available for observation, inspection, or testing, that portion of the work as Owner may require. Contractor shall furnish all necessary labor, materials and equipment. If such work is found to be defective, Contractor shall bear all expenses, including compensation for any additional professional services and testing. If, however, the uncovered work is found not to be defective, Contractor shall be allowed an equitable adjustment in the contract price or the contract time. Only Contractor's direct costs attributable to the uncovering of work and its recovering shall be allowed.

10.3 DEFECTIVE WORK

- 10.3.1 All work not meeting the requirements of the contract documents shall be considered defective.
- 10.3.2 Contractor shall promptly correct or replace any defective work. Any and all costs associated with correction or replacement shall be borne by Contractor. Contractor shall also bear the expense of making good all

- work of others destroyed or damaged or required to be redone because of the correction or replacement of defective work.
- 10.3.3 If, after seven (7) days written notice to Contractor, Contractor fails to correct deficiencies or to provide Owner with an approved schedule for correcting defective work, Owner may, without prejudice to any other remedy it may have, make good deficiencies and deduct the cost thereof from the payment then or thereafter due Contractor. No extensions of time shall be allowed for correction of work that is defective.

ARTICLE 11 WARRANTIES

- 11.1 Contractor unconditionally warrants for a period of one year from issuance of the Certificate of Substantial Completion the usability and quality of all work, labor and materials incorporated into the project, unless otherwise provided in the contract documents. After the approval of Final Payment and prior to the expiration of one year after the date of Final Completion, any work found to be defective shall be remedied promptly by Contractor within fourteen (14) days of written notice without cost to Owner and in accordance with Owner's written instructions. Contractor shall either correct such defective work, or, if it has been rejected by Owner, remove it from the site and replace it with acceptable work. If Contractor does not promptly comply with the terms of Owner's instructions, Owner may have the defective work corrected or the rejected work removed and replaced, and all direct and indirect costs of such removal and replacement, including compensation for additional professional services, shall be deducted from Warranty Period Payment, unless the surety elects to remedy deficiency.
- 11.2 In addition to other warranties set forth in this contract and in accordance with requirements stated in the contract documents, Contractor shall obtain and transmit to Architect all warranties on material and equipment incorporated into the work and either provided by the supplier or otherwise required by the contract documents. Transmittal of warranties to Owner shall be a prerequisite of the Certificate of Final Completion.
- 11.3 All material and equipment installed by Contractor shall have a manufacturer's warranty for a period of one year, except as otherwise provided by the contract documents. The period of warranty shall begin on the date of Substantial Completion unless otherwise noted on the Certificate of Substantial Completion. This article does not limit any manufacturer's warranty which extends for a period of time longer than that specified as minimum in the contract documents.
- 11.4 If a warranty period in excess of one year on a particular item or part of the work is required by the contract documents, the longer warranty period shall govern warranty obligations of Contractor.
- 11.5 Owner may accept defective work or materials found during the warranty period instead of requiring correction or removal and replacement. If acceptance occurs prior to approval of final payment, a change order shall be issued to reduce the contract price. If acceptance occurs after approval of final payment, an appropriate amount shall be paid by Contractor to Owner.
- 11.6 The provisions of this ARTICLE shall not be construed as limiting the right of Owner to make a claim against Contractor for work not constructed in accordance with the contract documents. Where a defect attributable to Contractor's or subcontractor's materials or workmanship appears after expiration of the one-year warranty period, Owner shall notify Contractor of the appearance of damages due to defective work or materials and shall offer Contractor the right to replace or repair all defective work and other work using Contractor's forces. If Contractor fails to correct the work and any consequentially damaged work within a reasonable time, or if Contractor refuses to correct the work, Owner may correct the work utilizing Owner's own forces. Contractor shall pay Owner all costs attributable to correction of the defective work and any consequential damages occasioned by the defective work.
- 11.7 Should Owner and Contractor agree to delay completion of any items, the one-year warranty period for those items shall commence upon written acceptance of each item by Owner.

ARTICLE 12 CLAIMS AND LITIGATION

12.1 This contract shall be governed by the laws of the State of Alaska, and any lawsuit brought thereon shall be filed in the Third Judicial District at Kenai, Alaska.

- 12.2 No controversy or claim arising out of this contract shall be subject to binding arbitration unless both Owner and Contractor agree in writing to submit the question to arbitration at the time when the controversy arises.
- 12.3 All claims, disputes and other matters in question between Contractor and Owner relating to the execution or progress of the work shall be referred initially to Project Representative, who shall render a recommendation in writing to Owner within a reasonable time.
- During pendency of any claim arising out of this contract, Contractor shall carry on the work and maintain the Progress Schedule approved by Owner unless otherwise agreed by Contractor and Owner in writing. Should Contractor cease work, Contractor shall be in breach of this contract and Owner shall have the right to terminate the contract and to prosecute the work to completion with Owner's own forces or with a replacement Contractor. Contractor shall be responsible for any increase in costs to Owner above the contract price.
- 12.5 Contractor may make claims for additional costs only if the additional cost involved has occurred because of:
 - A. A change order issued by Owner, where the additional sum due Contractor set forth in the change order is in dispute.
 - B. An order by Owner to stop the work where Contractor was not at fault.
 - C. Concealed conditions as set out in ARTICLE 9.
 - D. Failure of payment by Owner pursuant to ARTICLE 3.
 - E. Additional costs or delays caused by separate contractors' or Owner's forces in accordance with ARTICLE 6.
- 12.6 Contractor shall not make a claim for additional costs where the basis of the claim lies in an oversight or mistake made by Contractor during the bidding process or by reason of negligent acts or omissions of Contractor or any mistake in judgment or improper selection of construction means, methods, sequences and materials during the course of construction.
- 12.7 If Contractor is entitled to make claim for an increase in the contract sum, Contractor shall deliver to Owner written notice of Contractor's intention to assert each claim within twenty (20) days after occurrence of each event giving rise to the claim. Contractor must give this notice of claim and specify the full extent and nature of the claim(s) to Owner before proceeding to execute the work upon which a claim might be asserted. No claim for additional costs or compensation shall be valid unless the prior twenty (20) day notice has been given. Adherence to this provision shall be strict. Any adjustment in the contract sum resulting from settlement of claims shall be authorized by change order.

ARTICLE 13 TERMINATION OF THE CONTRACT OR SUSPENSION OF THE WORK

13.1 TERMINATION BY OWNER

- 13.1.1 Owner shall have the right to terminate the contract if Contractor should file for bankruptcy, reorganization, otherwise be declared insolvent, or if Contractor makes a general assignment for the benefit of creditors. Exercise of these rights, where required by law, is contingent upon relief from the automatic stay provisions of the United States Bankruptcy Court or through other appropriate court order. This right of termination is in addition to the right of Owner to terminate for cause outlined below and other rights of termination as stated in the contract documents.
- 13.1.2 Termination for cause: If Contractor: (1) repeatedly refuses or fails to supply enough proper skilled workmen; or (2) fails to pay promptly all subcontractors, suppliers, or other parties as set out in the contract documents; or (3) fails to adhere in all respects to the provisions of Title 8, Chapter 30, of the Alaska Administrative Code and Title 36 of the Alaska Statutes as applicable to this contract and all other pertinent statutes, ordinances or regulations or orders of any local, state, or federal authority concerning payment; or (4) allows insurance to lapse; or (5) if after seven (7) days written notice, without prejudice to any other remedy of Owner, Contractor fails to correct to Owner's satisfaction deficiencies in work that does not conform to the contract documents; or (6) allows a situation that creates a danger to person or property to arise. Where an emergency situation creating a danger to person or property arises, Owner may at its option terminate the contract and take possession of the site and any of Contractor's equipment and material necessary to complete an emergency response or hire a separate contractor to complete the

emergency response. Contractor shall be paid the contract rate for the material used and shall be paid for the use of Contractor's equipment at the price shown in the contract documents or at the rate for such equipment listed in <u>RENTAL RATE BLUE BOOK FOR CONSTRUCTION EQUIPMENT</u>, published by Machinery Information Division of K-III Directory Corporation, 1735 Technology Drive, Suite 410, San Jose, California 95110. If the rate for such equipment is not so listed, reliable sources will be used to determine a reasonable rate.

- 13.1.3 In the event of termination for cause, Owner shall have the right of set-off, from any payment due Contractor, of all expenses, costs, and damages including but not limited to all professional and legal expenses and attorneys' fees and costs or other additional expenditures necessary to complete the projects that are occasioned by the termination. In the event such amounts exceed the amount of payment withheld, Contractor shall be liable to Owner for such amounts. No payment shall be made to Contractor prior to determination that a balance is due Contractor after the amount of set-off is determined.
- 13.1.4 Owner may terminate this contract at any time for the convenience of Owner for any reason deemed by Owner to be in the best interest of Owner.
- 13.1.5 If this contract is terminated for convenience, Contractor will be directed to make all necessary preparations for closing out the project and for safeguarding Owner's materials and the work already completed. Contractor will be paid for all conforming work done to date and for all materials delivered to the site and already paid for by Contractor, together with all reasonable costs directly attributed to termination, including fixed overhead. Contractor shall be responsible for minimizing the extent of such expenses and shall not be paid for expenses which could have been reasonably avoided. On the date that notice of termination or suspension for convenience is issued, Contractor shall immediately take all actions necessary to stop orders of material, rental of equipment or premises, employment of persons on the project, and shipment of materials not yet delivered to the site. The notice of termination or suspension for convenience shall specify a date by which all steps necessary for termination shall be completed and by which Contractor shall have removed any unused material and all Contractor's equipment and forces. Contractor shall leave the premises in a clean and safe condition on or prior to the date specified in the notice. Owner shall certify that all termination procedures have been completed and that the premises have been turned over to the possession of Owner. Within fifteen (15) days after that certification by Owner, Contractor shall render to Owner a bill for all expenses incurred in termination and for all work done subsequent to the last progress payment. Owner shall pay Contractor all sums properly due, together with any retainage not necessary to cover apparently nonconforming work or other changes, within fifteen (15) working days after the bill has been received by Owner, provided that Owner has received releases for all liens.
- 13.1.6 If Contractor is terminated for cause or default on this contract, the performance bond surety shall commence performance within fourteen (14) days of the termination or default. If the surety does not arrange for or commence performance by that date, Owner shall have the option to complete or arrange for performance and the surety shall not be relieved of any responsibility for payment of costs of performance.
- 13.1.7 Should Owner elect to terminate Contractor's services prior to final completion of the work, such termination shall not affect any rights Owner might assert against Contractor at time of termination or thereafter. Any retention or payment of monies by Owner to Contractor shall not release Contractor from that liability.

13.2 SUSPENSION OF THE WORK

13.2.1 Owner may, at any time and for any reason, suspend the work or any portion of it for a period not to exceed ninety (90) days, by written notice delivered to Contractor thirty (30) days prior to the date fixed for suspension. The notice of suspension shall fix the date on which the work is to be resumed and Contractor shall resume the work on the date so fixed. Equitable adjustment in the contract price, the contract time, or both shall be made for cost or delay directly attributable to suspension of the work.

13.3 TERMINATION BY CONTRACTOR

13.3.1 If through no act or fault of Contractor, Owner orders a suspension of work for a period of more than ninety (90) days, Contractor may, upon thirty (30) days written notice to Owner, terminate this contract and recover from Owner payment for work accepted to date plus purported overhead and profit in the manner provided in ARTICLE 9.4. Contractor shall also have the right to terminate this contract if Owner fails within forty-

five (45) days to pay amounts properly due Contractor for satisfactorily accomplished work, so certified by Project Representative, as due and payable. The provisions of this section do not include amounts ordinarily retained from Contractor's Application for Payment or amounts retained because of unsatisfactory, defective, or incomplete work, or for any other reason provided in the contract documents.

ARTICLE 14 MISCELLANEOUS PROVISIONS

- 14.1 Whenever any provision of the contract documents requires written notice, such notice shall be deemed to have been given and binding when given by certified mail to the respective party at the address provided in the Legal Notice provision of the agreement section of the contract documents.
- 14.2 Neither party may assign this contract without the written consent of the other party and Contractor may not delegate duties under this contract other than as provided in the contract documents without the prior written consent of Owner.
- In the event a provision of the contract documents is found to be unenforceable or void for any reason, it shall be considered as severed from the contract documents, and the remaining portions of the contract documents shall stand as if that provision had never been included in the contract documents. In the event the unenforceable or void provision is legally essential to the continuing existence of the contract, the parties shall attempt to substitute a reasonable replacement provision.
- 14.4 No general condition stated in these provisions or other provision in the contract documents lessens, alters, or makes inapplicable the requirement for indemnification stated in ARTICLE 4.13. In the event of conflict between any contract provisions, the requirements set out in ARTICLE 4.13 control.

END GENERAL CONDITIONS

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PERFORMANCE BOND

DW ALL MEN BY THESE PRESENTS: that
(Name of Contractor)
(Address of Contractor)
, hereinafter called Principal, and principal, and principal, and principal, and principal, and principal, and principal princ
orporation, Partnership, or Individual)
(Name of Surety)
(Address of Surety)
einafter called Surety, are held and firmly bound unto
(Name of Owner)
(Address of Owner)
Dollar called Owner, in the penal sum of Dollar) in lawful money of the United States, for the payment of which sum well and true made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmnese presents.
E CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a certain contract working of the construction of:
0 Kenai City Dock Repairs Project

NOW, THEREFORE, if the Principal shall well, truly and faithfully perform its duties, all the undertakings, covenants, terms, conditions, and agreements of said contract during the original term thereof, and any extensions thereof which may be granted by the Owner, with or without notice to the Surety, and if he shall satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the Owner from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and repay owner all outlay and expense which the owner may incur in making good any default, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

		executed in three (3) counterparts, each o	one of which shall be deemed
an original, this	the day of	, 202	
		(Principal)	(SEAL)
		(Fillicipal)	(SEAL)
		(Principal Secretary)	
ATTEST:			
ATTEST.		BY	
(Witness as to	Princinal)	(Address)	
(With 655 do to	Πιοιραί	(/1001000)	
(Addross)			
(Address)			
		.,	
		(Surety)	(SEAL)
ATTEST:		BY(Attorney-in-Fact)	
		(Attorney-in-Fact)	
			
(Witness as to	Surety)	(Address)	
(Address)			
NOTE: If Contr	ractor is Partnership, all partn	ers should execute bond.	
IMPORTANT:	Surety companies executing bond	ds must appear on the Treasury Department's insact business in the State where the project is loc	most current list (Circular 570 as
	amonucuj anu pe authonizeu to tid	moder pasiness in the state where the project is 100	balba.

PAYMENT BOND

(Name of Contractor)	
(Address of Contractor)	
a, hereinafter called Principal, and (Corporation, Partnership, or Individual)	
(Name of Surety)	
(Address of Surety)	
hereinafter called Surety, are held and firmly bound unto	
(Name of Owner)	
(Address of Owner)	
hereinafter called Owner, in the penal sum of	
THE CONDITIONS OF THIS OBLIGATION is such that whereas, the Principal entered into a the Owner, dated the day of, 202_, a copy of which is hereto attachereof for the construction of:	
2020 Kenai City Dock Repairs Project	

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms, subcontractors, and corporations furnishing materials for or performing labor in the prosecution of the work provided for in such contract, and any authorized extension or modification thereof, including all amounts due for materials lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or used in connection with the construction of said work, and all insurance premiums on said work, and for all labor, performed in such work whether by subcontractor or other-wise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the contract or to the work to be performed thereunder or the specifications accompanying the same shall in any ways affects its obligation on this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the contract or to the work or to the specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, who claims may be unsatisfied.

IN WITNESS WHEREOF, this instrument is execu		ach one of which shall be deemed
an original, this the day of	, 202	
	(Principal)	(SEAL)
	(Principal Secretary)	
ATTEST:	BY	
(Witness as to Principal)	(Address)	
(Address)		
	(Surety)	(SEAL)
ATTEST:	BY(Attorney-in-Fa	act)
(Witness as to Surety)	(Address)	
(Address)		
NOTE: If Contractor is Partnership, all partners s	should execute bond.	
IMPORTANT: Surety companies executing bonds mu	ust appear on the Treasury Departme	ent's most current list (Circular 570 a

CONTRACTOR'S RELEASE AND AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS ("Release")

PROJECT NAME: 2020 Kenai City Dock Repairs

The undersigned, being first duly sworn, deposes and says:	
1. That pursuant to this contract for project between undersigned and the City of Kenai dated the undersigned hereby certifies to except as listed below, he has paid in full or has otherwise satisfied all obligations for mate and equipment furnished for all work, labor, and services performed and for all kn indebtedness and claims for which the Contractor or the City of Kenai is or may become liab connection with performance under this contract. The Contractor warrants that he has m diligent search and inquiry to determine the existence of any such claim, debt, or liability and all such obligations, whether liquidated, unliquidated, or disputed, have been satisfied.	rials own le in ade
2. The Contractor further certifies he did not extend any loan, gratuity, or gift of money of form whatsoever to any employee or agent of the City, that he did not rent or purchase equipment or materials from any employee of the City, nor to the best of his knowledge, from agent of any employee of the City, and that he has not made any promise to an employe agent of the City to do or undertake any such action after completion of the subject contract.	any any e or
3. Pursuant to the above-described contract and in consideration of the final payment in amount of \$, the undersigned Contractor hereby releases and discharges City of Kenai, its officers, agents and employees of and from any and all further claim, charge, demand, liability, or other obligation whatsoever under or arising from said contractor whether known or unknown and whether or not ascertainable at the time of the execution of instrument. This release is complete, final, binding and irrevocable.	the lebt, ract,
4. The Contractor shall indemnify, defend, save and hold the City, its elected and appoint officers, agents and employees, harmless from any and all claims, demands, suits, or liability any nature, kind or character including costs, expenses, and attorneys fees resulting from Contractor or Contractor's officers, agents, employees, partners, attorneys, suppliers, subcontractors' performance or failure to perform this Agreement in any way whatsoever. defense and indemnification responsibility includes claims alleging acts or omissions by the or its agents which are said to have contributed to the losses, failure, violations, or dama. However, Contractor shall not be responsible for any damages or claim arising from the negligence or willful misconduct of the City, its agents, or employees. Contractor subcontractors shall also not be required to defend or indemnify the City for damage or loss has been found to be attributed to an independent contractor directly responsible to the City un separate written contract.	ty of rom and This City age. sole and that

CONTRACTOR'S RELEASE AND AFFIDAVIT OF PAYMENTS OF DEBTS AND CLAIMS ("Release")

If any portion of this Release is voided by law or court of competent jurisdiction, the remainder of this Release shall remain in full force and effect. IN WITNESS WHEREOF, this Release has been executed this __day of ______, 2020. (Contractor's signature) Title **ACKNOWLEDGMENT** STATE OF ALASKA SS THIRD JUDICIAL DISTRICT THIS IS TO CERTIFY that on this _____ day of _____, 2020_, before the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared _____ having produced satisfactory evidence of identification, and having acknowledged the voluntary and authorized execution of the foregoing instrument for the purposes therein mentioned, executed the above and foregoing instrument. Notary Public for Alaska My Commission Expires: _____

(NOTE: In case of a corporation, the attached Certificate of Authority must be completed by a

corporate officer other than the one who signs above.)



