SEARHC

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM

SEARHC-RFP-26-1

ISSUE DATE: October 17, 2025

SOUTHEAST ALASKA REGIONAL HEALTH CONSORTIUM (SEARHC)

REQUEST FOR PROPOSALS (RFP) FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

ISSUED BY:

SouthEast Alaska Regional Health Consortium
Supply Chain Management
3100 Channel Drive, Suite 217-N
Juneau, AK 99801

DATE AND TIME FOR RECEIPT OF PROPOSALS:

Full Proposal:
4:00 p.m. Alaska Time November 21, 2025

SouthEast Alaska Regional Health Consortium
Attn: Thom Shaffer
tshaffer@searhc.org
System Director, Supply Chain Management & Accounts Payable
3100 Channel Drive, Suite 300
Juneau, AK 99801

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1. BACKGROUND

SEARHC is a consortium of federally-recognized tribes, incorporated as a non-profit corporation under Alaska law, and a tribal organization for purposes of Title V of the Indian Self-Determination and Education Assistance Act, Pub. L. 93-638, as amended ("ISDEAA"). SEARHC provides healthcare services in Southeast Alaska to American Indians, Alaska Natives and other eligible individuals under the Alaska Tribal Health Compact and funding agreement with the Indian Health Service ("IHS") authorized by Section 325 of Pub. L. 105-83 and Title V of the ISDEAA.

SEARHC's corporate headquarters are located at 3100 Channel Drive, Juneau, AK 99801. SEARHC operates two critical access hospital facilities, including Mt. Edgecumbe Medical Center, located at 222 Tongass Drive, Sitka, AK 99835 and Wrangell Medical Center, located at 232 Wood Street, Wrangell, AK 99929, in addition to multiple clinics and additional healthcare facilities across 27 communities throughout Southeast Alaska.

2. SOLICITATION

2.1. GENERAL PROCESS

The process SEARHC will follow for soliciting proposals will be in these general steps.

2.1.1. SEARHC will issue this RFP.

2.1.2. SEARHC accepts the full proposals from all submitting entities.

2.1.3. SEARHC scores submissions and determine a tentative award that best fits the business needs of SEARHC.

2.1.4. A best and final negotiation with the tentative awarded entity (entities) will take place.

2.1.5. Final award will be made.

2.2. QUESTIONS

2.2.1. Questions related to the content of this RFP must be submitted to Thom Shaffer, tshaffer@searhc.org, with a copy to Scott Martin, smartin@searhc.org, no later than 4:00 p.m. Alaska Time on November 7, 2025.

2.2.2. Responses to inquiries will be posted as an addendum within three business days of the question deadline. The addendum will contain all questions received, responses to all questions, and any changes. Questions will not be identified by Proposer. SEARHC reserves the right to decline to respond to any question(s).

2.2.3. SEARHC specifically instructs all interested parties to restrict all contact and questions regarding this RFP to written communications sent to tshaffer@searhc.org and smartin@searhc.org.

2.3. PROPOSAL DEADLINE

2.3.1. A proposal in the format requested in Section 4, and separate PDF for pricing must be emailed to the Contracting Officer, Thom Shaffer at tshaffer@searhc.org with a copy to Scott Martin at smartin@searhc.org and received no later than 4:00 p.m. Alaska Time on November 21, 2025. Email submission only. No hard copy proposals are requested. Proposals received after the deadline will not be accepted.

2.4. PROPOSALS-NEGOTIATION-CONTRACT AWARD

2.4.1. Definitions. As used in this provision.

2.4.1.1. "Discussions" or “Best and Final” are negotiations that occur after establishment of the competitive range that may, at the Contracting Officer's discretion, result in the proposer being allowed to revise its proposal.

2.4.1.2. "In writing" or "written" means any worded or numbered expression that can be read, reproduced, and later communicated, and includes electronically transmitted and stored information.

2.4.1.3. "Proposal modification" is a change made to a proposal before the solicitation's closing date and time, or made in response to an amendment, or made to correct a mistake at any time before award.