CONSENT OF SURETY COMPANY TO FINAL PAYMENT

PRO	JECT:
CON	TRACT DATE:
CON	TRACTOR:
TO:	CITY OF KENAI, OWNER 210 Fidalgo Avenue Kenai, AK 99611 Attn: Public Works Department
	cordance with the provisions of the above-referenced Contract between Owner, City mai, and Contractor, Surety (insert name and address of Surety),
	hereby consent to and approve of the final payment to Contractor in the amount of, and in the case of Surety, it is further agrees as follows:
repres	In giving this Consent, Surety has made its own investigation to determine her said payment should be made to Contractor and Surety has not relied on any sentation by the City of Kenai or its employees or agents which has induced it to ent to such payment.
2.	Surety agrees that this payment shall not relieve Surety of any of its obligations to

the City of Kenai as set forth in its Labor and Material Payment and Performance Bonds

and Surety waives any and all claims against Contractor.	ity of Kenai for wrongful release of funds
IN WITNESS WHEREOF, said Surety Comparation, 20	ny has set its hand this day of
	(Surety)
	(Signature of authorized representative)
	(Printed name and title)
ACKNOWI	LEDGMENT
STATE OF	
, Title:	day of, 20
(Surety), being personally known to me or identification, appeared before me and acknowled of the foregoing instrument.	
	Notary Public for
	My Commission Expires:

NOTE TO SURETY: ATTACH PROOF OF POWER OF ATTORNEY OR OTHER DOCUMENTATION DEMOSTRATING SIGNATORY MAY BIND SURETY

SAMPLE

Alaska Department of Commerce, Community, and Economic Development P.O. Box 110806, Juneau, Alaska 99811-0806

ALASKA BUSINESS LICENSE
The licensee named below holds Alaska Business License Number
Covering the period of: through Line of Business:
<u> </u>
COMPANY NAME
ADDRESS
Owner: NAME OF OWNER
This license shall not be taken as permission to do business in the state without having complied with
The other requirements of the laws of the State of Alaska or of the United States.
Alaska Department of Commerce, Community, and Economic Development Commissioner:
This license must be posted in a conspicuous place at the business location. It is not transferable or assignable.
SAMPLE
No STATE OF ALASKA
Effective:
Expires: DEPARTMENT OF COMMERCE, COMMUNITY & ECONOMIC DEVELOPMENT
Division of Occupational Licensing
Division of Occupational Licensing
Certifies that
COMPANY NAME
Is a Registered
Specialty

Commissioner:

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CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(les) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy certain policies may require an endorsement. A statement on this certificate does not confer rights to the

PRODUCER		CONTACT NAME:	312		
		PHONE (A/C, No. Ext):	FAX (A/C, No):	(C) (B	
		E-MAIL ADDRESS:			
		INSURER(S) AI	FFORDING COVERAGE	NAIC #	
		INSURER A		:	
INSURED		INSURER B:			
		INSURER C:			
		INSURER D:			
		INSURER E :			
		INSURER F:			
COVERAGES	CERTIFICATE NUMBER:		REVISION NUMBER:		
INDICATED, NOTWITH	HAT THE POLICIES OF INSURANCE LISTED BELOW STANDING ANY REQUIREMENT, TERM OR CONDITI ISSUED OR MAY PERTAIN, THE INSURANCE AFFO	ON OF ANY CONTRACT OR OTHE	ER DOCUMENT WITH RESPECT TO	WHICH THIS	

EXCLUSIONS AND CONDITIONS OF SUCH POLICIES, LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSF	TYPE OF INSURANCE	ADD	SUBR		POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMIT	s	
(GENERAL LIABILITY X COMMERCIAL GENERAL LIABILITY							EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence)	\$	1,000,000
A	SHAME MADE K OCCUR	х	х	7				MED EXP (Any one person)	\$	5,000
			+-					PERSONAL & ADV INJURY	\$	1,000,000
								GENERAL AGGREGATE	\$	2,000,000
	GEN'L AGGREGATE LIMIT APPLIES PER:							PRODUCTS - COMP/OP AGG	\$	2,000,000
	X POLICY PRO-								5	
	AUTOMOBILE LIABILITY							COMBINED SINGLE LIMIT (Ea accident)	\$	1,000,000
A	X ANY AUTO		-					BODILY INJURY (Per person)	\$	<u> </u>
12	ALL OWNED SCHEDULED AUTOS	X	X				a a	BODILY INJURY (Per accident)	\$	
	HIRED AUTOS NON-OWNED AUTOS	-	-					PROPERTY DAMAGE (Per accident)	\$	
								Underinsured motorist	\$	1,000,000
	X UMBRELLA LIAB OCCUR							EACH OCCURRENCE	\$	
A	EXCESS LIAB CLAIMS-MADE							AGGREGATE	\$	4,000,000
	DED TRETENTIONS 10,000				170-170 July 190 July				\$	
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			1000000				X WC STATU- OTH-		
	ANY PROPRIETOR PARTNER/EXECUTIVE	N/A				i.		E.L. EACH ACCIDENT	\$	1,000,000
	OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	1	'			pa		E.L. DISEASE - EA EMPLOYEE	\$	1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below		X					E.L. DISEASE - POLICY LIMIT	\$	1,000,000

DESCRIPTION OF OPERATIONS (LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

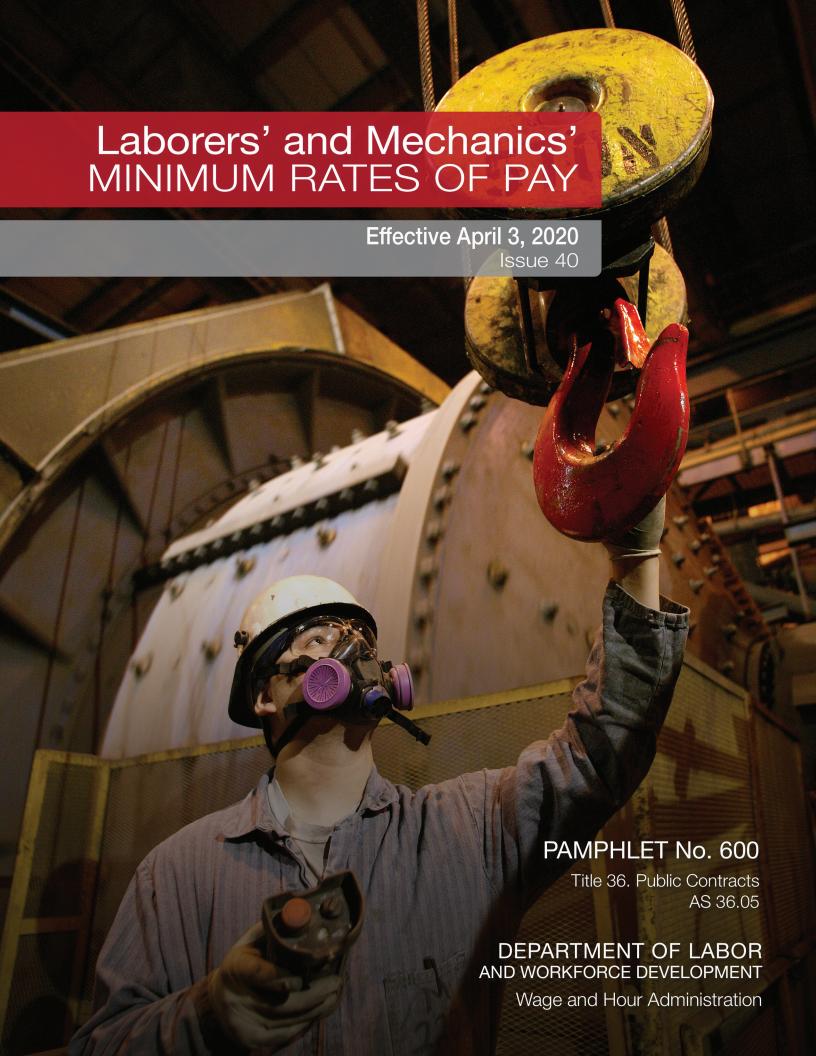
Re: PROJECT NAME

Certificate Holder is an Additional Insured on General Liability & Automobile policies, but only with respect to work done by or on behalf or the named insured for the project referenced. The Certificate Holder is granted Waiver of Subrogation on the General Liability, Automobile and Workers' Compensation policies as respects the referenced project

CERTIFICATE HOLDER	CANCELLATION
City of Kenai	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
210 Fidalgo Ave Kenai, AK 99611	AUTHORIZED REPRESENTATIVE

ACORD 25 (2010/05)

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Department of Labor and Workforce Development

Office of the Commissioner

Post Office Box 111149 Juneau, Alaska 99811 Main: 907.465.2700 fax: 907.465-2784

April 3, 2020

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development, our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wage.

This pamphlet identifies current prevailing wage rates for public construction contracts (any construction projects awarded for the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations). Because these rates may change in a subsequent determination, please be sure you are using the appropriate rates. The rates published in this edition become effective April 3, 2020.

The prevailing wage rates contained in this pamphlet are applicable to public construction projects with a final bid date of April 13, 2020, or later. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The 24-month period begins on the date the prime contract is awarded.** Upon expiration of the initial 24-month period, the <u>latest</u> wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

The term "original contract" means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet go to: http://labor.state.ak.us/lss/pamp600.htm

For questions regarding prevailing wage or employment preference requirements, please contact the nearest Wage and Hour office. These offices are listed on Page x.

Sincerely,

Dr. Tamika L. Ledbetter

Commissioner

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Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of current laws and regulations, please refer to the official codes.

EXCERPTS FROM ALASKA LAW

Sec. 36.05.005. Applicability.

This chapter applies only to a public construction contract that exceeds \$25,000.

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

- (a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.
- (b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.
- (c) A contracting agency
 - (1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that
 - (A) the primary contractor has complied with (a) and (b) of this section;
 - (B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and
 - (C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

- (2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.
- (d) The notice and filing fee required under (a) of this section may be filed after work has begun if
 - (1) The public construction contract is for work undertaken in immediate response to an emergency; and
 - (2) The notice and fees are filed not later than 14 days after the work has begun.
- (e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than \$100 nor more than \$1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

- (a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.
- (b) Repealed by §17 ch 142 SLA 1972.
- (c) A public construction contract under (a) of this section must contain provisions that
 - (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
 - (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
 - (3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
 - (4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between
 - (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
 - (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

- (a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.
- (b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or

subcontractor on a public construction contract for the state or a political subdivision of the state until three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

Sec. 36.05.900. Definition.

In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

EXCERPTS FROM ALASKA ADMINISTRATIVE CODE

- ***Notice: Regulations relating to board and lodging and per diem went into effect on November 25, 2018. The new regulations are excerpted here***
- **8 AAC 30.051. Purpose.** The purpose of 8 AAC 30.052 8 AAC 30.056 is to ensure that wages paid to laborers, mechanics, and field surveyors do not fall below the prevailing rate of pay.
- **8 AAC 30.052. Board and lodging; remote sites.** (a) A contractor on a public construction project located 65 or more road miles from the international airport closest to the project area in either Fairbanks, Juneau, or Anchorage, or that is inaccessible by road in a two-wheel drive vehicle, shall provide adequate board and lodging to each laborer, mechanic, or field surveyor while the person is employed on the project. If commercial lodging facilities are not available, the contractor shall provide temporary lodging facilities. Lodging facilities must comply with all applicable state and federal laws. For a highway project, the location of the project is measured from the midpoint of the project.
- (b) A contractor is not required to provide board and lodging:
 - (1) to a laborer, mechanic, or field surveyor who is a domiciled resident of the project area; or
 - (2) on a laborer, mechanic, or field surveyor's scheduled days off, when the person can reasonably travel between the project and the person's permanent residence; for the purposes of this paragraph, "scheduled day off" means a day in which a person does not perform work on-site, is not required to remain at or near the job location for the benefit of the contractor, and is informed of the day off at least seven days before the day off.
- (c) Upon a contractor's written request, the commissioner may waive the requirements of (a) of this section where:
 - (1) the project is inaccessible by road in a two-wheel drive vehicle, but the laborer, mechanic, or field surveyor can reasonably travel between the project and the person's permanent residence within one hour; or
 - (2) a laborer, mechanic, or field surveyor is not a domiciled resident of the project area, but has established permanent residence, with the intent to remain indefinitely, within 65 road miles of the project, or for a highway project, the mid-point of the project.
- **8 AAC 30.054. Per diem instead of board and lodging.** (a) A contractor may pay a laborer, mechanic, or field surveyor per diem instead of providing board and lodging, when the following conditions are met:
 - (1) the department determines that per diem instead of board and lodging is an established practice for the work classification; the department shall publish and periodically revise its determinations in the pamphlet Laborers' and Mechanics' Minimum Rates of Pay;
 - (2) the contractor pays each laborer, mechanic, or field surveyor the appropriate per diem rate as published and periodically revised in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*; and

- (3) the contractor pays the per diem to each laborer, mechanic, or field surveyor on the same day that wages are paid.
- (b) A contractor may not pay per diem instead of board and lodging on a highway project located
 - (1) west of Livengood on the Elliot Highway, AK-2;
 - (2) on the Dalton Highway, AK-11;
 - (3) north of milepost 20 on the Taylor Highway, AK-5;
 - (4) east of Chicken on the Top of the World Highway; or
 - (5) south of Tetlin Junction to the Alaska-Canada border on the Alaska Highway, AK-2.

8 AAC 30.056. Alternative arrangement. Upon a contractor's written request, the commissioner may approve an alternative board and lodging or per diem arrangement, provided

- (1) the arrangement does not reduce the laborer, mechanic, or field surveyor's wages below the prevailing wage rate; and
- (2) the laborer, mechanic, or field surveyor voluntarily enters into and signs the written arrangement; a labor organization representing laborers, mechanics, or field surveyors may enter into the written agreement on their behalf.

8 AAC 30.900. General definitions (selected excerpts only):

In this chapter and in AS 36

- (22) "domiciled resident" means a person living within 65 road miles of a public construction project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the public construction project;
- (23) "employed on the project" means the time period from the date the laborer, mechanic, or field surveyor first reports on-site to the project through the final date the person reports on-site to the project.

ADDITIONAL INFORMATION

PER DIEM

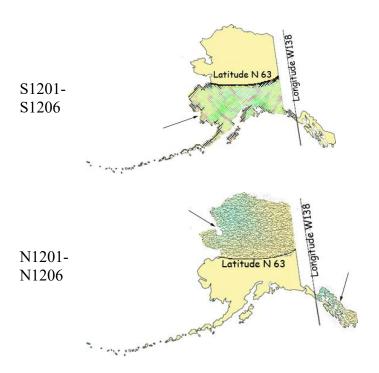
Notice: New regulations relating to board and lodging and per diem went into effect on November 25, 2018. The regulations provide a comprehensive set of requirements for the provision of board and lodging or per diem for workers on remote projects. Please refer to Alaska Administrative Code 8 AAC Chapter 30 and read the chapter carefully.

The Alaska Department of Labor and Workforce Development has determined that per diem is an established work practice for certain work classifications. These classifications are indicated throughout the Pamphlet by an asterisk (*) under the classification title. If all of the conditions of 8 AAC 30.054 are met, an employer may pay workers in these classifications per diem instead of providing board and lodging on a remote project.

Per Diem Rate: As of May 1st, 2019, the minimum per diem rate is \$100.00 per day, or part thereof, the worker is employed on the project. In the event that a contractor provides lodging facilities, but no meals, the department will accept a payment of \$48 per day for meals to meet the per diem requirements.

LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:



APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing or according to a bona fide apprenticeship program registered with the U.S. Department of Labor, Office of Apprenticeship Training. Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification. Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer's certification must include, in addition to those requirements of <u>8 AAC 30.020(c)</u>, a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of <u>8 AAC 30.025</u> (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under <u>8 AAC 30.050(a)</u> of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner <u>at least 30 days before the award of the contract</u>. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

- (1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
- (2) a brief narrative explaining why special wage rates are necessary;
- (3) the job class or classes involved;
- (4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
- (5) the approximate number of employees who would be affected; and
- (6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
P.O. Box 111149
Juneau, AK 99811-1149

Email: statewide.wagehour@alaska.gov

EMPLOYMENT PREFERENCE INFORMATION

In October 2019, the Alaska Attorney General issued a formal opinion stating that the Alaska Statutes 36.10.150 of the State's 90% Employment Preference law, also known as the Alaska Resident Hire law, violates both the U.S. and Alaska Constitutions. As a result, the state has stopped all enforcement activity. A copy of the Attorney General opinion is found here:

http://law.alaska.gov/pdf/opinions/opinions 2019/19-005 AK-hire.pdf

Alaska Department of Labor and Workforce Development Labor Standards and Safety Division Wage and Hour Administration

Web site: http://labor.state.ak.us/lss/pamp600.htm

Anchorage	Juneau	Fairbanks
1251 Muldoon Road, Suite 113	PO Box 111149	Regional State Office Building
Anchorage, Alaska 99504-2098	Juneau, Alaska 99811	675 7 th Ave., Station J-1
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LABOR STANDARDS AND SAFETY NOTICE REQUESTS

If you would like to receive Wage and Hour Administration or Mechanical Inspection **regulation notices** or **publications information**, they are available via electronic mail, by signing up in the GovDelivery System, https://public.govdelivery.com/accounts/AKDOL/subscriber/new and selecting topics LSS – Wage and Hour – Forms and Publications, LSS – Mechanical Inspection Regulations, or LSS – Wage and Hour Regulations.

Publications are also available online at http://labor.alaska.gov/lss/home.htm

DEBARMENT LIST

<u>AS 36.05.090(b)</u> states that "the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees."

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

Company Name	<u>Debarment Expires</u>
Tim Banach, Individual	February 23, 2021
Boulder Creek Electric	February 23, 2021

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR H&	w PEN	N TRN	Other 1	Benefits	THR
Boiler	makers						
*	*See per diem note on last page						
A0101	Boilermaker (journeyman)	46.08 8.5	57 16.7	2 1.65	VAC 3.50	SAF 0.34	76.86
Brickl	ayers & Blocklayers						
*	*See per diem note on last page						
A0201	Blocklayer	42.13 9.8	33 8.50	0.55	L&M 0.15	0.87	62.03
	Bricklayer Marble or Stone Mason Refractory Worker (Firebrick, Plastic, Castable, and Gunite Refractory Applications) Terrazzo Worker Tile Setter						
4.0202	Tuck Pointer Caulker	42.13 9.8	02 050	0.55	L&M 0.15	0.97	62.03
A0202	Cleaner (PCC)	42.13 7.0	55 6.50	0.33	L&M	0.07	02.03
A0203	Marble & Tile Finisher	35.96 9.8	83 8.50	0.55	0.15	0.87	55.86
A0204	Terrazzo Finisher Torginal Applicator	40.10 9.8	83 8.50	0.55	L&M 0.15	0.87	60.00
C	return Darier I (North of (2 let'te le)						
_	nters, Region I (North of 63 latitude) *See per diem note on last page						
N0301	Carpenter (journeyman)	38.34 10.	08 15.2	3 1.10	L&M 0.10	SAF 0.10	64.95
	Lather/Drywall/Acoustical						
_	nters, Region II (South of N63 latitude) *See per diem note on last page						
S0301	Carpenter (journeyman)	38.34 10.	08 15.7	7 1.10	L&M 0.10	SAF 0.10	65.49
	Lather/Drywall/Acoustical						
	nt Masons *See per diem note on last page						
	bee per them note on rast page						

Class Code	Classification of Laborers & Mechanics	BHR H&W PEN TRN Other	r Benefits THR
	nt Masons		
	*See per diem note on last page		
A0401	Group I, including:	38.38 8.70 11.80 1.43 0.10	
	Application of Sealing Compound Application of Underlayment Building, General Cement Mason (journeyman) Concrete Concrete Paving Curb & Gutter, Sidewalk Curing of All Concrete Grouting & Caulking of Tilt-Up Panels Grouting of All Plates Patching Concrete		
	Screed Pin Setter Spackling/Skim Coating		
A0402	Group II, including:	38.38 8.70 11.80 1.43 0.10	
	Form Setter		
A0403	Group III, including:	38.38 8.70 11.80 1.43 0.10	
	Concrete Saw (self-powered) Curb & Gutter Machine Floor Grinder Pneumatic Power Tools Power Chipping & Bushing Sand Blasting Architectural Finish Screed & Rodding Machine Operator Troweling Machine Operator		<i>-</i>
<u>A0404</u>	Group IV, including:	38.38 8.70 11.80 1.43 0.10	
	Application of All Composition Mastic Application of All Epoxy Material Application of All Plastic Material Finish Colored Concrete Gunite Nozzleman Hand Powered Grinder Tunnel Worker		
A 0405	Group V, including:	L&N 38.38 8.70 11.80 1.43 0.10	
AUTUS	oroup v, menaning.	56.56 6.70 11.00 1.75 0.10	00.71

Plasterer

Class Code Classification of Laborers & Mechanics	BHR H&W PEN TRN	Other l	Benefits	THR
Culinary Workers				
A0501 Baker/Cook	28.37 7.31 7.56	LEG		43.24
A0503 General Helper	25.05 7.31 7.56	LEG		39.92
Housekeeper Janitor				
Kitchen Helper A0504 Head Cook	28.97 7.31 7.56	LEG		43.84
A0505 Head Housekeeper	25.45 7.31 7.56	LEG		40.32
Head Kitchen Help				
*See per diem note on last page				
A0601 Assistant Engineer	40.76 10.35 13.00 1.00	L&M 0.10	0.05	65.26
Craneman Electrical Generator Operator (primary pump/power barge/dredge) Engineer Welder				
A0602 Assistant Mate (deckhand)	39.60 10.35 13.00 1.00	L&M 0.10	0.05	64.10
A0603 Fireman	40.04 10.35 13.00 1.00	L&M 0.10	0.05	64.54
A0605 Leverman Clamshell	43.29 10.35 13.00 1.00	L&M 0.10	0.05	67.79
A0606 Leverman Hydraulic	41.53 10.35 13.00 1.00	L&M 0.10	0.05	66.03
A0607 Mate & Boatman	40.76 10.35 13.00 1.00	L&M 0.10	0.05	65.26
A0608 Oiler (dredge)	40.04 10.35 13.00 1.00	L&M 0.10	0.05	64.54
Electricians *See per diem note on last page				
A0701 Inside Cable Splicer	41.27 13.90 13.88 0.95	L&M 0.20	LEG 0.15	70.35

Class Code	Classification of Laborers & Mechanics	BHR H&W F	PEN	TRN	Other I	Benefits	THR
Electri	icians						
*	See per diem note on last page						
A0702	Inside Journeyman Wireman, including:	40.94 13.90 1	4.12	0.95	L&M 0.20	LEG 0.15	70.26
	Technicians (including use of drones in electrical construction)						
<u>A0703</u>	Power Cable Splicer	57.79 13.90 1	8.92	0.95	L&M 0.20	LEG 0.15	91.91
A0704	Tele Com Cable Splicer	50.53 13.90 1	6.17	0.95	L&M 0.20	LEG 0.15	81.90
A0705	Power Journeyman Lineman, including:	56.04 13.90 1	8.87	0.95	L&M 0.20	LEG 0.15	90.11
	Power Equipment Operator Technician (including use of drones in electrical construction)						
A0706	Tele Com Journeyman Lineman, including:	48.78 13.90 1	6.11	0.95	L&M 0.20	LEG 0.15	80.09
	Technician (including use of drones in telecommunications construction) Tele Com Equipment Operator						
A0707	Straight Line Installer - Repairman	48.78 13.90 1	6.11	0.95	L&M 0.20	LEG 0.15	80.09
A0708	Powderman	54.04 13.90 1	8.81	0.95	L&M 0.20	LEG 0.15	88.05
<u>A0710</u>	Material Handler	26.57 13.33 4	4.80	0.15	L&M 0.15	LEG 0.15	45.15
A0712	Tree Trimmer Groundman	28.37 13.90 1	2.59	0.15	L&M 0.15	LEG 0.15	55.31
A0713	Journeyman Tree Trimmer	37.30 13.90 1	2.86	0.15	L&M 0.15		64.51
A0714	Vegetation Control Sprayer	40.85 13.90 1	2.97	0.15	L&M 0.15	LEG 0.15	68.17
<u>A0715</u>	Inside Journeyman Communications CO/PBX	39.52 13.90 1	3.83	0.95	L&M 0.20	LEG 0.15	68.55
	or Workers See per diem note on last page						
A0802	Elevator Constructor	41.38 15.73 1	8.41	0.63	L&M 0.48		81.22
A0803	Elevator Constructor Mechanic	59.11 15.73 1	8.41	0.63	L&M 0.48		100.92

Class Code Classification of Laborers & Mechanics	BHR H&W	PEN	TRN	Other E	Benefits	тнь
Ieat & Frost Insulators/Asbestos Workers						
*See per diem note on last page						
				SAF		
.0902 Asbestos Abatement-Mechanical Systems	38.68 9.24	11.01	1.20	0.12		60.2
•						
.0903 Asbestos Abatement/General Demolition All Systems	38.68 9.24	11.01	1.20	SAF 0.12		60.2
10903 Asbestos Abatement/General Demontion All Systems	36.06 9.24	11.01	1.20	0.12		60.2
				SAF		
.0904 Insulator, Group II	38.68 9.24	11.01	1.20	0.12		60.2
				SAF		
.0905 Fire Stop	38.68 9.24	11.01	1.20	0.12		60.2
ronWorkers						
*See per diem note on last page						
				L&M	IAF	
1101 Ironworkers, including:	38.75 9.03	22.88	0.72	0.20	0.36	71.9
<u>-</u>						
Bender Operators						
Bridge & Structural						
Hangar Doors						
Hollow Metal Doors						
Industrial Doors						
Machinery Mover						
Ornamental						
Reinforcing						
Rigger						
Sheeter						
Signalman						
Stage Rigger						
Toxic Haz-Mat Work						
Welder						
				L&M	IAF	
.1102 Helicopter	39.75 9.03	22.88	0.72	0.20	0.36	72.9
T						
Tower (energy producing windmill type towers to include nacelle and blades)						
blades)				L&M	IAF	
1103 Fence/Barrier Installer	35.25 9.03	22 53	0.72	0.20	0.36	68.0
True Tence Burner Insuner	33.23 7.03	22.33	0.72	0.20	0.50	00.0
				L&M	IAF	
1104 Guard Rail Layout Man	35.99 9.03	22.53	0.72	0.20	0.36	68.8
				L&M	IAF	
1105 Guard Rail Installer	36.25 9.03	22.53	0.72	0.20	0.36	69.0

*See per diem note on last page

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

L&M LEG

N1201 Group I, including:

31.71 8.95 17.81 1.30 0.20 0.20 60.17

Asphalt Worker (shovelman, plant crew)

Brush Cutter

Camp Maintenance Laborer

Carpenter Tender or Helper

Choke Setter, Hook Tender, Rigger, Signalman

Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)

Crusher Plant Laborer

Demolition Laborer

Ditch Digger

Dumpman

Environmental Laborer (hazard/toxic waste, oil spill)

Fence Installer

Fire Watch Laborer

Flagman

Form Stripper

General Laborer

Guardrail Laborer, Bridge Rail Installer

Hydro-seeder Nozzleman

Laborer, Building

Landscaper or Planter

Laying of Mortarless Decorative Block (retaining walls, flowered

decorative block 4 feet or less - highway or landscape work)

Material Handler

Pneumatic or Power Tools

Portable or Chemical Toilet Serviceman

Pump Man or Mixer Man

Railroad Track Laborer

Sandblast, Pot Tender

Saw Tender

Slurry Work

Steam Cleaner Operator

Steam Point or Water Jet Operator

Storm Water Pollution Protection Plan Worker (SWPPP Worker -

erosion and sediment control Laborer)

Tank Cleaning

Utiliwalk & Utilidor Laborer

Watchman (construction projects)

Window Cleaner

N1202 Group II, including:

L&M LEG

32.71 8.95 17.81 1.30 0.20 0.20 61.17

Burning & Cutting Torch

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

L&M LEG

N1202 Group II, including:

32.71 8.95 17.81 1.30 0.20 0.20 61.17

Cement or Lime Dumper or Handler (sack or bulk)

Certified Erosion Sediment Control Lead (CESCL Laborer)

Choker Splicer

Chucktender (wagon, air-track & hydraulic drills)

Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman,

vibratorman)

Culvert Pipe Laborer

Cured Inplace Pipelayer

Environmental Laborer (asbestos, marine work)

Floor Preparation, Core Drilling

Foam Gun or Foam Machine Operator

Green Cutter (dam work)

Gunite Operator

Hod Carrier

Jackhammer/Chipping Gun or Pavement Breaker

Laser Instrument Operator

Laying of Mortarless Decorative Block (retaining walls, flowered

decorative block over 4 feet - highway or landscape work)

Mason Tender & Mud Mixer (sewer work)

Pilot Car

Pipelayer Helper

Plasterer, Bricklayer & Cement Finisher Tender

Powderman Helper

Power Saw Operator

Railroad Switch Layout Laborer

Sandblaster

Scaffold Building & Erecting

Sewer Caulker

Sewer Plant Maintenance Man

Thermal Plastic Applicator

Timber Faller, Chainsaw Operator, Filer

Timberman

L&M LEG

N1203 Group III, including:

33.61 8.95 17.81 1.30 0.20 0.20 62.07

Bit Grinder

Camera/Tool/Video Operator

Guardrail Machine Operator

High Rigger & Tree Topper

High Scaler

Multiplate

Plastic Welding

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
	ers (The Alaska areas north of N63 latitude and east of W138 lon	gitud	e)					
7	See per diem note on last page							
N1203	Group III, including:	33.61	8.95	17.81	1.30	L&M 0.20	LEG 0.20	62.07
	Slurry Seal Squeegee Man							
	Traffic Control Supervisor							
	Welding Certified (in connection with laborer's work)							
						L&M	_	
N1204	Group IIIA	36.89	8.95	17.81	1.30	0.20	0.20	65.35
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayers							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
	Traffic Control Supervisor, DOT Qualified							
N1205	Group IV	21.28	8 05	17.81	1 30	L&M 0.20	0.20	49.74
111203	Group IV	21.20	0.93	17.01	1.50	0.20	0.20	77./7
	Final Building Cleanup							
	Permanent Yard Worker							
N11207	Community HID	10.69	6.24	17.01	1.20	L&M		((12
N1200	Group IIIB	40.08	0.24	17.81	1.30	0.20	0.20	66.43
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)							
	Federal Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours) Stake Hopper							
Labor	ers (The area that is south of N63 latitude and west of W138 long	itude)						
	See per diem note on last page	,						
						L&M	LEG	
S1201	Group I, including:	31.71	8.95	17.81	1.30	0.20	0.20	60.17
	A 1 1 W 1 (1 1 1 1)							

Asphalt Worker (shovelman, plant crew)

Brush Cutter

Camp Maintenance Laborer

Carpenter Tender or Helper

Choke Setter, Hook Tender, Rigger, Signalman

Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)

Crusher Plant Laborer

Demolition Laborer

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

L&M LEG

S1201 Group I, including:

31.71 8.95 17.81 1.30 0.20 0.20 60.17

Ditch Digger

Dumpman

Environmental Laborer (hazard/toxic waste, oil spill)

Fence Installer

Fire Watch Laborer

Flagman

Form Stripper

General Laborer

Guardrail Laborer, Bridge Rail Installer

Hydro-seeder Nozzleman

Laborer, Building

Landscaper or Planter

Laying of Mortarless Decorative Block (retaining walls, flowered

decorative block 4 feet or less - highway or landscape work)

Material Handler

Pneumatic or Power Tools

Portable or Chemical Toilet Serviceman

Pump Man or Mixer Man

Railroad Track Laborer

Sandblast, Pot Tender

Saw Tender

Slurry Work

Steam Cleaner Operator

Steam Point or Water Jet Operator

Storm Water Pollution Protection Plan Worker (SWPPP Worker -

erosion and sediment control Laborer)

Tank Cleaning

Utiliwalk & Utilidor Laborer

Burning & Cutting Torch

Watchman (construction projects)

Window Cleaner

L&M LEG

32.71 8.95 17.81 1.30 0.20 0.20 61.1

S1202 Group II, including:

Cement or Lime Dumper or Handler (sack or bulk)

Certified Erosion Sediment Control Lead (CESCL Laborer)

Choker Splicer

Chucktender (wagon, air-track & hydraulic drills)

Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman,

vibratorman)

Culvert Pipe Laborer

Cured Inplace Pipelayer

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

L&M LEG

S1202 Group II, including:

32.71 8.95 17.81 1.30 0.20 0.20 61.17

Environmental Laborer (asbestos, marine work)

Floor Preparation, Core Drilling

Foam Gun or Foam Machine Operator

Green Cutter (dam work)

Gunite Operator

Hod Carrier

Jackhammer/Chipping Gun or Pavement Breaker

Laser Instrument Operator

Laying of Mortarless Decorative Block (retaining walls, flowered

decorative block over 4 feet - highway or landscape work)

Mason Tender & Mud Mixer (sewer work)

Pilot Car

Pipelayer Helper

Plasterer, Bricklayer & Cement Finisher Tender

Powderman Helper

Power Saw Operator

Railroad Switch Layout Laborer

Sandblaster

Scaffold Building & Erecting

Sewer Caulker

Sewer Plant Maintenance Man

Thermal Plastic Applicator

Timber Faller, Chainsaw Operator, Filer

Timberman

Bit Grinder

L&M LEG

0.20 62.07

0.20 65.35

0.20

33.61 8.95 17.81 1.30

36.89 8.95 17.81 1.30

S1203 Group III, including:

Camera/Tool/Video Operator

Guardrail Machine Operator

High Rigger & Tree Topper

High Scaler

Multiplate

S1204 Group IIIA

Plastic Welding

Slurry Seal Squeegee Man

Traffic Control Supervisor

Welding Certified (in connection with laborer's work)

L&M LEG

0.20

Drill Doctor (in the field)

Asphalt Raker, Asphalt Belly Dump Lay Down

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
Labor	ers (The area that is south of N63 latitude and west of W138 long	<mark>itude)</mark>						
;	See per diem note on last page							
<u>S1204</u>	Group IIIA	36.89	8.95	17.81	1.30	L&M 0.20	LEG 0.20	65.35
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills) Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayers Powderman (Employee Possessor) Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
S1205	Traffic Control Supervisor, DOT Qualified Group IV	21.28	8.95	17.81	1.30	L&M 0.20	LEG 0.20	49.74
<u>S1206</u>	Final Building Cleanup Permanent Yard Worker Group IIIB Driller (including, but not limited to wagon drills, air-track drills,	40.68	6.24	17.81	1.30	L&M 0.20	LEG 0.20	66.43
	hydraulic drills)(over 5,000 hours) Federal Powderman (Responsible Person in Charge) Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones) Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours) Stake Hopper							

Millwrights

*See per diem note on last page

 A1251 Millwright (journeyman)
 37.64 10.08 12.28 1.10 0.40 0.05 61.55

 L&M
 L&M

 A1252 Millwright Welder
 38.64 10.08 12.28 1.10 0.40 0.05 62.55

Painters, Region I (North of N63 latitude)

*See per diem note on last page

N1301 Group I, including: L&M
33.11 8.59 13.50 1.08 0.07 56.35

Brush

General Painter

Hand Taping

Hazardous Material Handler

Lead-Based Paint Abatement

Roll

Class Code	Classification of Laborers & Mechanics	BHR I	H&W	PEN	TRN	Other Benefits	THR
Painte	rs, Region I (North of N63 latitude)						
*	See per diem note on last page						
N1302	Group II, including:	33.63	8.59	13.50	1.08	L&M 0.07	56.87
	Bridge Painter Epoxy Applicator General Drywall Finisher Hand/Spray Texturing Industrial Coatings Specialist Machine/Automatic Taping Pot Tender Sandblasting Specialty Painter Spray Structural Steel Painter Wallpaper/Vinyl Hanger						
N1304	Group IV, including:	39.76	8.59	16.37	1.05	0.05	65.82
	Glazier Storefront/Automatic Door Mechanic						
N1305	Group V, including:	28.75	8.59	5.02	0.83	0.07	43.26
Painte	Carpet Installer Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer rs, Region II (South of N63 latitude)						
*	See per diem note on last page						
S1301	Group I, including:	30.45	8.59	14.15	1.08	L&M 0.07	54.34
	Brush General Painter Hand Taping Hazardous Material Handler Lead-Based Paint Abatement Roll Spray						
S1302	Group II, including:	31.70	8.59	14.15	1.08	L&M 0.07	55.59
	General Drywall Finisher Hand/Spray Texturing Machine/Automatic Taping						

Class Code	Classification of Laborers & Mechanics	BHR H&W	PEN	TRN	Other B	Benefits	THR
	rs, Region II (South of N63 latitude)						
,	See per diem note on last page						
S1302	Group II, including:	31.70 8.59	14.15	1.08	L&M 0.07		55.59
	Wallpaper/Vinyl Hanger				L&M		
S1303	Group III, including:	31.80 8.59	14.15	1.08	0.07		55.69
	Bridge Painter Epoxy Applicator Industrial Coatings Specialist Pot Tender Sandblasting Specialty Painter						
	Structural Steel Painter				T 0 N 4		
S1304	Group IV, including:	39.97 8.59	15.41	1.08	L&M 0.07		65.12
	Glazier Storefront/Automatic Door Mechanic				L&M		
S1305	Group V, including:	28.75 8.59	5.02	0.83	0.07		43.26
	Carpet Installer Floor Coverer Heat Weld/Cove Base Linoleum/Soft Tile Installer						
Piledr	ivers *See per diem note on last page						
A1401	Piledriver	38.34 10.08	15.23	1.10	L&M 0.10	IAF 0.10	64.95
	Assistant Dive Tender Carpenter/Piledriver Rigger Sheet Stabber Skiff Operator						
	-				L&M	IAF	
A1402	Piledriver-Welder/Toxic Worker	39.34 10.08	15.23	1.10	0.10	0.10	65.95
<u>A1403</u>	Remotely Operated Vehicle Pilot/Technician	42.65 10.08	15.23	1.10	L&M 0.10	IAF 0.10	69.26
	Single Atmosphere Suit, Bell or Submersible Pilot						
A1404	Diver (working) **See note on last page	82.45 10.08	15.23	1.10	L&M 0.10	IAF 0.10	109.06

Class						
Code	Classification of Laborers & Mechanics	BHR H&W PEN	TRN	Other B	Benefits	THR
<mark>Piledr</mark> i						
*	See per diem note on last page					
<u>A1405</u>	Diver (standby) **See note on last page	42.65 10.08 15.23	1.10	L&M 0.10	IAF 0.10	69.26
A1406	Dive Tender **See note on last page	41.65 10.08 15.23	1.10	L&M 0.10	IAF 0.10	68.26
<u>A1407</u>	Welder (American Welding Society, Certified Welding Inspector)	43.90 10.08 15.23	1.10	L&M 0.10	IAF 0.10	70.51
Plumb	ers, Region I (North of N63 latitude)					
*	See per diem note on last page					
N1501	Journeyman Pipefitter	41.46 9.75 17.00	1.40	L&M 0.65	S&L	70.26
	Plumber Welder					
Plumb	ers, Region II (South of N63 latitude)					
*	See per diem note on last page					
S1501	Journeyman Pipefitter	40.00 10.73 15.02	1.45	L&M 0.20		67.40
	Plumber Welder					
Plumb	ers, Region IIA (1st Judicial District)					
	See per diem note on last page					
X1501	Journeyman Pipefitter	38.82 13.37 11.75	2.50	L&M 0.24		66.68
	Plumber Welder					
-						
	Equipment Operators See per diem note on last page					
A1601	Group I, including:	41.53 10.35 13.00	1.00	L&M 0.10	0.05	66.03
	Asphalt Roller: Breakdown, Intermediate, and Finish Back Filler					

Barrier Machine (Zipper)

Beltcrete with Power Pack & similar conveyors

Bending Machine **Boat Coxswain**

Bulldozer

Cableways, Highlines & Cablecars

Power Equipment Operators

*See per diem note on last page

L&M

A1601 Group I, including:

41.53 10.35 13.00 1.00 0.10 0.05 66.03

Cleaning Machine

Coating Machine

Concrete Hydro Blaster

Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))

- (a) Hydralifts or Transporters, (all track or truck type)
- (b) Derricks
- (c) Overhead

Crushers

Deck Winches, Double Drum

Ditching or Trenching Machine (16 inch or over)

Drag Scraper, Yarder, and similar types

Drilling Machines, Core, Cable, Rotary and Exploration

Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk,

Curb & Gutter Machine

Grade Checker and/or Line and Grade including Drone

Helicopters

Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle,

Rollagon, Bargecable, Nodwell, & Snow Cat

Hydro Ax, Feller Buncher & similar

Hydro Excavation (Vac-Truck and Similar)

Loaders (2 1/2 yards through 5 yards, including all attachments):

- (a) Forklifts (with telescopic boom & swing attachment)
- (b) Front End & Overhead, (2-1/2 yards through 5 yards)
- (c) Loaders, (with forks or pipe clamp)
- (d) Loaders, (elevating belt type, Euclid & similar types)

Material Transfer Vehicle (Elevating Grader, Pickup Machine, and similar types)

Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer

Micro Tunneling Machine

Mixers: Mobile type with hoist combination

Motor Patrol Grader

Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill

Operator and/or Shield

Off-Road Hauler (including Articulating and Haul Trucks)

Operator on Dredges

Piledriver Engineer, L.B. Foster, Puller or similar paving breaker

Plant Operator (Asphalt & Concrete)

Power Plant, Turbine Operator 200 k.w & over (power plants or

combination of power units over 300 k.w.)

Remote Controlled Equipment

Scraper (through 40 yards)

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Power Equipment Operators

*See per diem note on last page

L&M

A1601 Group I, including:

41.53 10.35 13.00 1.00 0.10 0.05 66.03

Service Oiler/Service Engineer

Shot Blast Machine

Shovels, Backhoes, Excavators with all attachments, and Gradealls (3

yards & under)

Sideboom (under 45 tons)

Sub Grader (Gurries & similar types)

Tack Tractor

Truck Mounted Concrete Pump, Conveyor/Tele-belt, & Creter

Wate Kote Machine

L&M

A1602 Group IA, including:

43.29 10.35 13.00 1.00 0.10 0.05 67.79

Camera/Tool/Video Operator (Slipline)

Certified Welder, Electrical Mechanic, Camp Maintenance Engineer,

Mechanic (over 10,000 hours)

Cranes (over 45 tons or 150 feet including jib & attachments)

- (a) Clamshells & Draglines (over 3 yards)
- (b) Tower Cranes

Licensed Water/Waste Water Treatment Operator

Loaders (over 5 yards)

Motor Patrol Grader, Dozer, Grade Tractor (finish: when finishing to

final grade and/or to hubs, or for asphalt)

Power Plants (1000 k.w. & over)

Profiler, Reclaimer, and Roto-Mill

Quad

Scrapers (over 40 yards)

Screed

Shovels, Backhoes, Excavators with all attachments (over 3 yards)

Sidebooms (over 45 tons)

Slip Form Paver, C.M.I. & similar types

Topside (Asphalt Paver, Slurry machine, Spreaders, and similar types)

L&M

A1603 Group II, including:

40.76 10.35 13.00 1.00 0.10 0.05 65.26

Boiler - Fireman

Cement Hogs & Concrete Pump Operator

Conveyors (except those listed in Group I)

Hoists on Steel Erection, Towermobiles & Air Tuggers

Horizontal/Directional Drill Locator

Locomotives, Rod & Geared Engines

Mixers

Screening, Washing Plant

Sideboom (cradling rock drill, regardless of size)

Class	
Code	

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Power Equipment Operators

*See per diem note on last page

L&M

A1603 Group II, including: 40.76 10.35 13.00 1.00

0.10 0.05 65.26

Skidder

Trenching Machines (under 16 inches)

Water/Waste Water Treatment Operator

L&M

A1604 Group III, including:

40.04 10.35 13.00 1.00 0.10 0.05 64.54

"A" Frame Trucks, Deck Winches

Bombardier (tack or tow rig)

Boring Machine

Brooms, Power (sweeper, elevator, vacuum, or similar)

Bump Cutter

Compressor

Farm Tractor

Forklift, Industrial Type

Gin Truck or Winch Truck (with poles when used for hoisting)

Hoists, Air Tuggers, Elevators

Loaders:

- (a) Elevating-Athey, Barber Greene & similar types
- (b) Forklifts or Lumber Carrier (on construction job sites)
- (c) Forklifts, (with tower)
- (d) Overhead & Front End, (under 2-1/2 yards)

Locomotives: Dinkey (air, steam, gas & electric) Speeders

Mechanics, Light Duty

Oil, Blower Distribution

Posthole Digger, Mechanical

Pot Fireman (power agitated)

Power Plant, Turbine Operator, (under 200 k.w.)