2.4.1.4. "Proposal revision" is a change to a proposal made after the solicitation closing date, at the request of or as allowed by a Contracting Officer as the result of negotiations.

2.4.1.5. "Time," if stated as a number of days, is calculated using calendar days, unless otherwise specified, and will include Saturdays, Sundays, and legal holidays. However, if the last day falls on a Saturday, Sunday, or legal holiday, then the period shall include the next working day.

2.4.2. Amendments to solicitations. If this solicitation is amended, all terms and conditions that are not amended remain unchanged. Proposers shall acknowledge receipt of any amendment to this solicitation by the date and time specified in the amendment(s).

2.4.3. Submission, modification, revision, and withdrawal of proposals.

2.4.3.1. Unless otherwise specified in the solicitation, the proposer may propose to provide any item or combination of items.

2.4.3.2. Proposals submitted in response to this solicitation shall be in English and in U.S. dollars, unless otherwise permitted by the solicitation.

2.4.3.3. Proposers may submit modifications to their proposals at any time before the solicitation closing date and time, and may submit modifications in response to an amendment, or to correct a mistake at any time before award.

2.4.3.4. Proposers may submit revised proposals only if requested or allowed by the Contracting Officer.

2.4.3.5. Proposals may be withdrawn at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

2.4.4. Offer expiration date. Proposals in response to this solicitation will be valid for at least 120 days after the closing date for receipt of offers for this RFP.

2.4.5. Contract award.

2.4.5.1. SEARHC intends to award a contract or contracts resulting from this solicitation to the responsible proposer(s) whose proposal(s) represents the best value after evaluation in accordance with the factors and subfactors in the solicitation.

2.4.5.2. SEARHC may reject any or all proposals if such action is in SEARHC's interest.

2.4.5.3. SEARHC may waive informalities and minor irregularities in proposals received.

2.4.5.4. SEARHC intends to evaluate proposals and award a contract after conducting discussions with proposers whose proposals have been determined to be within the competitive range. If the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit efficient competition among the most highly-rated proposals. Therefore, the proposer's initial proposal should contain the proposer's best terms from a price and technical standpoint.

2.4.5.5. SEARHC reserves the right to make an award on any item for a quantity less than the quantity offered, at the unit cost or prices offered, unless the proposer specifies otherwise in the proposal.

2.4.5.6. SEARHC reserves the right to make multiple awards if, after considering the additional administrative costs, it is in SEARHC's best interest to do so.

2.4.5.7. Exchanges with proposers after receipt of a proposal do not constitute a rejection or counteroffer by SEARHC.

2.4.5.8. SEARHC may determine that a proposal is unacceptable if the prices proposed are materially unbalanced between line items or subline items. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly overstated or understated as indicated by the application of cost or price analysis techniques. A proposal may be rejected if the Contracting Officer determines that the lack of balance poses an unacceptable risk to SEARHC.

2.4.5.9. If a cost realism analysis is performed, cost realism may be considered by the source selection authority in evaluating performance or schedule risk.

3. SCOPE OF SERVICES

The construction of a lighted 52 space Parking lot per the construction documents provided by RESPEC Engineering dated 9-19-25 along with the written description of the work to be performed. The contract period will be a term of 120 days or the duration of the construction until it is completed at SEARHC's discretion.

4. PROPOSAL FORMAT AND CONTENT

<u>As a minimum, the following must be included in all responses:</u>

4.1. A cover letter referencing SEARHC-RFP-26-1 that lists the contents of the response.

4.2. Statement of qualifications including similar project experience.

4.3. A concise narrative which addresses each of the selection criteria and the firm’s approach to delivering the Scope of Services.

4.4. Indian Preference Provisions and Representations.

4.5. Representations and Certifications of Proposer.

4.6. Price proposals via the attached Price Schedule Forms found in this RFP.

5. SCORING AND SELECTION PROCESS

5.1. The scoring committee will be comprised of members from the SEARHC Project Team. Scoring will be weighted as follows:

Selection Criterion	Maximum Points
Statement of Qualifications and Similar Experience	25
Project Approach to Deliver Scope of Services	30
Alaska Native/America Indian Preference	5
Price Proposals	40
Total Possible Points	100

5.2. Responsiveness Evaluation. Proposals will be evaluated for compliance with specifications, and all other requirements including instructions, provisions, terms, and conditions of the solicitation. Proposals which fail to comply with the essential requirements of the solicitation will be rejected as non-responsive and eliminated from further consideration.