Pumps, Water

Roller (other than Asphalt)

Saws, Concrete

Skid Hustler

Skid Steer (with all attachments)

Stake Hopper

Straightening Machine

Tow Tractor

A1605 Group IV, including:

L&M 0.10

33.83 10.35 13.00 1.00

Crane Assistant Engineer/Rig Oiler

Drill Helper

Parts & Equipment Coordinator

Spotter

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

0.05 58.33

Class Code	Classification of Laborers & Mechanics	BHR H&W	PEN	TRN	Other 1	Benefits	ТНБ
	Equipment Operators						
,	See per diem note on last page						
		22.02.10.25	12.00	1.00	L&M	0.05	50.0
A1605	Group IV, including:	33.83 10.35	13.00	1.00	0.10	0.05	58.3
	Steam Cleaner						
	Swamper (on trenching machines or shovel type equipment)						
Roofe	rs -						
>	See per diem note on last page						
					L&M		
A1701	Roofer & Waterproofer	44.62 11.75	3.91	0.81	0.10	0.06	61.2
	•				том		
A1702	Roofer Material Handler	31.23 11.75	3.91	0.81	L&M 0.10	0.06	47.8
11702	1100101 1120001001	01120 11170	0.71	0.01	0.10	0.00	.,,,
Sheet 1	Metal Workers, Region I (North of N63 latitude)						
>	See per diem note on last page						
					L&M		
N1801	Sheet Metal Journeyman	48.04 11.20	13.61	1.65	0.12		74.6
	Air Balancing and duct cleaning of HVAC systems						
	Brazing, soldering or welding of metals						
	Demolition of sheet metal HVAC systems						
	Fabrication and installation of exterior wall sheathing, siding, metal						
	roofing, flashing, decking and architectural sheet metal work						
	Fabrication and installation of heating, ventilation and air conditioning						
	ducts and equipment						
	Fabrication and installation of louvers and hoods						
	Fabrication and installation of sheet metal lagging						
	Fabrication and installation of stainless steel commercial or industrial food service equipment						
	Manufacture, fabrication assembly, installation and alteration of all						
	ferrous and nonferrous metal work						
	Metal lavatory partitions						
	Preparation of drawings taken from architectural and engineering plans						
	required for fabrication and erection of sheet metal work						
	Sheet Metal shelving						
	Sheet Metal venting, chimneys and breaching						

S1801 Sheet Metal Journeyman 42.70 11.20 13.89 1.68 0.43 69.90

Air Balancing and duct cleaning of HVAC systems

Brazing, soldering or welding of metals

Sheet Metal Workers, Region	II (South of N63 latitude)
------------------------------------	----------------------------

*See per diem note on last page

 L&M

 S1801
 Sheet Metal Journeyman
 42.70 11.20 13.89 1.68 0.43 69.90

Demolition of sheet metal HVAC systems

Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work

Fabrication and installation of heating, ventilation and air conditioning ducts and equipment

Fabrication and installation of louvers and hoods

Fabrication and installation of sheet metal lagging

Fabrication and installation of stainless steel commercial or industrial

food service equipment

Manufacture, fabrication assembly, installation and alteration of all

ferrous and nonferrous metal work

Metal lavatory partitions

Preparation of drawings taken from architectural and engineering plans

required for fabrication and erection of sheet metal work

A2004 Associate Party Chief (including Instrument Person & Head Chain

Sheet Metal shelving

Sheet Metal venting, chimneys and breaching

Skylight installation

Sprinkler Fitters

*See per diem note on last page

Added G. C. L. Fill	47.25.10.22.16.15.0.52	L&M
A1901 Sprinkler Fitter	47.35 10.23 16.15 0.52	0.25 74.50
Surveyors		
*See per diem note on last page		
		L&M
A2001 Chief of Parties	44.16 11.43 12.64 1.15	0.10 69.48
		L&M
A2002 Party Chief	42.57 11.43 12.64 1.15	0.10 67.89
		L&M
A2003 Line & Grade Technician/Office Technician/GPS, Drones	41.97 11.43 12.64 1.15	0.10 67.29
		L&M

39.85 11.43 12.64 1.15

35.51 11.43 12.64 1.15

0.10

L&M

0.10

Truck Drivers

*See per diem note on last page

A2006 Chain Person (for crews with more than 2 people)

Person)/Stake Hop/Grademan

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

65.17

60.83

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Truck Drivers

*See per diem note on last page

L&M

A2101 Group I, including:

40.94 11.43 12.64 1.15 0.10

66.26

Air/Sea Traffic Controllers

Ambulance/Fire Truck Driver (EMT certified)

Boat Coxswain

Captains & Pilots (air & water)

Deltas, Commanders, Rollagons, & similar equipment (when pulling

sleds, trailers or similar equipment)

Dump Trucks (including rockbuggy, side dump, belly dump, & trucks

with pups) over 40 yards up to & including 60 yards

Helicopter Transporter

Liquid Vac Truck/Super Vac Truck

Material Coordinator or Purchasing Agent

Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to

be negotiated)

Semi with Double Box Mixer

Tireman, Heavy Duty/Fueler

Water Wagon (250 Bbls and above)

L&M

A2102 Group 1A including:

42.21 11.43 12.64 1.15 0.10 67.53

Dump Trucks (including rockbuggy, side dump, belly dump & trucks with pups) over 60 yards up to & including 100 yards (over 100 yards to be negotiated)

Jeeps (driver under load)

Lowboys, including tractor attached trailers & jeeps, up to & including 12

axles (over 12 axles or 150 tons to be negotiated)

L&M

A2103 Group II, including:

39.68 11.43 12.64 1.15 0.10 65.00

All Deltas, Commanders, Rollagons, & similar equipment

Batch Trucks (8 yards & up)

Batch Trucks (up to & including 7 yards)

Boom Truck/Knuckle Truck (over 5 tons)

Cacasco Truck/Heat Stress Truck

Construction and Material Safety Technician

Dump Trucks (including rockbuggy, side dump, belly dump, & trucks

with pups) over 20 yards up to & including 40 yards

Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame

manufactured rating over 5 tons)

Mechanics

Oil Distributor Driver

Partsman

Ready-mix (up to & including 12 yards)

Stringing Truck

Class Code	Classification of Laborers & Mechanics	BHR H&W PEN TRN Other Benefits THR

Truck Drivers

*See per diem note on last page

L&M A2103 Group II, including: 39.68 11.43 12.64 1.15 0.10

Turn-O-Wagon or DW-10 (not self loading)

L&M A2104 Group III, including: 38.86 11.43 12.64 1.15 0.10 64.18

Boom Truck/Knuckle Truck (up to & including 5 tons)

Dump Trucks (including rockbuggy, side dump, belly dump, & trucks

with pups) over 10 yards up to & including 20 yards

Expeditor (electrical & pipefitting materials)

Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame

manufactured rating 5 tons & under)

Greaser - Shop

Semi or Truck & Trailer

Thermal Plastic Layout Technician

Traffic Control Technician

Trucks/Jeeps (push or pull)

L&M A2105 Group IV, including: 38.28 11.43 12.64 1.15 0.10 63.60

Air Cushion or similar type vehicle

All Terrain Vehicle

Buggymobile

Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment

(over 5 tons)

Bus Operator (over 30 passengers)

Cement Spreader, Dry

Combination Truck-Fuel & Grease

Compactor (when pulled by rubber tired equipment)

Dump Trucks (including rockbuggy, side dump, belly dump, & trucks

with pups) up to & including 10 yards

Dumpster

Expeditor (general)

Fire Truck/Ambulance Driver

Flat Beds, Dual Rear Axle

Foam Distributor Truck Dual Axle

Front End Loader with Fork

Grease Truck

Hydro Seeder, Dual Axle

Hyster Operators (handling bulk aggregate)

Loadmaster (air & water operations)

Lumber Carrier

Ready-mix, (up to & including 7 yards)

Rigger (air/water/oilfield)

Tireman, Light Duty

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

65.00

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Truck Drivers

*See per diem note on last page

L&M

A2105 Group IV, including:

38.28 11.43 12.64 1.15 0.10 63.60

Track Truck Equipment

Truck Vacuum Sweeper

Warehouseperson

Water Truck (Below 250 Bbls)

Water Truck (straight)

Water Wagon, Semi

L&M

A2106 Group V, including:

37.52 11.43 12.64 1.15 0.10

62.84

Buffer Truck

Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing

Attachments (up to & including 5 tons)

Bus Operator (up to 30 passengers)

Farm Type Rubber Tired Tractor (when material handling or pulling

wagons on a construction project)

Flat Beds, Single Rear Axle

Foam Distributor Truck Single Axle

Fuel Handler (station/bulk attendant)

Gear/Supply Truck

Gravel Spreader Box Operator on Truck

Hydro Seeders, Single axle

*See per diem note on last page

Pickups (pilot cars & all light-duty vehicles)

Rigger/Swamper

Tack Truck

Team Drivers (horses, mules, & similar equipment)

L&M LEG

N2201 Group I, including:

34.88 8.95 17.81 1.30 0.20 0.20 63.34

Brakeman

Mucker

Nipper

Storm Water Pollution Protection Plan Worker (SWPPP Worker -

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

erosion and sediment control Laborer)

Topman & Bull Gang

Tunnel Track Laborer

L&M LEG

N2202 Group II, including:

35.98 8.95 17.81 1.30

0.20

0.20 64.44

Burning & Cutting Torch

Certified Erosion Sediment Control Lead (CESCL Laborer)

Classification of Laborers & Mechanics

BHR H&W PEN TRN Other Benefits THR

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

L&M LEG

N2202 Group II, including: 35.98 8.95 17.81 1.30 0.20 0.20 64.44

Concrete Laborer

Floor Preparation, Core Drilling

Jackhammer/Chipping Gun or Pavement Breaker

Laser Instrument Operator

Nozzlemen, Pumpcrete or Shotcrete

Pipelayer Helper

L&M LEG

N2203 Group III, including: 36.97 8.95 17.81 1.30 0.20 0.20 65.43

Miner

Retimberman

N2204 Group IIIA, including:

L&M LEG 40.58 8.95 17.81 1.30 0.20 0.20 69.04

Asphalt Raker, Asphalt Belly Dump Lay Down

Drill Doctor (in the field)

Driller (including, but not limited to wagon drills, air-track drills,

hydraulic drills)

Pioneer Drilling & Drilling Off Tugger (all type drills)

Pipelayer

Powderman (Employee Possessor)

Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)

Traffic Control Supervisor, DOT Qualified

L&M LEG N2206 Group IIIB, including:

44.75 6.24 17.81 1.30 0.20 0.20

Driller (including, but not limited to wagon drills, air-track drills,

hydraulic drills)(over 5,000 hours)

Federal Powderman (Responsible Person in Charge)

Grade Checking (setting or transferring of grade marks, line and grade,

GPS, drones)

Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)

Stake Hopper

Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

L&M LEG

S2201 Group I, including: 34.88 8.95 17.81 1.30 0.20 0.20 63.34

Brakeman

Mucker

Nipper

Storm Water Pollution Protection Plan Worker (SWPPP Worker -

erosion and sediment control Laborer)

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pension fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

70.50

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other 1	Benefits	THR
	l Workers, Laborers (The area that is south of N63 latitude and	l west of	f W13	8 long	<mark>itude</mark>)		
:	See per diem note on last page							
						L&M	LEG	
S2201	Group I, including:	34.88	8.95	17.81	1.30	0.20	0.20	63.34
	Topman & Bull Gang							
	Tunnel Track Laborer							
						L&M	LEG	
S2202	Group II, including:	35.98	8.95	17.81	1.30	0.20	0.20	64.44
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Floor Preparation, Core Drilling							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Nozzlemen, Pumpcrete or Shotcrete							
	Pipelayer Helper							
						L&M	LEG	
S2203	Group III, including:	36.97	8.95	17.81	1.30	0.20	0.20	65.43
	Miner							
	Retimberman							
						L&M	LEG	
S2204	Group IIIA, including:	40.58	8.95	17.81	1.30	0.20	0.20	69.04
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills,							
	hydraulic drills)							
	•							
	Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer							
	Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer Powderman (Employee Possessor)							
S2206	Pioneer Drilling & Drilling Off Tugger (all type drills) Pipelayer Powderman (Employee Possessor) Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)			17.81		L&M 0.20	LEG 0.20	70.50

Driller (including, but not limited to wagon drills, air-track drills,

hydraulic drills)(over 5,000 hours)

Federal Powderman (Responsible Person in Charge)

Grade Checking (setting or transferring of grade marks, line and grade,

GPS, drones)

Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)

Stake Hopper

Tunnel Workers, Power Equipment Operators

*See per diem note on last page

Class Code Classification of Laborers & Mechanics	BHR H&W PEN TRN Other Benefits THR
Tunnel Workers, Power Equipment Operators *See per diem note on last page	
	L&M
A2207 Group I	45.68 10.35 13.00 1.00 0.10 0.05 70.18
	L&M
A2208 Group IA	47.62 10.35 13.00 1.00 0.10 0.05 72.12
	L&M
A2209 Group II	44.84 10.35 13.00 1.00 0.10 0.05 69.34
	L&M
A2210 Group III	44.04 10.35 13.00 1.00 0.10 0.05 68.54
	L&M
A2211 Group IV	37.21 10.35 13.00 1.00 0.10 0.05 61.71

^{*} Per diem is an established practice for this classification. This means that per diem is an allowable alternative to board and lodging if all criteria are met. See 8 AAC 30.051-08 AAC 30.056, and the per diem information on page vii of this Pamphlet.

^{**} Work in combination of classifications: Employees working in any combination of classifications within the diving crew (working diver, standby diver, and tender) in a shift are paid in the classification with the highest rate for a minimum of 8 hours per shift.

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Appendix A

Cathodic Protection Specifications

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City of Kenai 210 Fidalgo Avenue, Suite 200 Kenai, AK 99611



As Subconsultant to:

Nelson Engineering, PC 155 Bidarka Street Kenai, Alaska 99611 nelsonengineer@alaska.net

Cathodic Protection Improvements City Dock Repairs Kenai, Alaska



Norton Corrosion Limited, LLC

Cathodic Protection and Corrosion Control Since 1959

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Prepared by:





NCL File No. E-22193-M

Cathodic Protection Improvements City Dock Repairs Kenai, Alaska **Cathodic Protection Improvements**

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Cathodic Protection Improvements City Dock Repairs Kenai, Alaska

1.0 INTRODUCTION

The existing galvanized coating and galvanic anodes are no longer providing adequate corrosion control of the steel support piling at the City of Kenai's dock. There is evidence of significant corrosion on the dock's structural steel support piles, primarily at and immediately below the mud line on several of the front side piles. It is the Owner's design intent to improve or replace the existing galvanic anode CP system with a CP system that effectively protects the structure.

Cathodic Protection (CP) is an electrical means of mitigating corrosion on the surface of buried and submerged steel structures. A CP system cannot restore existing corrosion damage or replace lost metal, but will minimize future losses.

During the design review process, both a galvanic anode and impressed current type CP systems were evaluated. The first system utilized aluminum anodes below the main deck and magnesium anodes along the access way providing a service life of 10 to 20 years. The second system utilized an impressed current CP system with a rectifier, and can provide a service life exceeding 20 years. The City has elected to use the impressed current CP system option.

It is intended that the work be completed in conjunction with seismic repairs to the dock.

2.0 BACKGROUND INFORMATION

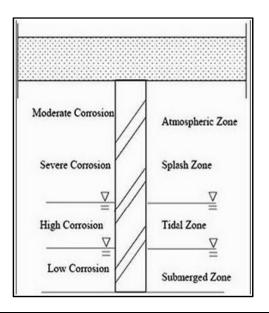
2.1 Description of the Dock

The city dock was constructed in 1986. It is a structural steel foundation consisting of driven round piling. The piles are galvanized steel with welded construction and a flat support plate closing each pile cap. The deck consists of precast steel reinforced concrete girders. Those girders rest on top of the steel pile cap plates and are held in place by steel pipe pins. There is no metallic contact between the reinforced concrete members and the steel piling, thus there is no electrical continuity between the steel pile caps. Precast channel beams rest atop the girders forming the deck.

2.2 Description of the Existing Galvanized Pile System

The original CP system consisted solely of galvanize coating on the piles. It is NCL's experience that the galvanize coating in a marine area typically provides adequate CP for 7 to 12 years based on structure-to-electrolyte potential measurements. Thereafter as the galvanizing consumes more of the steel surface is exposed and the level of CP provides a decreasing level of protection. The more bare steel that is exposed, the more demand there is placed on the remaining galvanizing to maintain CP of the structure. Continuous immersion results in consumption of the galvanize coating on the submerged and buried portion of the pilings first. The degree of consumption in the intertidal zone relates to the percentage of time the pilings are immersed with the most consumption below the low water mark and the least at the top of the pile.

Galvanizing works in two ways. First, it serves as a coating system protecting the underlying steel surface from exposure to the environment. Secondly, it provides CP to the steel surface where exposed. The upper tidal zone and splash zone represent one of the most corrosive environments for steel pile structures. The figure below depicts the relative rate of corrosion in each zone along the length of a pile. The highest rates of corrosion typically occur in the splash and intertidal zones. Protection in these zones is dependent on the coating system. If the coating system is consumed in these zones, they require recoating because CP is only effective during periods of immersion. Thus there is a twofold purpose in providing CP to the dock. First is to provide corrosion protection to the buried and immersed portion of the piling. Second is to extend the service life of the remaining galvanize coating in the intertidal zone.



Presently the piles are only electrically continuous where welded to a common pile cap plate. There is no electrical path or metallic contact between the pile caps that would carry CP current from one pile to another. During low tidal periods the base of most piling are out of the water. Thus the anodes located above the mud line and in the intertidal zone provide protection only a portion of the time. The closer to shore, the less CP is afforded to the piling.

2.3 Evaluation of the Galvanized Pile CP System

In 2008, NCL performed an inspection of the dock which indicated the galvanizing was no longer providing adequate protection. As seen in Picture 1, the galvanizing was totally consumed below the mud line. Pitting corrosion just below the mud line was observed to a depth of 210 mils as seen in Pictures 2 and 3. The majority of the piles have a wall thickness of 500 mils (1/2"). The corrosion observed in 2008 would predominantly have occurred since 1999, up to which time the galvanizing was relatively effective. In 2009 or later, the City installed galvanic anodes on many of the piling. Although these anodes improved the level of protection, there is an insufficient ammount of anode to provide adequate protection. Additionally, the anodes on those piling located in shallower water are immersed a minimal ammount of time such that they do not provide continuous protection.

3.0 DESCRIPTION OF THE CP SYSTEM

3.1 General

The dock is subject to extreme tidal ranges, siltation and ice flow, all of which impact the operation of the anodes. Anodes above the mud line are subject to damage by ice, and may be exposed during low tide ceasing operation. Anodes at the mudline may be silted in reducing their intended output. Anodes to be placed in the mud will require excavation in some manner.

Both the galvanic and impressed current CP system designs considered require all of the dock piles to be electrically bonded together with a bonding cable. The purpose of the cable is to distribute current to all of the piling, so anodes will not need to be placed on each pile independently.

3.2 Bonding

The bonding system will consist of a single header cable installed as a loop around the main dock and trestle. Tap cables will connect each individual pile cap. The tap

cables will be spliced to the header cable adjacent the pile caps. Connections to the pile caps shall be made mechanically to a stainless steel stud welded at the top of the pile cap. The cable system in general will be secured to existing conduit, piping and structural members. Where no support members exist, the cable shall be secured to the pile cap using stainless steel cable clips and concrete wedge bolts. It may be feasible to prefabricate the tap cables on to the header cable before placing the cable system over the side. This may reduce the amount of time on site and over the side of the deck, so that work can progress in a most efficient manner. The header cable shall be a continuous loop with taps, as opposed to a daisy chain system where the loss of a single connection breaks the circuit. A loop system will serve to provide redundancy and reduce resistance.

The typical CP connection uses thermite welding. There may be limited room to thermite weld on some pile caps, and welding to diagonal round batter pile can be difficult. Most notably, experience indicates thermite welding embrittles the conductor near the weld. Where cables are susceptible to high winds, sway may lead to eventual failure. For these reasons, a mechanical cable-to-pile connection method has been selected which uses stainless steel bolts welded to the pile cap, for which any orientation may be used. The tap cables will connect to the studs using a high compression ring connector that will not make the wire brittle.

3.3 Impressed Current CP System

The impressed current design utilizes an anode bed located just offshore of the high tide line. The intention is for an excavator to reach out and place the anodes as far offshore as feasible without endangering the equipment. The anodes should be buried with a minimum 5 feet of cover for safety. The anode bed will consist of 10 cast iron anodes wired in parallel, with individual anode leads routed to a post mounted anode junction box located between the beach and parking area. A header cable shall be run in conduit below grade to the dock, then above grade in conduit along the north side of the access way to a rectifier. The proposed rectifier shall be a 30 V dc / 50 A air cooled unit mounted inside or on the dock building, requiring a dedicated 120/240 V ac, 20 A service.

4.0 BASIS OF DESIGN

4.1 General

The CP system shall provide adequate protection to the structural steel support piling during periods of immersion and where buried based on NACE International criteria.

All structural piling shall be made electrically continuous with exception of the west (front) side floating dock support piles. Bonding shall be installed with tap cables to each pile cap.

4.2 Design Standards

The following standards form a basis for the subject design.

- Det Norske Veritas, Recommended Practice DNV-RP-B401, "Cathodic Protection Design"
- NACE International, Standard Practice SP0169, "Control of External Corrosion on Underground and Submerged Metallic piping Systems"
- NACE International, Standard Practice SP0175, "Corrosion Control of Submerged Areas of Permanently Installed Steel Offshore Structures Associated with Petroleum Production"

4.3 Performance Criteria

Design criteria are based on maintaining a structure-to-electrolyte potential of -0.800 V dc in reference to a seawater silver-silver chloride (Ag/AgCl [sw]) half-cell, or a minimum 100-mV polarization shift based on previously reported data. The -0.800 V criterion is typically more conservative than the 100-mV criterion, and is used in the absence of depolarized potential data necessary to calculate the potential difference. Since the dock has always had some degree of CP, any prior survey data used as a basis for the 100 mV shift criterion would be conservative.

The piles may be susceptible to microbiologically induced corrosion (MIC) that accelerates attack of the metal surface. The criteria for CP in the presence of MIC are typically increased by 100 mV to either a -0.900 V ref. Ag/AgCl [sea.] criterion or requiring 200 mV of polarization. If this were later found to be the case, the ICCP system is more capable of addressing the situation than a galvanic CP system would be.

4.4 Test Data

Soil and water samples were obtained from the dock area in December 2016 by Nelson Engineering at NCL's request. The samples were tested in NCL's laboratory for electrical resistivity based on ASTM Standard G57 entitled "Standard Test Method for Field Measurement of Soil Resistivity Using the Wenner Four-Electrode Method" using a

Nilsson Model 400 Resistance Meter and MC Miller 1:1 4-pin soil box. The data was obtained at room temperature and corrected based on Arp's empirical formula assuming a site temperature of 35° F, representing a more conservative resistivity value for design.

On June 10, 2017, NCL obtained additional soil data. 4-pin in situ soil resistivity measurements were obtained along the shoreline and in the parking lot. Additionally, one water sample was obtained at low tide and tested. That data is reported as follows.

In Situ Resistivity Data									
Location	Resistance (ohm)	spacing (cm)	Resistivity (ohm-cm)						
Mudline 10'	0.10	356	223						
Mudline 5'	0.21	178	234						
Parking lot 15'	38	534	127355						
Parking lot 10'	97	356	216727						
Parking lot 5'	300	178	335145						

4.5 Design Assumptions

The design is based on Structural Drawings S1-5 dated 4-28-88 for the Kenai Boating Facility.

Tidal data was obtained for design from NOAA at the nearest datum location posted, Site No. 9455735, Chinulna Point, Cook Inlet, AK. The posted values are: Mean High Water (MHW) 14.22', Mean Low Water (MLW) -3.97', and Mean Tide Level (MTL) 5.21'. The anode current requirement has been based on surface area calculations using 15' (MHW), which is 25% more current than required at 5.2' MTL.

The dock piles are subject to changing water velocity, temperature, weather and tidal conditions, as well as, intermittent fresh water flows. Over the long term additional sediment has deposited raising the mud line. A water resistivity for Cook Inlet of 50 ohmom is typical; however, the measured resistivity in the lab of a sample obtained during low tide was 57 ohmom (98 ohmom adjusted to 35° F) so the design has been based on a water resistivity of 100 ohmom. Similarly, the design is based on a resistivity of 200 ohmom for the mud, derived from a laboratory sample resistivity of 92 ohmom (158 ohmom at 35° F). This aligns with the DNV statement that compared to seawater the resistivity of marine sediments is higher by a factor of 2 for soft clays.

This design does not account for those anodes already installed on the dock. It is anticipated those anodes will remain in service until consumed.

Nelson Engineering reports that artesian conditions were encountered during construction of the dock. For this reason, a deep well anode bed was deemed undesirable. The artesian aquifer would represent water trapped in a confined soil layer, suggesting that the water is predominantly fresh and therefore of a much higher resistivity than encountered at the proposed site in marine mud.

It is understood that there are no buried metallic structures in the vicinity of the anode bed that would be electrically interfered with. The fuel lines to the dock are non-metallic with exception of the risers which should be electrical continuous with the dock.

5.0 CALCULATIONS

During the design phase both galvanic and impressed current type CP systems were evaluated. Based on cost, replacement interval of the galvanic anodes, and presumed integrity of each system, the impressed current alternative was selected for installation.

The number of anodes required is based on the total weight of anode alloy required and the output of each. Output is calculated based on the anodes resistance, a factor of size and shape, and environmental factors. The quantity of CP anode material is based on the total current required over the life of the system. That current requirement is relative to the surface area of the structure and design criteria established in the applicable standards.

The surface area and current requirement calculations were developed in a spreadsheet with the results depicted in Table 1 on the following page. The design surface area (A_c ft²) of the structure was calculated for each pile based on MHW to be 18,116 ft². This is the maximum current required to maintain polarization at high tide. The surface at MTL was 14,389 ft². This more closely represents the mean current output of the CP system and has been used to determine the weight on anode required.

Table 1:

	Pile Sha	pe Data	a and	Quantitie	s	Curren	t Reqd
	Diameter	El. Tip	Qty	A _{MHW}	A _{MTL}	I _{MHW}	I _{MTL}
	(in)	(ft)	(ea.)	(ft ²)	(ft ²)	(A)	(A)
					i _c =	0.002	
(shore)	24.00	-19.5	1	252	180	0.504	0.361
	24.00	-19.5	1	252	180	0.504	0.361
	24.00	-19.5	1	252	180	0.504	0.361
	24.00	-19.5	1	252	180	0.504	0.361
	24.00	-23.1	1	278	207	0.556	0.413
	24.00			264	192	0.527	0.384
							0.399
	-						0.399
		_					0.434
							0.434
							0.400
							0.43
							0.54
							0.542
							0.542
							0.52
							0.60
							0.584
							0.600
hoat dock							0.850
Dodt Gook	10.70	20.0		000	120	1.120	0.00
	24 00	-39.5	1	398	326	0.796	0.65
			1				0.678
	24.00	-37.6	1	330	269		0.53
	24.00	-34.5	1	361	290	0.723	0.58
	24.00	-36.2	1	322	260	0.643	0.52
	24.00	-36.4	1	323	261	0.646	0.52
	24.00	-34.3	1	360	288	0.720	0.57
oile	12.75	-25.0	1	134	101	0.267	0.20
	24.00	-36.9	1	326	265	0.652	0.529
	24.00	-35.6		318	256	0.636	0.51
	24.00	-33.1		351	280	0.702	0.55
	24.00			322	261	0.645	0.52
							0.56
							0.53
ıle							0.20
							0.65
							0.71
							0.57
							0.70
							0.64
							0.64
							0.64
							0.58
							0.56
							0.64
							0.71
					299		0.59
		-47.4	1				0.66
		-42.4	1	419	348	0.838	0.69
	24.00	-47.4	1	456	384	0.911	0.76
	30.00	-31.4	1	481	379	0.962	0.75
	boat dock bile	Diameter (in) (shore) 24.00	Diameter El. Tip (in) (ft) (shore) 24.00 -19.5 24.00 -19.5 24.00 -29.5 24.00 -23.1 24.00 -22.1 24.00 -22.1 24.00 -22.1 24.00 -22.5 24.00 -24.5 24.00 -24.5 24.00 -24.6 24.00 -31.9 24.00 -31.9 24.00 -31.9 24.00 -30.9 24.00 -36.4 24.00 -35.6 24.00 -37.6 24.00 -36.4 24.00 -36.2 24.00 -36.4 24.00 -36.3 24.00 -36.4 24.00 -36.5 24.00 -36.4 24.00 -36.9 26.00 -30.9 26.00 -30.9 26.00 -30.9 26.00 -30.9 26.00	Diameter El. Tip Qty	Carrell	(shore) 24.00 -19.5 1 252 180 24.00 -19.5 1 252 180 24.00 -19.5 1 252 180 24.00 -19.5 1 252 180 24.00 -21.1 1 264 192 24.00 -22.1 1 271 199 24.00 -22.1 1 271 199 24.00 -24.5 1 288 217 24.00 -24.5 1 288 217 24.00 -24.5 1 288 217 24.00 -24.6 1 289 218 24.00 -31.9 1 342 271 24.00 -31.9 1 342 271 24.00 -31.9 1 342 271 24.00 -31.9 1 342 271 24.00 -31.9 1 342 271 24.00 -30.9 1 335 264 24.00 -34.8 1 364 292 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.4 1 375 304 24.00 -36.5 1 388 326 30.00 -27.5 1 441 339 24.00 -37.6 1 330 269 24.00 -36.1 1 322 260 24.00 -36.2 1 322 260 24.00 -36.3 1 360 288 30.00 -27.5 1 441 339 24.00 -36.4 1 323 261 30.00 -27.5 1 441 339 24.00 -36.5 1 361 290 36.6 1 318 256 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 322 260 36.7 24.00 -36.9 1 322 260 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 326 265 36.7 24.00 -36.9 1 344 101 36.7 24.00 -36.9 1 360 288 36.7 24.00 -36.9 1 360 3	Diameter El. Tip Qty $A_{\rm MHW}$ $A_{\rm MTL}$ $I_{\rm MHW}$ (in) (ft) (ea.) (ft²) (ft²) (A) (A)

The current required to protect the structure is based on a current density (*i_c* mA/ft²) applied to the surface of the structure. Commonly the current requirement is different in the mud, water and tidal zones, thus the surface area in each zone is calculated separately. In this case the same current density has been applied to each zone, so only the total surface area was calculated for each pile. Based on DNV B401 (6.3) and NACE, the current density in the mud is 2 ma/ft², and is applicable as the initial, final and average values. The current density for galvanized steel in the water is 1 ma/ft² and is also applicable as the initial, final and mean values. NCL has used the same current density of 2 ma/ft² as in the mud to accommodate the tidal and current conditions, as well as, partial consumption of the galvanizing over the life of the CP system. The current requirements of each pile and the total current were calculated in the work sheet.

The current density required for bare steel in seawater is 10 ma/ft², thus the design provided is more practical than conservative. Although the anticipated current requirement is 29 amps, a rectifier and wiring are rated at 50 amps. If the anode bed were to prove less than adequate prior to the service life interval, the system may be upgraded by installing additional anodes.

5.1 Impressed Current System Design

First, the anode bed resistance to earth must be determined. The equation most suited to determine the groundbed resistance for this design is Dwight's Equation - modified to include a crowding factor which calculates the added resistance due to mutual interference of closely spaced anodes – which describes the resistance of multiple vertical anodes connected to a common header cable. When multiple anodes are connected as a simple parallel circuit the resistance of the entire array can be calculated using the following equation:

The resistance of the anode array to earth is as follows:

$$R_{\rm v} = \frac{\rho}{2 \, \pi N \, \rm L} \left\{ \left(\ln \left(\frac{8L}{d} \right) \right) - 1 + \frac{2L}{s} \left(\ln (.656 \, N) \right) \right\}$$
 NACE Eqn. 4-22

$$R_{V} = \frac{300\Omega cm}{2\pi(10)(152.4cm)} \left\{ \left(\ln \left(\frac{8(152.4cm)}{(7.62cm)} \right) \right) - 1 + \frac{2(152.4cm)}{(304.8cm)} \left(\ln(.656(10)) \right) \right\} = \mathbf{0.186} \ \Omega$$

Where:

 R_v = resistance of multiple vertical anodes to remote earth (ohms)

 ρ = soil resistivity (300 Ω -cm at 5' depth)

L = length of anode (60" or 152.4cm) D = diameter of anode (3" or 7.62cm)

N = number of anodes (10)

S = anode spacing (10 ft or 304.8cm)

Since the anode configuration used is horizontal and the depth is not infinite, the resistance obtained (Rv) for vertical anodes has been doubled, assuming a hemispherical configuration as opposed to a spherical one. The value of the horizontal anode bed $(2 \times Rv)$ should be relatively conservative.

Per Ohm's Law, the voltage required is as follows:

$$E_{volts} = I_{amps} \times R_{ohms}$$

$$E = 30.0 \text{ A} \times (2 \text{ x } 0.186 \Omega) = 11.2 \text{ V}$$

The proposed 30 V, 50 A, air cooled rectifier will be capable of suppling the current and voltage required as per the design. At 20 years, the anodes will be approximately 40% of their original weight and the resistance will increase to 0.20 Ω , and adding 20% for voltage drop, the maximum voltage should be approximately 15 V.

The total service life will be determined by the anode life, which can now be calculated. Based on a total anode weight of 110 lbs. per anode for 10 anodes, with the consumption rate of 1.0 lb./A-year (with an 85% utilization factor) for cast iron anodes in an 8" x 7' canister, the anode service life is calculated as follows:

$$CR = 1.0 \text{ lbs./A-yr} \times 30 \text{ A} / 0.85 = 35.3 \text{ lbs./yr}$$

Design life =
$$(110 \text{ lbs./anode } \times 10 \text{ anodes}) / 35.3 \text{ lb/yr} = 31.1 \text{ yrs}$$

Based on these calculations, the expected life of the system exceeds the target service life of 20 years, and will likely satisfy the current requirements for near 30 years.

Other design concerns include fluctuation of the current output with tide and temperature. During high tide when the anode bed site is submerged, the output may increase. The rectifier needs to have sufficient additional capacity to accommodate fluctuations, or to be an automatic current controlled rectifier. The deeper the anodes are placed, the more stable their output will remain. NCL has selected an automatic current controlled rectifier with manual taps. The intention is that the taps allow for greater electrical efficiency. It is presumed most of the time the rectifier will operate in voltage control mode. The current set point shall be the highest output level desired, so that a

high current output derived during a high tide will not result in an over current condition that blows a fuse, as would be the case with a standard voltage controlled rectifier.

6.0 COST ESTIMATE

6.1 Proposed Bill of Materials

An estimated Bill of Materials is listed below in detail. Labor is foreseen as the primary cost, primarily because the contractor will need to work over the side of the dock and weld anodes to the piling during low tides requiring additional set up time, scheduling issues and likely additional mobilizations. Equipment costs may be minimized if the City has a fork lift available and permits use of the cranes.

The design for the impressed current system was based on the piling being bonded to form an electrically continuous structure, as opposed to protecting each pile independently. For estimating purposes, the same costs were used for the bonding system. The galvanic system estimate had a higher initial cost and would require additional anode replacement costs every 5 to 10 years.

6.2 Impressed Current System Costs

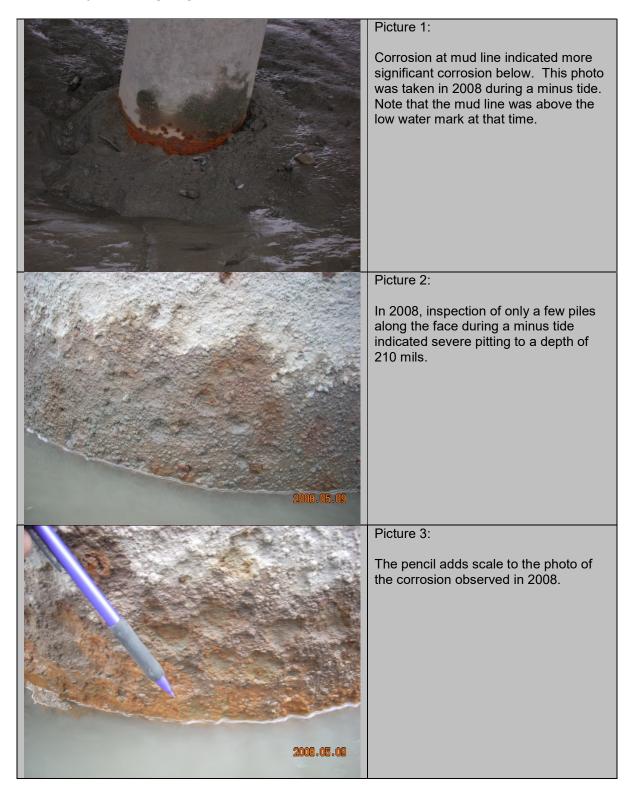
Although the impressed current CP system has power costs associated with it, the overall cost, extended service life, and system integrity are presumed better. For these reasons an impressed current system design has been provided. Power costs were estimated at \$845 per year based on a rate of \$0.18/Kw-hr (15 V, 30 A, 84% eff.). The impressed current system affords flexibility to increase the output if desired.

Cost = $15 \text{ V} \times 30 \text{ A} / 0.84 *8765 \text{ hr/yr} / 1000 \text{ w/Kw} \times \$0.18/\text{Kw-hr} = \$845/\text{yr}.$

The following table provides the engineer's Estimated Bill of Materials with Costs. The specification allows for some flexibility. The primary cost that may fluctuate was considered to be labor. The work may be both weather and tide dependent on how it is performed. Mobilization costs may also be significant for some contractors. It is likely a local electrical contractor with a safe and convenient means of working over the side will be capable of installing the system in the required time. It may be feasible to assemble tap cables on the bonding header cable in advance and possibly even in the shop, saving time in the field. Access to the top of the beach may be obtained using timber mats to prevent heavy equipment from sinking into the mud. The anode bed should not take more than one day to install.

				UNIT	
ITEM #	DESCRIPTION	QTY	U/M	PRICE	EXTENSION
1	10 ea, 3"Ø x 60" CI anodes in 8"Ø x 7' canister with average 100' No. 6 AWG Halar wire	10	ea.	\$607.50	\$6,075.00
2	Rectifier - IRT M # CCASFS 30-50 EHQaYZ per spec	1	ea.	\$5,784.75	\$5,784.75
3	Header Cable, No. 1/0 AWG USE-2/RHW-2, black	850	ft.	\$2.84	\$2,414.00
4	Taps Cable, No. 2 AWG USE-2/RHW-2, black	350	ft.	\$1.82	\$637.00
5	Connector, Cu "C' crimp, #0/#0 (header)	5	ea.	\$18.90	\$94.50
6	Connector, Cu "C' crimp, #0/#2 (taps)	60	ea.	\$18.90	\$1,134.00
7	Mastic tape, 2" x 50 ft.	1	roll	\$55.35	\$55.35
8	Rubber tape, Scotch 23		roll	\$23.41	\$234.10
9	Vinyl tape, Scotch 33+, black	10	roll	\$6.51	\$65.10
10	Penetrox (Cu/AI)	5	ea.	\$43.40	\$217.00
11	Ring terminal, high compression, bare, No. 2	70	ea.	\$5.20	\$364.00
12	Bolt, SS 316, 3/8-16 x 1"	70	ea.	\$8.44	\$590.80
13	Lock washer, SS 316, 9/16"	70	ea.	\$1.69	\$118.30
14	Hex nut, SS 316, 9/16"	70	ea.	\$1.82	\$127.40
15	Weld Rod	1	lot	\$270.00	\$270.00
16	Galvanize hot stick	1	gal.	\$135.00	\$135.00
17	Cable tie, 50 lbs, black 8"	100	ea.	\$0.35	\$35.00
18	Cable tie, 50 lbs, black 15"	100	ea.	\$0.61	\$61.00
19	Concrete anchor bolt, SS 316, 1/4"-20 x	100	ea.	\$5.74	\$574.00
20	Cable clip, one hole, SS, 0.41" cable	100	ea.	\$5.74	\$574.00
21	Test Station box with	1	ea.	\$67.50	\$67.50
22	Roll of warning tape 3" x 1000' yellow	1	ea.	\$60.75	\$60.75
23	No. 6 AWG RHW stranded black	300	ft.	\$5.74	\$1,722.00
24	Conduit and fittings	1	lot	\$945.00	\$945.00
25	J1210HPL box and hardware	1	ea.	\$540.00	\$540.00
26	Post, treated 4"x4"x10', with mounting hardware	1	lot	\$54.00	\$54.00
27	Shipping, Kenai, AK	1	lot	\$5,386.00	\$5,386.00
28	Labor, 3 man crew	5	days	\$4,000.00	\$20,000.00
29	Heavy equipment, including delivery	1	lot	\$3,450.00	\$3,450.00
30	Inspection	1	lot	\$3,450.00	\$3,450.00
				Total	\$55,235.55

7.0 PICTURES





Picture 4:

The dock as seen at low tide from south of the trestle. During high tide, water covers the entire mud zone seen in this photo.



Picture 5:

The dock as seen at low tide, from north of the trestle. Note the floating dock in place along the face of the dock.

Bond cable shall be secured to the conduit run located along the pile cap.



Picture 6:

The south side of the trestle has a water pipe secured to the pile cap, which may be used to support the bond cables.



Picture 7:

The conduit run located along the north side of the trestle shall support the bond cable. The bond cable shall be secured to the inner most conduits.



Picture 8:

The north side of the trestle as observed from the floating dock. Note the wide section of deck adjacent to the five piling along the small boat dock. The bond cable will need to run with the conduit below the deck.

Picture 9:

The north end of the main dock as seen from the trestle. Secure the bond cable to the C channel.



Picture 10:

The bond cable may be secured to the conduit run along the back side of the main deck. The two 12" floating dock support piling along the back shall be bonded as well.



Picture 11:

The face of the main deck with the floating dock in position. Note the location of cranes along the face which may be used to assist work, but could also impede access.



Picture 12:

A conduit is observed along the face of the dock. A second conduit runs along the back (inside) of the concrete pile cap to which the bond cable should be secured.



Picture 13:

The conduit and its supports along the face of the dock may serve as an alternative location for installation of the bond cable.

Picture 14:

This view is looking up at a pile cap along the face of the dock from below the ramp to the floating dock. The bond cable should be secured to the conduit along the inside of the pile cap which can barely be seen.

Note the discoloration of the pile. The galvanize coating is in good condition near the top of the pile, but has progressively been consumed proceeding down the pile.

8.0 SPECIFICATION

Section 16642

Cathodic Protection

SECTION 16642

CATHODIC PROTECTION

Technical Specifications in this section were prepared by the Professional Engineer whose name and stamp appear below.



Name: John F. Keppler, P.E.

Initials: JFK

SECTION 16642

CATHODIC PROTECTION

PART 1 - GENERAL

1.01 SUMMARY

- A. Furnish all labor, materials, equipment and incidentals necessary to install an impressed current type cathodic protection (CP) system to protect the dock's structural steel support piling as shown on the drawings and as specified herein. Work includes the installation of a rectifier, anodes, electrical conduit and wiring. Work entails electrical installations, work over the side of the dock at elevation, welding, excavation, trenching, backfill and compaction.
- B. All necessary items and accessories not shown on the Plans or specified herein, but which are required to fully carry out the specified intent of the work, shall be furnished without additional cost to the City.

1.02 REFERENCES

A. Abbreviations, Acronyms, Definitions and Units: in this Section are as defined in the following standards.

IEEE

260.1 - Standard Letter Symbols for Units of Measurement

NACE International (NACE)

NACE/ASTM G193-12d Standard Terminology and Acronyms Relating to Corrosion

National Fire Protection Association (NFPA)

70 National Electrical Code (NEC)

B. Reference Standards: The publications of the organizations listed below form a part of this specification to the extent referenced. The latest edition of each specification as of January 2018 shall apply.

American National Standards Institute (ANSI)

A-518 Corrosion Resistant High Silicon Iron Coatings

D-1248 Polyethylene Plastic Molding and Extrusion Materials

B-3 Soft or Annealed Copper Wire

B-8 Concentric-Lay Stranded Copper Conductors, Hard, Medium Hard or Soft

C-80.1 Electrical Rigid Steel Conduit (ERSC)

ASTM International (ASTM)

A-780 Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings

National Fire Protection Association (NFPA)

70 National Electrical Code (NEC)

National Electrical Manufacturers Association (NEMA)

NEMA 250 Enclosures for Electrical Equipment (1000 Volts Maximum)

Society for Protective Coatings (SSPC)

SP-1 Solvent Cleaning

SP-2 Hand Tool Cleaning

Underwriters Laboratories (UL)

UL 6 Electrical Rigid Metal Conduit - Steel

UL 1581 Reference Standard for Electrical Wires, Cable, and Flexible Cords

UL 467 Grounding and Bonding Equipment

UL 486A-B Wire Connectors

UL 514A Metallic Outlet Boxes

UL 514B Conduit, Tubing, and Cable Fittings

UL 514C Standard for Nonmetallic Outlet Boxes, Flush-Device Boxes, and Covers

UL 1242 Standard for Electrical Intermediate Metal Conduit - Steel

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Coordination: Work under this Section shall be coordinated with the work of others trades.
- B. Preinstallation Meeting: shall be attended by the CP Contractors onsite supervisor.
- C. Scheduling: shall consider the impacts of tides, weather and other operations on the dock. There may be restrictions listed on the permits required that impact the work schedule, most notably for the installation of the anode bed.

1.04 SUBMITTALS

- A. Product Data: The Contractor shall submit manufacturer's catalog data on the following products for approval by the Engineer in accordance with submittal guidelines include herein. Construction shall not begin until all submittals have been approved.
 - 1. Canister Anode and components
 - 2. Wire
 - 3. CP Junction Box
 - 4. Wire Connector
 - 5. Splice Materials
 - 6. Test Station components
 - 7. Rectifier
 - 8. Marking Post

- B. Safety Data Sheets (SDS): maintained available on site for any hazardous substances to be provided or utilized on the work site.
- C. Qualification Statements: The following certificates shall be submitted for approval prior to the beginning of work.
 - 1. Electrical Contractor License
 - 2. NACE CP Technician (Level 2): The Contractor shall provide a NACE International certified Cathodic Protection Technician with not less than 5-years applicable work experience in CP and be sufficiently familiar with the type of work to assure proper installation, operation, and adjustment of the CP system.

1.05 CLOSEOUT SUBMITTALS

- A. As-Built/Record Drawings: provided to the City within ten days of the completion of work. These will be forwarded to the City who will produce As-Built/Record Drawings with CAD. Clean, neat hand sketch drawings and markups of the existing construction drawings are acceptable. Drawings shall indicate all the information shown on the contract drawings, as well as, all deviations, modifications and changes from the contract drawings. Provide dimensions for all buried installations, conduit and wire sizes, shop drawings, and other pertinent information. Additional sheets may be added. Work shall not be considered complete until as-built drawings are received by the City.
- B. Operation and Maintenance Manuals:
 - 1. Rectifier O&M Manual: Provide an electronic copy of the rectifier manufacturer's O&M manual. Provide one hard copy of the rectifier manufacturer's O&M manual secured inside door of the rectifier with a plastic envelope. The maintenance manual shall include a parts list.
 - CP O&M Manual: Provide a comprehensive Operation and Maintenance Manual for the CP system overall. Include as-built/record drawings, the rectifier manufacturer's manual, a parts list for the CP system, directions for operation, maintenance and troubleshooting of the CP system. Provide one electronic copy and one hard copy of the manual.
- C. Electronic Photos: provide digital (electronic) photographic evidence detailing the installation of the anode bed and buried electrical conduits and wiring prior to backfilling. Photos shall include the wiring, conduit and rectifier installations in general. Photos shall demonstrate backfill and remediation work has been completed. Photos (JPG) and electronic documents (PDF) shall be submitted to the City, either via email, CD, USB storage device or made available as a download via an internet site.

1.06 QUALITY ASSURANCE/CONTROL

A. Approval of a manufacturer's name or product by the City does not relieve the Contractor of the responsibility for providing material and equipment that complies in all details with the requirements in the Contract Documents. The Contractor shall

- assume responsibility assuring the equipment submitted will fit in the space available and function as intended by the drawings.
- B. Regulatory Requirements: The CP system shall be installed in compliance with NEC, local, state and federal codes insomuch as they are applicable. The Contractor shall provide all permits required, unless otherwise indicated herein.
- C. Inspection: The installation and testing of the CP system shall be coordinated through the City to permit inspection.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. All materials shall be shipped and stored in a cool dry location unless otherwise specified by the manufacturer. The Contractor shall assume responsibility for the security and safety of his equipment.
- B. All materials and equipment shall be installed and used in accordance with the manufacturer's instructions, designated tooling, and safety procedures.
- C. Anodes: shall not be handled by their lead wire and shall be maintained free of oils, chemicals, paint, petroleum products and other foreign chemicals and coatings. All wrapping and protective shipping material shall be removed from these materials prior to installation.
- D. No trash, debris, wood, wrapping, chemicals or other man-made materials shall be introduced to the excavations.
- E. Waste Management: All waste shall be removed from the site by the Contractor.

1.08 SITE CONDITIONS

- A. Verification of Dimensions: The Contractor shall become familiar with details of the work, shall verify dimensions in the field, and shall advise the City of any discrepancy before performing any work. If existing equipment on the deck limits access for installation, the Contractor shall accommodate the equipment, or coordinate the movement of that equipment with the City.
- B. Excavation Conditions: The soil conditions are likely to include unconsolidated clays. The Contractor shall be prepared to accommodate difficulties in excavation caused by mud, objects such as construction debris, logs, and rock. Rafting materials (mud mats) may be desirable for support of excavation equipment.
- C. Erosion Control: The Contractor shall comply with all erosion control required by permits.

1.09 SCHEDULING

A. Installation, Inspection and Commissioning: shall be coordinated through the City with not less than five work days' notice.

1.10 WARRANTY

- A. The Contractor shall correct at its own expense all deficiencies in the materials and workmanship for a period of one year.
- B. Repairs shall be made at the written direction of the Engineer.
- C. The Contractor shall pay for all retests made necessary by the Engineer.

1.11 COMMISIONING

A. Upon completion of the installation, the system shall be placed in operation by the Contractor's NACE CP Technician (Level 2).

PART 2 - PRODUCTS

2.01 GENERAL

- A. Use of a manufacturer's name and product number is provided for the purpose of establishing a standard of quality and general configuration required. Products by other manufacturers will be considered. Products listed may not be the applicable size.
- B. All equipment and materials shall be new, free from defects and of the best commercial quality for the purpose specified.
- C. Standard Product: Material and equipment shall be a standard product of a manufacturer regularly engaged in the manufacture of the product and shall essentially duplicate items that have been in satisfactory use for at least 2 years prior to submittal.
- D. All components of each of the following materials listed below shall be products of the same manufacturer to ensure compatibility and uniformity.
 - 1. Anode Assemblies
 - 2. CP Junction Box hardware
 - 3. Cable connectors and splice materials
- E. Splices: shall NOT be permitted in cables and wires other than at locations specified on the drawings. The Contractor shall provide the materials in a length that accommodates the installation, allowing for field adjustments.

2.02 PRODUCTS

A. Canister Anode

1. General: High silicon cast iron anode, prepackaged inside a metal canister with coke backfill. The anode shall have a single lead wire of suitable length to accommodate the installation. The coke breeze shall be tightly packed using vibration to settle the coke around the anode while the anode is held centered in the canister. Sufficient coke breeze shall be provided to prevent loosening during shipment.

2. Cast Iron Anode: a cylindrical, solid rod with an expanded head on one end, high silicon cast iron anode free of holes, cracks and defects. ASTM A-518, Grade 3. Anodes shall meet the following physical requirements:

Manufacturer: Anotec Industries LTD, Langley, BC, CAN, type EHR.

- 3. Anode Lead Wire: Each anode shall be provided with a single splice free wire of length required to accommodate the installation. The wire shall be No. 6 AWG type Halar® Cathodic Protection Cable, this Section.
- 4. Anode Lead Wire Connection: the manufacturer's standard, with a maximum resistance of 50 micro-ohms. The connection shall be fully enveloped in a water proof seal.
- 5. Anode End Cap: shall be a highly cross-linked polyolefin material with a rubber based mastic coating inside the cap, to be installed over the anode/wire connection to provide stress relief, moisture proofing and electrical insulation.
- 6. Coke Backfill: Petroleum coke breeze with the following chemical and physical properties:

Element Percent by Weight

Fixed Carbon 99.0 min.
Volatile 0.5 max.
Ash 0.1 max.
Sulfur 0.5 max.
Moisture 0.1 max.

Particle Size: 0.1 mm min. to 12 mm max.

Bulk Density: 70 lbs./ft³ min. Resistivity at 150 psi: 0.10 ohm-cm max.

Regulation: acceptable for direct burial

Manufacturer: Loresco, Hattiesburg, MS type SWK.

- 7. Canister: Constructed of 8-inch nominal diameter X 84-inch long, 26-gauge, galvanize steel, spiral wrapped, round pipe. The ends shall be closed with round plywood end caps; a metal end cap may be used on the bottom. A plastic grommet shall be provided to protect the wire penetration through the end cap.
- 8. Manufacturer: Brance-Krachy Co., Houston, TX, per specification.
- B. Halar[®] Cathodic Protection Cable

- 1. Conductor: Class B, stranded, compressed, soft drawn or annealed, uncoated copper in accordance with ASTM Specification B-3 and B-8. Size as indicated.
- 2. Insulation: Homogeneous wall of natural ECTFE fluoropolymer (Halar®) extruded over the conductor with an average thickness of 20 mils for conductor sizes No. 8 1/0. The minimum thickness at any point shall be not less than 90% of the specified average thickness. The insulation shall be applied tightly to the conductor and shall be free stripping.
- 3. Jacket: Extruded thermoplastic high molecular weight polyethylene (HMW/PE) per ASTM D-1248, Type I, Class A, Cat 4, Grade E4-5. Color: black. The average thickness of insulation shall be 65 mils for conductor sizes No. 14-1/0. The minimum thickness at any point shall be not less than 90% of the specified average thickness. Rated at 75°C, 600 volts.
- 4. Identification: The wire shall be identified by surface marking indicating the manufacturer's identification, type and conductor size.
- 5. Manufacturer: Kris-Tech Wire Co., Rome, NY, type KT 2065 CPC.

C. RHW Cable

- 1. Conductor: single conductor, Class B, stranded, compressed, soft drawn or annealed uncoated copper in accordance with ASTM Specification B-3 and B-8. Size as indicated. Conductor shall be seven (7) stranded for conductor sizes AWG No. 10 2; and 19 stranded for conductor sizes AWG No. 1 1/0.
- 2. Insulation: crosslinked polyethylene (XLP or XLPE) Type RHW-2 and USE-2 rated at 90°C, 600 volts in wet and dry locations. Insulation is abrasion, moisture, heat, and sunlight resistant. Black in color.
- 3. Identification: The wire shall be identified in compliance with UL requirements by surface marking indicating the manufacturer's identification, wire type, conductor size, voltage rating, and UL symbol.
- 4. Manufacturer: Kris-Tech Wire Co., Rome, NY, type RHW-2/USE-2.
- D. MC Cable: offered as an alternative for the rectifier anode/negative circuit to the CP Junction Box. The Contractor may run a single continuous metal-clad (MC) cable.
 - 1. MC Cable: industrial cable rated for 75°C, 600 volts, installation where exposed, buried, and wet conditions. Conductor shall be a single conductor, Class B, stranded, copper with RHW-2 or XLP insulation. UL rated. Size as indicated. Color: black.
 - 2. Hardware, connectors and appurtenances shall be appropriate for the installation.

E. CP Junction Box

1. Enclosure: NEMA Standard 250, type 4X, fiberglass box. Lid shall have sealing gasket with a continuous hinge, stainless steel hardware and lockable hasps.

Nominal size as indicated on the Drawings. Manufacturer: Stahlin, Belding, MI, Model J1210HPL.

- 2. Terminal Boards: the nominal thickness indicated, moisture resistant, electrical grade, phenolic board mounted in the approved enclosure. Color: black. Board layout shall be as indicated.
- 3. Board Hardware: 3/8 16 UNC brass of suitable size and spacing or as specified. Bus bar shall be copper, minimum size as indicated.
- 4. Interior Labels: adhesive backed permanent label with ¼ inch high letters. Labels shall clearly identify each terminal. Heat shrink wire labels, white, min 1" long (initial) shall be provided for impressed current CP system DC cable at terminal connections.
- 5. Shunts: Measuring shunt: 0.01 ohm, 8 ampere capacity, with 1 percent accuracy. Manufacturer: Holloway, Edna, TX, type JB.
- 6. Exterior Label: adhesive backed, permanent, black plastic label with ¼ inch high engraved white letters. Label: L1 "CITY OF KENAI", L 2 "CATHODIC PROTECTION".
- 7. Mounting Post: minimum 4" x 4" x 8 ft. long treated timber post. Mounting shall be galvanized or stainless steel low profile support strut and hardware. Conduit straps shall be 2-hole medium or heavy duty galvanized steel or stainless steel.
- 8. Conduit riser: rigid metal conduit with Myers hub, minimum 1 inch diameter.

F. Wire Connector

- 1. Terminal Connector (structure): UL listed, non-insulated, heavy duty, standard barrel, ring type crimp connector, properly sized for the appropriate wire and stud where indicated. Manufacturer: Thomas & Betts, Memphis, TN Type D8-14.
- 2. Tap Connector: permanent, high compression copper "C" crimp connector designed for connecting the applicable type and size of wires. UL-486A. Manufacturer: ILSCO, Cincinnati, Ohio, Type ULT.

G. CP Splice

- CP Splice method: envelope the crimp connection in mastic tape molded around the
 connection to form a smooth body. The connection shall then be wrapped with
 fusible rubber tape half-lapped from one direction, then the other, extending
 approximately 1" beyond the mastic and insulation. The connection shall then be
 over wrapped with two layers of vinyl tape, half-lapped with one layer from each
 direction.
- 2. Mastic tape: UL listed, unbacked soft moldable black mastic tape or pad. Manufacturer: Scotch type 2234.
- 3. Rubber tape: UL listed self-fusing rubber tape designed for electrical splices. Manufacturer: Scotch type 23.

- 4. Vinyl tape: UL listed, black polyvinyl chloride backing with rubber based adhesive tape. Manufacturer: Scotch type 33+ black.
- H. Test Station: cast conduit outlet body rated for use as a splice box, UL approved, with single hub and screw on metallic cover. The box shall be sized for 1.5" diameter conduit or larger and provide sufficient room for the splice connector. Provide a UL approved insulated multi-tap connector for two cables. The box may be round (GUA) or elongated (E). Manufacturer: Crouse-Hinds Products, Model GUA59. Killark Type E box, Burndy, Part No. BIT2/0.
- I. Electrical Conduit, Fittings, Wiring and Accessories:
 - 1. PVC Conduit: NEMA TC-2, EPC-40-PVC conduit. Fittings shall be NEMA TC-3. Diameter: 1-inch minimum.
 - 2. Rigid Metal Conduit: ANSI C80.1, UL 6 galvanized rigid metal conduit (RMC), or UL 1242 intermediate metal conduit (IMC). Minimum diameter: ¾ inch. Manufacturer: Allied Tube & Conduit, Harvey, IL.
 - 3. Conduit Fittings and Outlet Boxes: Metallic, outdoor type, UL 514 A or B, NEMA 4X, approved for the type of use. Bushings shall be an insulated type.
 - 4. Brackets, cable clips, pull boxes, seals and all additional accessories shall be galvanized steel or cast aluminum, and provided as indicated or as required for proper and complete installation and support of conduit, cable and electrical equipment. Conduit clips securing conduit shall be galvanized heavy duty two hole style or galvanized malleable iron straps with clamp backs.
 - 5. Concrete Fasteners: ¼"-20 UNC or 3/8"-16 UNC stainless steel type 316 wedge anchor type bolt with hardware sized to fit the cable and conduit straps.
 - 6. Grounding Equipment: UL-467.
 - 7. Electrical oxide inhibiting compound: compatible with copper or copper and aluminum electrical connections, intended to inhibit corrosion and prevent high resistance connections. Manufacturer: Burndy, type Penetrox.
- J. Wire Connection Coating: Welds shall be coated using either of the following systems:
 - 1. Wax Tape: reasonably removable coating that allows access to the stud for repair. Self-firming anti-corrosion wrap that conforms to irregular surfaces. Color shall be similar to galvanizing. Manufacturer: Trenton Corp., Wax Tape No. 2 Silver, 2".
 - 2. Galvanize Repair Rod: used to repair exposed steel after welding to the piling, shal be repair rod with zinc-based solder including low melting point zinc alloy produced specifically for the repair of hot dipped galvanize coating per ASTM A-780. Manufacturer: Galva-Guard, San Diego, CA.
- K. Warning Tape: Polyethylene, minimum 3 inches wide, red in color and labeled "Caution Cathodic Protection". Manufacturer: Reef Industries, Houston, TX, type Terra Tape.

L. Marking Post: 3 to 4 inch wide, 66 inch long, fiberglass composite post or high-density polyethylene (HDPE) pipe with dome cap specifically manufactured for marking utilities. Color: red. Manufacturer: Carsonite, Newberry, SC, Model CRM3-066-05. Post shall be labeled with an adhesive decal "WARNING, BURIED CABLES" or approved equal label, with contact information "City of Kenai, Public Works, Ph. (907) 283-8240".

2.03 MANUFACTURED UNITS

A. Rectifier

- 1. Rectifier: wall mount, standard line, air cooled, automatic current controlled unit with manual transformer taps, with a fully magnetic ac input circuit breaker, dc circuit breaker, ac and dc lightning arrestors, and switched voltage and current analog output meters. The unit shall be mounted in the case on either a one or two part slide out rack. The step down transformer shall be not less than 95% efficient; class H, with 5 coarse and 5 fine tap settings, fully adjustable in equal steps over the full operating voltage. The unit shall have a switch to operate in either manual or automatic mode. The rectifier circuit shall be a single phase silicon bridge with SCR control providing for constant current output via an adjustable potentiometer. The rectifier circuit shall include an efficiency filter/choke. Electrical hardware shall be nickel plated brass or copper; cabinet hardware stainless steel. The case shall be NEMA 3R, not less than 12-gauge steel, white polyester powder coated cabinet, with hinged front and two side (lift off) removable doors. All conduit penetrations in the case shall be closed. Accessible panels shall have dead front construction. The unit shall have a dual rated input for 115/230 volts ac, 60 hertz, single-phase power, wired for high voltage. The output rating shall be 30 volts dc, 50 amps. The unit shall be certified by a nationally recognized testing laboratory (NRTL).
- 2. Operation & Maintenance Manual: one (1) copy and one electronic copy of an operation and maintenance manual shall be provided, including a schematic drawing detailing the specific rectifier configuration and a parts list.
- 3. Warranty: one year minimum by the manufacturer.
- 4. Manufacturer: IRT Rectifiers, Edmonton, Alberta, CAN, Model CCASFS-30-50-EHQaYZ (NRTL).

PART 3 - EXECUTION

3.01 GENERAL

- A. All materials, workmanship and installation shall conform to all requirements of the legally constituted authority having jurisdiction. These authorities include, but are not limited to, the National Electric Code, OSHA and all other applicable State, County, or City codes and regulations.
- B. Nothing in the Plans or Specifications is to be construed to permit work not conforming to these regulations and codes. Where these regulations and codes require a larger size, better grade of material, or higher standard, they shall have precedence over the Specifications and Drawings. The Contractor shall be responsible

for obtaining any required permits and inspections not specifically listed as being provided, as well as, meeting any special requirements set forth in those permits.

- C. Material Inspection: During installation the installer shall verify the absence of damage, defects and errors that may result in defective installation/application of products, or cause latent defects in workmanship and function. If defects or errors are identified, all work affected by the defect shall cease and the City shall be notified immediately.
- D. Underground Utilities Service Alert: issued by the Contractor at least three working days prior to starting any work on the site.
- E. The plans are generally diagrammatic. Placement of the rectifier shall be field located by the City during construction; final placement of the rectifier shall be approved by the City prior to beginning installation. The exact locations and routing of cables and conduits shall be governed by structural conditions and physical interference.
- F. Special Equipment: employed where necessary to install materials per the manufacturer's instructions. An example of such equipment is a high compression crimping tool with the properly sized dies for crimping cable connections.

3.02 INSTALLATION

A. Weld Connection

- 1. Location: Do not bare more than a 2 inch square area of the pile surface. Welds may be attached at any orientation and shall be placed not more than 6 inches below the pile cap. It is preferred the welds be visible from some point on the deck for regular visual inspection.
- 2. Welding: seal weld the connection bolt to the structure.
- 3. Cleaning: welds shall be cleaned per SSPC SP-1 and SP-2, removing all weld spatter and residue, then dried.
- 4. Galvanizing: Clean the site per the hot stick manufacturer's requirements if additional cleaning is recommended. Heat the metal surface and apply the hot stick galvanizing repair rod covering all bare steel.
- 5. Connection: Connect the tap cable to the bolt using ring terminal, flat washer, lock washer and nut, applying an electrical oxide inhibiting compound. Tighten the connection to the manufacturer's required torque.
- 6. Coating: Wipe away all excess inhibitor compound and coat the connector with a wax tape. Initially prime the connection. Then overwrap the wire connector and bolt with not less than two wraps of wax tape, molding the tape to tightly conform to the cable connection.

B. Bond Wire

- It is the intention that all of the permanent steel piles be electrically bonded to the rectifier negative circuit. Route bond cables along the lower outside edge of the concrete pile cap, or on pipe racks. Use conduit where required per NEC. Cables shall be secured to the concrete deck using concrete wedge anchors at not the designated spacing for the methods installed. Conduit shall be galvanized steel; do not use PVC above grade. Wiring shall be placed to minimize exposed cables within reach of non-qualified personnel.
- 2. Negative header cable: secured to the lower outside face of the pile cap, on existing conduit and pipe racks. If permitted, the cable may be supported on existing pie and conduit with wire ties at intervals not exceeding 24". Where subject to damage the cable shall be run in conduit. Concrete anchor bolts shall be placed not less than 4" from the edge of the concrete. Minimize the number of splices in the header cable to those locations designated on the drawings.
- 3. Tap Connections: made using a C crimp connector. Avoid cutting through or damaging the main header cable. Where runs are short, two tap cables may be connected at a single splice location. Tap cables shall be installed with 6 to 10 inches of slack adjacent pile connection. Connections shall be sealed with a Splice.
- 4. Splice: overwrapped with mastic tape, two or more layers of half-lapped rubber tape, and two layers of vinyl tape. Tape shall be applied tightly from opposite directions following good electrical practice.
- 5. Test Station: One test station shall be located at the southeast corner of the main dock at an accessible and protected location. The box may be mounted to the light post or placed above the curb and facing the deck with the conduit secured to the outside of the concrete pile cap. The test box shall be mounted above the curb height, facing the main deck and readily accessible from the deck. The negative (structure) header cable from each side shall be brought into the test station and terminated using an insulated multi-tap connector. Provide sufficient slack wire to allow access.
- 6. Rectifier Negative: a single tap cable from the main header. Provide not less than 24" slack cable in the rectifier and 12" at the header cable splice.
- 7. Bond to Conduit Support: Weld a bolt and install a tap connection from the negative header cable to the conduit/pipe support at Bent 1 similar to other connections, this section.

C. Rectifier

- 1. Mounting: inside the dock building at a location as approved in advance by the City prior to commencing work. The rectifier shall be located where it is accessible by personnel without a step or ladder. Sufficient space shall be provided on each side to allow the side doors to swing fully open. Comply with the rectifier manufacturer's instructions. Hardware shall be minimum 3/8"-16 UNC galvanized steel and rated to carry the full weight of the rectifier.
- 2. DC Cables: terminated at the output lugs providing not less than 12 inches slack wire in the rectifier case.

3. AC power: Supply ac power from the designated breaker panel to the rectifier. If no existing breaker is provided on the panel, the Contractor shall provide a suitable breaker.

D. Anode Bed

- 1. Inspection: witnessed by the City's representative. Notice shall be provided not less than 5 days in advance of Anode Bed installation to arrange for inspection.
- 2. Sequence: The anode bed shall be completed prior to installation of other components including the CP Junction Box, to allow for modification if difficulties are encountered.
- 3. Access: to the site may need to be coordinated with permit requirements, tides and weather. Timber rafts or other materials may be required to prevent excavation equipment from sinking in the mud. Padding may be required to avoid damage to existing waterfront rock cages and equipment.
- 4. Warning tape: installed above all cables and buried conduit runs.
- 5. Anode Installation: as designated on the Drawings. All anodes shall be numbered as designated on the drawings and their numbering sequence maintained. Anode cables shall not be kinked or bent to less than a 4-inch diameter bend. Anode Assemblies weigh in excess of 200 lbs. and may be lowered into the trench by an excavator using slings for support. The anodes shall be placed on a level surface without bridging (cast iron anodes are brittle and may crack if the canister bridges between two high points or across a single high point). Do not handle the anodes by their cable. Provide at least 2 feet of slack cable at each anode to accommodate soil stress. Backfill the anode and cable trenches with native materials, eliminating rocks, wood and debris from the trenches. The anode cables shall be bundled and secured using vinyl tape of wire ties on not less than 5 foot intervals. The back fill shall be worked to avoid significant holes and be made reasonably level.
- 6. Route the anode cables in PVC conduit from their common point adjacent the anode bed to the CP Junction Box location with not less than 2 feet of cover, providing a slope for drainage. It may be necessary to excavate through an existing wire rock cage retaining wall at the top of the beach. The CP Junction Box shall be set on the onshore side of that berm and the berm (rock cage) restored.
- 7. CP Junction Box: set on a timber post at the top of the beach. Conduit above trench depth shall be RMC.
- 8. Negative header cable: from the rectifier shall be run on the dock using RMC (or liquid tight MC cable) to a point of burial at shore. Onshore cable shall be run in trench.
- 9. Compaction: Trench in non-drivable areas shall be compacted, but may be wheel rolled or otherwise mechanically compacted. The surface shall be left generally level and rock free.

10. Marking posts: installed at the shoreline sufficiently high to avoid damage by floating ice and debris at high tide. Place 10 feet outside each end of the anode bed and at two equal spaces between.

3.03 RESTORATION AND REPAIRS

- A. Finished work shall appear neat and professional.
- B. The Contractor shall be responsible for cleanup and removal of all debris, extra material, and equipment utilized for installation of the CP system.
- C. Repairs required due to damage to any portion of the CP system, facility or grounds shall be performed as directed by the City.
- D. Restoration: completed as otherwise directed under the Contract.

3.04 COMMISSIONING

- A. Commissioning: completed by the Contractor's approved NACE CP Technician in the presence of the City's representative.
- B. Rectifier adjustment: The rectifier taps setting shall be set to provide a DC output of 35 A at low tide while operating in manual mode. The rectifier shall then be placed in current control mode and set to operate at a current limit of 32 A. If initial structure-to-electrolyte potential measurements indicate this level will be higher than necessary to develop adequate polarization, the rectifier output shall be reduced to an appropriate output.
- C. Final Testing: shall include data documenting operation of the rectifier, both on and instant off structure-to-electrolyte potential measurements contacting all pile caps in reference to a silver-silver chloride half-cell while interrupting the rectifier output for 2 seconds on a 12 second cycle, bond current measurements at each pile/pile cap, and anode current measurements. A written report shall be provided documenting the survey conditions, equipment and methods used, and results obtained.

END OF SECTION

9.0 DRAWINGS

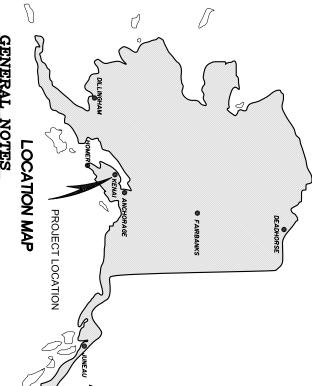
Drawing CP 2.1 – Cathodic Protection Plan Overview

Drawing CP-2.2 - Cathodic Protection Elevation Views

Appendix B

Plans

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2020 KENAI CITY DOCK RE **PAIRS**

KENAI, ALASKA

ADDITIVE ALTERNATE #1 - CATHODIC PROTECTION UPGRADE

GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THE INTERNATIONAL CODE COUNCIL INTERNATIONAL BUILDING CODE (IBC) 2009 EDITION. WHERE EXPLICIT DETAILS ARE NOT SHOWN OR DESCRIBED, THE MINIMUM REQUIREMENTS OF THE ABOVE CODE SHALL APPLY. UNLESS OTHERWISE NOTED, ALL CODES, STANDARDS AND OTHER UNLEST OTHERWISE NOTED.

THESE DRAWINGS ARE INTENDED FOR THE REPAIR OF THE KENAI CITY DOCK STRUCTURE IN KENAI, ALASKA

DESIGN LOADS IN ADDITION TO DEAD LOADS, THE FOLLOWING LIVE LOADS WERE USED FOR DESIGN:

SIMPLIFIED DESIGN PROCEDURE PER ASCE 7-05 12-14 USED FOR DESIGN. STRUCTURE SEISMIC BASE SHEAR V = 357 KIP SEISMIC RESPONSE COEFF. Cs = 0.31SPECTRAL RESPONSE COEFF. SEISMIC DESIGN CATEGORY: D SEISMIC IMPORTANCE FACTOR SPECT. RESPONSE ACCEL. RESPONSE MODIFICATION FACTOR R Cs < 1.0 1.0 129%,S1=48%

LATERAL LOADS ARE RESISTED BY STEEL PILES DESIGNED AS ORDINARY CONCENTRICALLY BRACED FRAMES AND RIGID CONCRETE DIAPHRAGMS.

ELEVATIONS SHOW ARE BASED ON MEAN LOWER LOW WATER DATUM. WORK WILL REQUIRE ACCESS FORM TIDAL INFLUENCED WATER LOCATION. WATER SURFACE WILL VARY DEPENDING ON TIDAL CYCLE AND RIVER FLOW CONDITIONS. EXTREME TIDAL RANGE CAN VARY FROM -5 FEET TO +25 FEET BASED ON MEAN LOWER LOW WATER DATUM. CONTRACTOR SHALL PLAN WORK TO COORDINATE WITH LIMITED ACCESS DUE TO TIDAL FLUCTUATIONS. ALL EQUIPMENT WORKING ON GRADE BELOW THE HIGH TIDE LINE SHALL OPERATE ON RIG MATS. RIG MAT SIZE AND STYLE SHALL BE APPROPRIATE FOR THE EQUIPMENT IT IS SUPPORTING AND AS REQUIRED TO PROTECT UNDERLYING VEGETATION FROM PERMANENT DAMAGE. SITE CONDITIONS

ASTM A992, W/ 50KSI YIELD STRENGTH. STEEL TUBING (TS)
SHALL CONFORM TO ASTM A500, GRADE B, FY = 46 K.S.I.
ER DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE
WITH THE IBC CHAPTER 22, DIVISION IX, ALLOWABLE STRESS
DESIGN. MACHINE BOLTS (MB) SHALL CONFORM TO ASTM F1554
GRADE 36 AND SHALL BE PROVIDED WITH STANDARD HEX HEAD
AND STEEL CONFORMING TO ASTM A563, GRADE A AND HARDENED
STEEL CIRCULAR WASHERS CONFORMING TO ASTM F436. ALL
WELDING SHALL CONFORM TO AMERICAN WELDING SOCIETY D1.1.
RE OTHERWISE NOTED. ELECTRODES SHALL BE HAVE A 70 PSI
UNITED STEEL ANCHOR ALL COLUMNS WITH MINIMUM (A)

TO ASTMENOTE ANCHOR AND COLUMNS WITH MINIMUM (A) STRUCTURAL STEEL AND CONNECTORS
STRUCTURAL STEEL SHALL CONFORM TO IBC CHAPTER 22, FOR ASTM SPECIFICATION A-36, FY = 36 K.S.I. EXCEPT WHERE NOTED OTHERWISE. WIDE FLANGE BEAMS SHALL CONFORM TO YIELD STRENGTH. ANCHOR ALL COLUMNS WITH MINIMUM (4) 3/4" X 10" ANCHOR BOLTS UNLESS SHOWN OTHERWISE. PROVIDE ADEQUATE LATERAL BRACING FOR STRUCTURE DURING

CONCRETE SPALLING REPAIR

STRUCTURAL GROUT SHALL BE USED AS A CONCRETE REPAIR

MATERIAL AT THE SPALLING REPAIR SITES. STRUCTURAL GROUT

SHALL BE DAYTON SUPERIOR PRO-POXY 2000 DEEP POUR

EPOXY GROUT, OR ENGINEER APPROVED EQUAL. ALL REPAIRED

SURFACES SHALL BE FILLED WITH ENOUGH STRUCTURAL GROUT

TO RETURN THE CROSS SECTION OF THE EXISTING BEAMS TO

THE ORIGINAL DESIGN CROSS SECTION. STRUCTURAL GROUT

THE CONCRETE AND THE EXIST OF THE CONCRETE AND THE CONCRETE AND THE CONCRETE WITH A SUFFACE OR THE CONCRET GUIDE TO COLD WEATHER CONCRETING) UNTIL IT IS
DEMONSTRATED BY THE CONTRACTOR THAT THE GROUT HAS
REACHED THE SPECIFIED MINIMUM COMPRESSIVE STRENGTH.
CONTRACTOR TO SUBMIT DETAILED REPAIR PROCEDURE
CONTRACTOR TO SUBMIT DETAILED REPAIR APPLICATION

ADHESIVE ANCHORING SYSTEM
THREADED ROD ANCHORS AND REINFORCING BAR DOWELS
SHALL BE SET IN HILTI HIT RE-500 V3 OR ENGINEER
APPROVED EQUAL. ADHESIVE ANCHORS SHALL BE INSTALLED
ACCORDANCE WITH THE ADHESIVE MANUFACTURER'S
RECOMMENDED INSTALLATION PROCEDURES. MINIMUM
EMBEDMENT IN CONCRETE FOR ALL ANCHORS SHALL BE 6"
UNLESS NOTED OTHERWISE. COLD GALVANIZING COATING
USE FAST DRYING SELF HEALING SPRAY CONFORMING TO ASTM
A780, ASTM D-1748, AND MILSEC P-21035 WITH 90%
ORGANIC ZINC IN DRY FILM. PREPARE SURFACE BY WASHING
TO REMOVE MUD. WIREBRUSH PER SSPC-SPC. APPLY TO
CLEAN AND DRY SURFACE. PROVIDE CLEARCO COLD GALVANIZED

CONCRETE CRACK REPAIR

ALL CRACKS IDENTIFIED BY THE ENGINEER AS CRITICAL SHALL
BE FILLED WITH INJECTED EPOXY. ALL INJECTED EPOXY SHALL
BE 'SIKADUR 52' AS PRODUCED BY SIKA CONCRETE
RESTORATION SYSTEMS OR AN ENGINEERED APPROVED EQUAL.
INJECTED EPOXY SHALL BE INSTALLED IN ACCORDANCE WITH
THE ADHESIVE MANUFACTURER'S RECOMMENDED INSTALLATION
PROCEDURES. CONTRACTOR TO SUBMIT A DETAILED REPAIR
PROCEDURE INCLUDING, INJECTION MATERIAL, APPLICATION
PROCEDURE, ETC. FOR REVIEW AND APPROVAL BY OWNER REPRESENTATIVE.

CONSTRUCTION DEBRIS CONTAINMENT
WASTE MATERIAL SUCH AS SPALLED CONCRETE AND UNUSED
REPAIR CONCRETE SHALL BE REMOVED FROM THE SITE AND
PROPERY DISPOSED OF. IT IS NOT PERMITTED TO LET PIECES
OF CONCRETE >2" IN DIAMETER FALL FROM THE DOCK INTO
THE RIVER BELOW. 100% CONTAINMENT OF CONCRETE DUST
FROM DRILLING AND SAW CUTTING IS NOT REQUIRED. 100%
CONTAINMENT OF WATER JETTING WATER AND BLASTED
CONCRETE SMALLER THAN 2" IN DIAMETER IS NOT REQUIRED.
N HOWEVER THE CONTRACTOR IS ENCOURAGED TO RETAIN AND
DISPOSE OFFSITE AS MUCH DUST AND SMALL BITS OF
CONCRETE AS POSSIBLE.

CONTRACTOR WARRANTY
CONTRACTOR WARRANTY CONCRETE REPAIR FOR A PERIOD OF 1
YEAR. IF REPAIRED CONCRETE IS DISBONDED FROM THE GIRDER
DURING THE 1 YEAR WARRANTY PERIOD THE CONTRACTOR
SHALL REMOVE THE DAMAGED REPAIR AND REPLACE IT AT NO
ADDITIONAL COST TO THE OWNER.

PERMIT

ALL WORK ASSOCIATED WITH THIS CONTRACT IS AUTHORIZED BY THE ARMY CORPS OF ENGINEERS (COE) NATIONWIDE PERMIT NO. 3, MAINTENANCE. THE CONTRACTOR SHALL CONDUCT THE WORK AS DESCRIBED IN THE PROJECT SUMMARY AND AUTHORIZATION LETTER FROM THE COE DATED JANUARY 26 2018, AND IN

CATHODIC F

'ROTECTION DETAILS (ADD. ALT. #1)

CP 2.2

INSPECTION
OWNER WILL PROVIDE
DURING CONSTRUCTIO
OWNERS REPRESENTA
CONTRACTOR SHALL N
HOURS NOTICE PRIOR OWNER WILL PROVIDE AND PAY FOR INSPECTIONS OF THE WORK DURING CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR NOTIFYING OWNERS REPRESENTATIVE THAT THE WORK IS READY FOR INSPECTION. CONTRACTOR SHALL NOTIFY THE OWNERS REP WITH AT LEAST 72 HOURS NOTICE PRIOR TO INSPECTION TIMES. CONTRACTOR SHALL PROVIDE REASONABLE ACCESS TO THE WORK FOR THE INSPECTOR. THE FOLLOWING TASKS REQUIRE INSPECTION PRIOR TO THE CONTRACTOR PROCEEDING WITH WORK.

1. INSPECTION OF ALL EXISTING SURFACES AND REBAR AFTER SURFACES HAVE BEEN PREPARED FOR GROUT AND BEFORE FORM

- INSPECTION OF ALL EXISTING SURFACES AND REBAR AFTER SURFACES HAVE BEEN PREPARED FOR GROUT AND BEFORE FOR WORK HAS BEEN CONSTRUCTED.

 INSPECTION OF FORM WORK PRIOR TO PLACEMENT OF GROUT.

 INSPECTION DOF GROUT ONCE FORM WORK HAS BEEN REMOVED.

 INSPECTION DURING EPOXY INJECTION OF CONCRETE CRACKS.

 INSPECTION OF POST INSTALLED CONCRETE ANCHORS.

- OF ANODE BED INSTALLATION.
 OF CP SYSTEM BONDING INSTALL.
 COMMISSIONING.

DETAILS DOCK PLAN OVERVIEW LOCATION/INDEX/GENERAL NOTES DETAILS CATHODIC PROTECTION PLAN (ADD. ALT. #1) DETAILS DETAILS ELEVATION VIEWS CP 2.1 S33<u>S2.2</u> *S3.4 S3.1* <u>S2.1</u>

DRAWN BY: CAM/ZSR PROJECT NO. **2020014**

SCALES: NOTED
HORIZ. NOTED
VERT. NOTED
SHEET **S1.1** CHECKED BY: DATE: 4/06/20

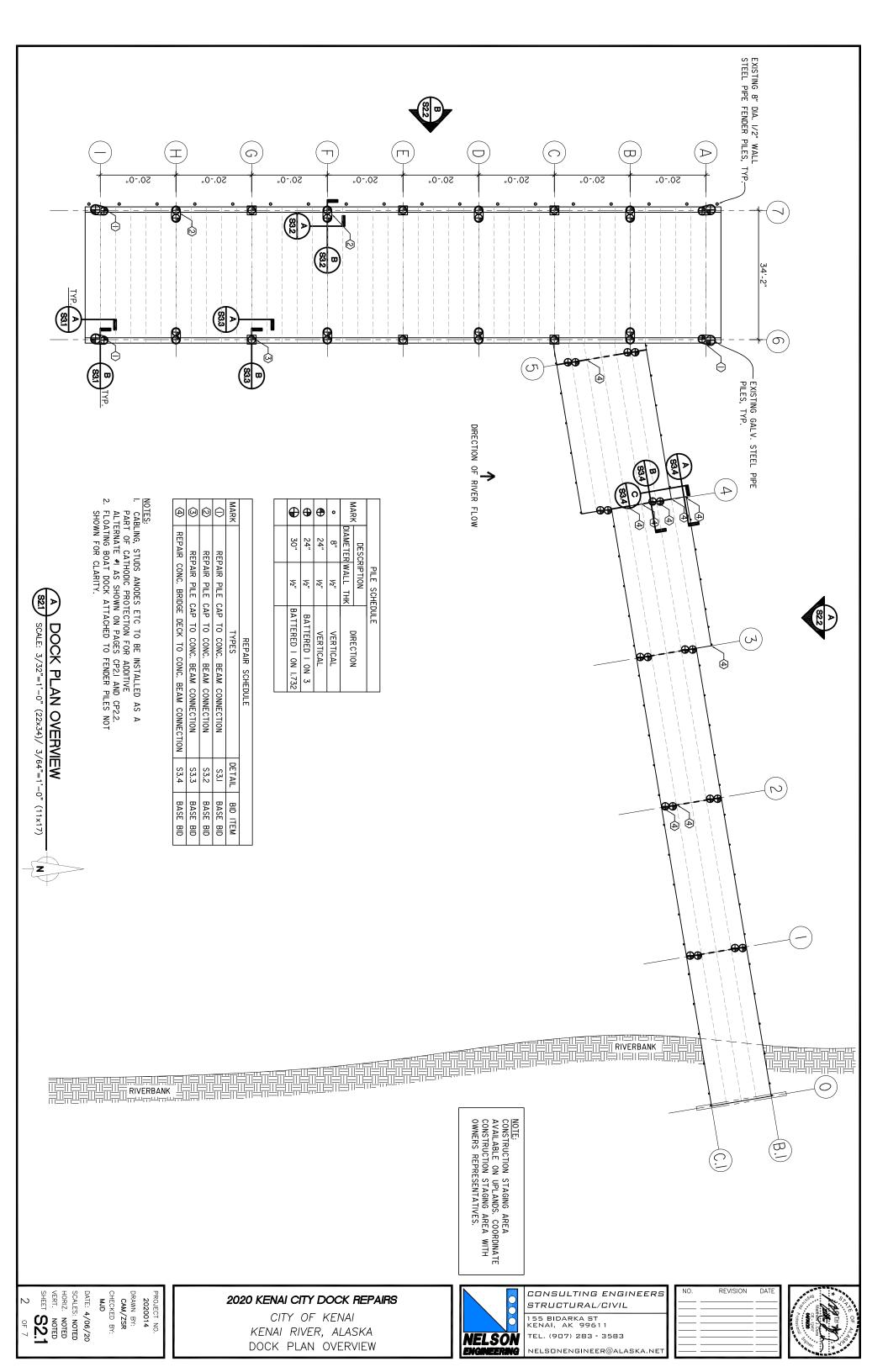
2020 KENAI CITY DOCK REPAIRS CITY OF KENAI

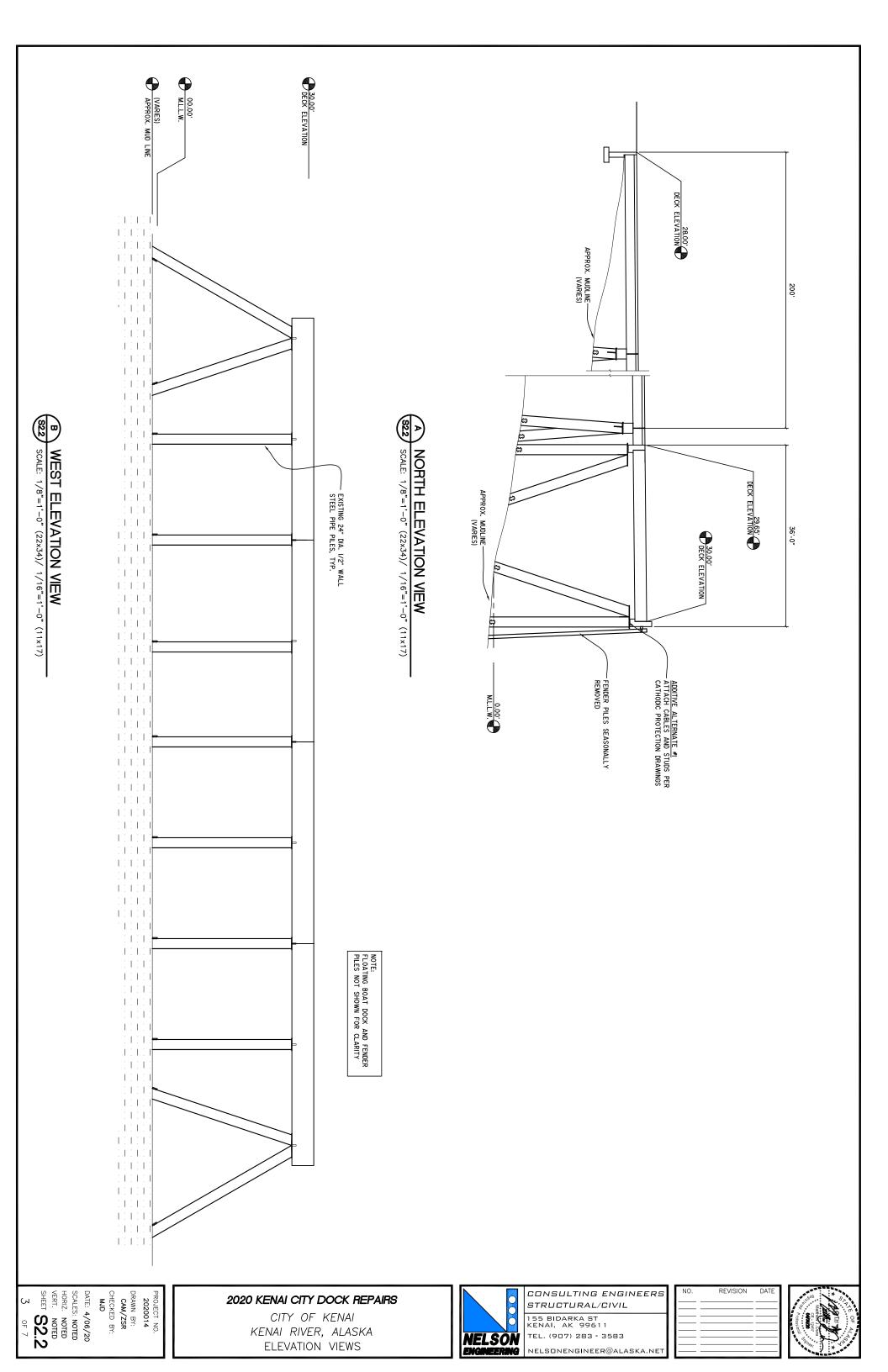
KENAI RIVER, ALASKA NOTES & SPECIFICATIONS

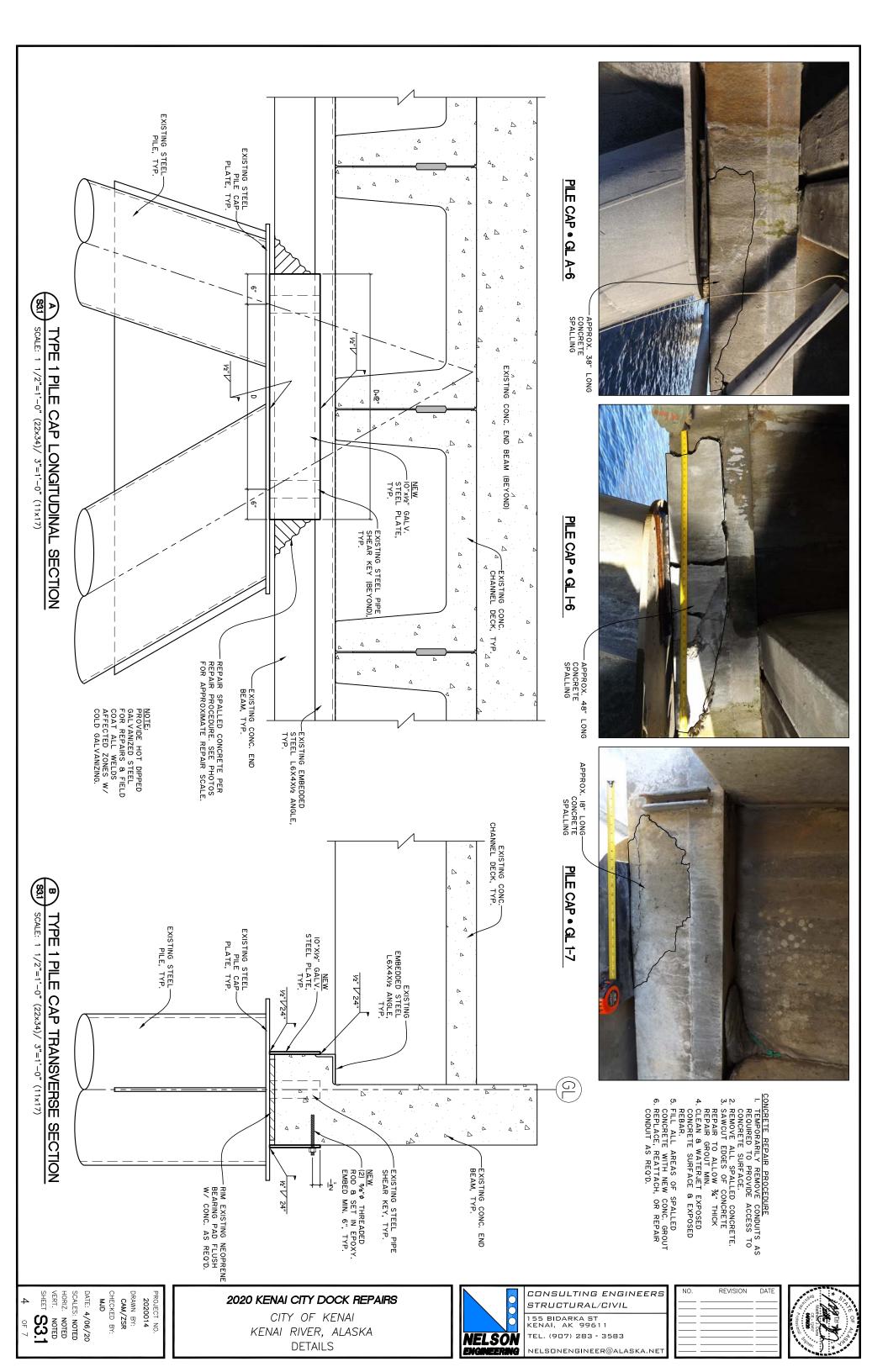


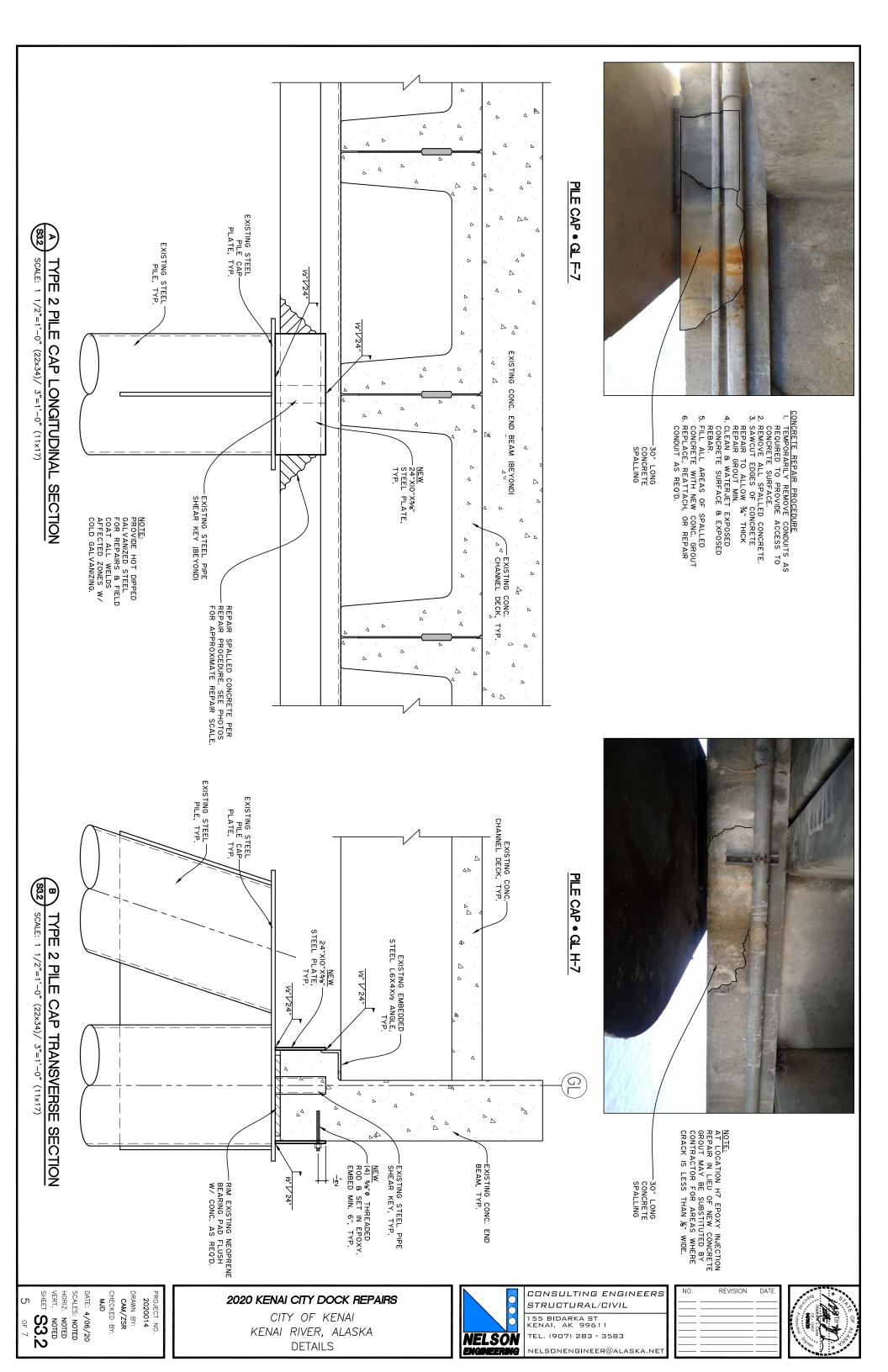
CONSULTING ENGINEERS STRUCTURAL/CIVIL 55 BIDARKA ST KENAI, AK 9961 TEL. (907) 283 - 3583

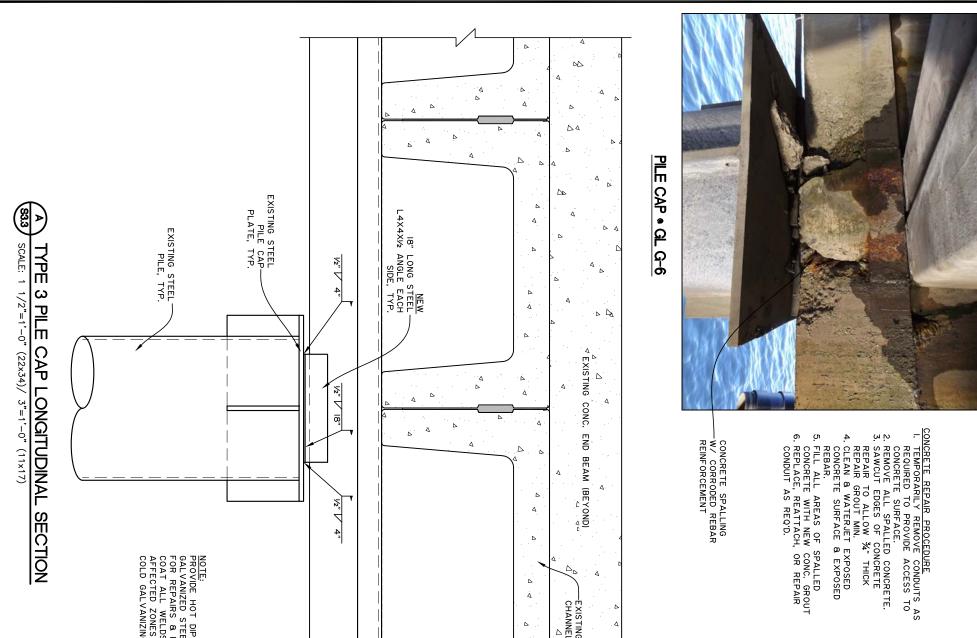
NELSONENGINEER@ALASKA.NE











-EXISTING CONC. CHANNEL DECK, TYP.

Δ

Δ

EXISTING CONC. CHANNEL DECK, TYP. EXISTING STEEL
PILE CAPPLATE, TYP. EXISTING STEEL PILE, TYP. EXISTING EMBEDDED.
STEEL L6X4X½ ANGLE,
TYP. Δ (GL)Ď. A D D A. A Δ. -EXISTING CONC. END BEAM, TYP.

1/2" V 4"

NOTE:
PROVIDE HOT DIPPED
GALVANIZED STEEL
FOR REPAIRS & FIELD
COAT ALL WELDS
AFFECTED ZONES W/
COLD GALVANIZING.

DATE: 4/06/20
SCALES: NOTED
HORIZ. NOTED
VERT. NOTED
SHEET \$3.3
6 OF 7 PROJECT NO.
2020014
DRAWN BY:
CAM/ZSR
CHECKED BY:
MJD

TYPE 3 PILE CA

IP TRANSVERSE SECTION

SCALE: $1 \frac{1}{2} = 1' - 0'' \frac{(22 \times 34)}{3} = 1' - 0'' \frac{(11 \times 17)}{3}$

2020 KENAI CITY DOCK REPAIRS

CITY OF KENAI KENAI RIVER, ALASKA **DETAILS**



CONSULTING ENGINEERS STRUCTURAL/CIVIL

155 BIDARKA ST KENAI, AK 99611 TEL. (907) 283 - 3583 NELSONENGINEER@ALASKA.NET REVISION





TYPE 1 PILE CAP LONGITUDINAL SECTION © END OF DECK SECTION

SCALE: $1 \frac{1}{2} = 1' - 0'' \left(22 \times 34\right) / 3'' = 1' - 0'' \left(11 \times 17\right)$

TYPE 1 PILE CAP LONGITUDINAL SECTION . INTERMEDIATE SUPPORT

TYPE 1 PILE CAP TRANSVERSE SCALE: 1 1/2"=1'-0" (22x34)/ 3"=1'-0" (11x17)

ISE SECTION

DATE: 4/06/20
SCALES: NOTED
HORIZ. NOTED
VERT. NOTED
SHEET \$3.4

DRAWN BY:
CAM/ZSR
CHECKED BY:
MJD

PROJECT NO. **2020014**

NEW

-(2) 3/4" THREADED

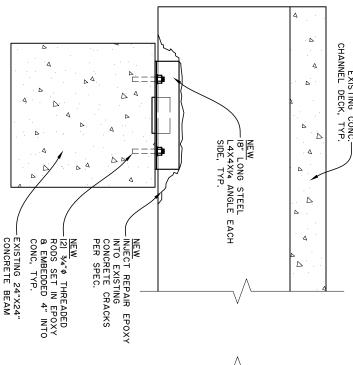
RODS SET IN EPOXY

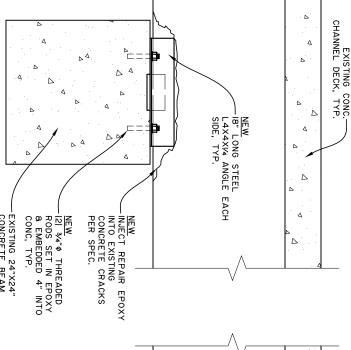
8 EMBEDDED 4" INTO

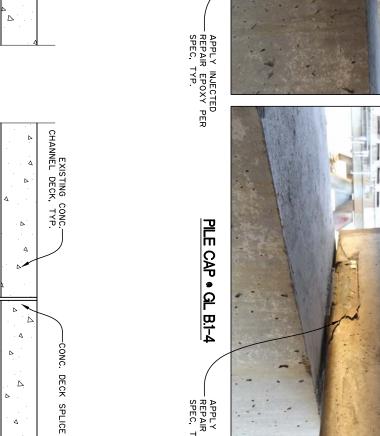
CONC, TYP.

EXISTING 24"X24" CONCRETE BEAM

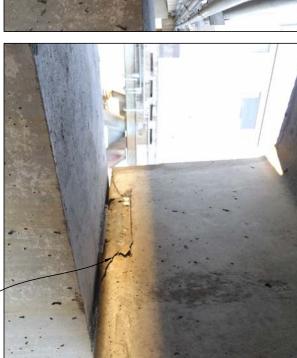
NEW
-INJECT REPAIR EPOXY INTO EXISTING CONCRETE CRACKS PER SPEC, IN EACH BEAM.







PILE CAP • GL B.1-4





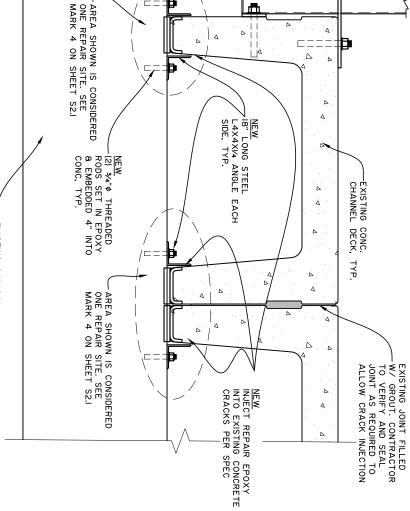


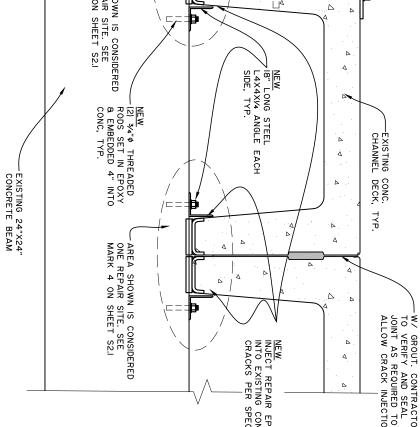
APPLY INJECTED -REPAIR EPOXY PER SPEC, TYP.

PILE CAP • GL B.4-2









2020 KENAI CITY DOCK REPAIRS

CITY OF KENAI KENAI RIVER, ALASKA **DETAILS**



NOTE:
CHANNEL DECK REPAIR PHOTOS DO NOT SHOW ALL SITES
OF REPAIR BUT REPRESENT TYPICAL REPAIR CONDITIONS.

APPLY INJECTED -REPAIR EPOXY PER SPEC, TYP. CONSULTING ENGINEERS STRUCTURAL/CIVIL 155 BIDARKA ST KENAI, AK 99611