5.3. Contract Negotiations. SEARHC reserves the right to enter discussions with any proposer determined by SEARHC to be responsive to this RFP.

5.4. Statement of Basis of Award. Subject to the provisions contained herein, an award will be made to a single offeror. The award will be made to the responsive responsible offeror whose proposal conforms in all essential respects to the solicitation requirements, price and other factors specifically set forth herein considered.

5.5. Explanation of Matters Reserved to the Judgment of SEARHC for Purposes of Evaluation for Specification Compliance. Proposals will be evaluated based on program features and operating capabilities required in the contract specifications and the extent to which an offeror can be expected to provide and sustain a high-quality service program for SEARHC.

(a) Program Effectiveness and Efficiency. Evidence submitted in accordance with solicitation requirements will be considered as it is perceived to enhance the effectiveness and efficiency of the program. Proposals which SEARHC deems unacceptable for these purposes may be rejected. Proposals which fail to meet the minimum specification requirements of the solicitation will be rejected.

(b) Program Quality. SEARHC and its program beneficiaries will rely upon a high-quality sustained program over the term of the contract. SEARHC may base its evaluation of a proposal's acceptability upon the quality of the program.

5.6. Staffing Qualifications. The staffing elements of the proposal are therefore a paramount consideration. Any offer or offeror which fails in any way to meet the staffing qualifications, experience, documentation, health, safety, license, or other related requirements of the solicitation will be rejected.

5.7. On-Site Inspections. It is not anticipated that SEARHC will perform an on-site inspection of every offeror's supporting facilities. Only those proposals of prospective responsible contractors deemed

by SEARHC to be within the competitive range for award may require inspection for determination of capacity to perform in full compliance with the contract specifications. (SEARHC is not obligated to perform any such inspections, when information is otherwise available and deemed sufficient for this purpose.) Offerors are cautioned to be certain that any exceptions to the required specifications or other provisions of the solicitation are listed in the cover letter submitted with their proposal.

6. OTHER

6.1. All costs incurred in responding to this RFP are the responsibility of the Proposer and will not be reimbursed by SEARHC. Furthermore, this RFP does not obligate SEARHC to accept or contract for any services expressed or implied.

6.2. SEARHC reserves the right to: (1) Modify or otherwise alter any or all of the requirements in this RFP. In the event of any modifications, all Proposers will be given an equal opportunity to modify their proposals in the specific areas that are requested; (2) Reject any proposal not adhering to any and all requirements set forth in this RFP; (3) Reject any or all proposals received; and (4) Terminate this RFP at any time, without reason.

6.3. SEARHC reserves the right to waive any formalities in the selection process, and to make any selection based on any factors deemed to be in its own best interest. SEARHC reserves the right to reject any and/or all proposals which it deems to not be in its best interests and to proceed with the next highest ranked Proposer or to utilize an entirely different procurement process.

6.4. All proposals and other materials submitted by the Proposer to SEARHC become the property of SEARHC. SEARHC may require, seek, and utilize all the information it deems appropriate to assess the qualifications of individual Proposers. Unless otherwise clearly specified by Proposer, information in proposals submitted in response to this RFP shall be considered public information and may, at SEARHC's discretion, be released to the public at the conclusion of the evaluation, selection and contract award process. Detailed costs and price information provided will be held in confidence. Any other information related to pricing or capacity that Proposers consider confidential or proprietary and wish to remain unavailable for public disclosure should be clearly identified.

6.5. Any media announcements pertaining to this RFP or Program require SEARHC's prior written approval.

6.6. SEARHC is a consortium of Alaska Native Tribal Governments and, as such, shares the sovereign immunity of its constituent Tribes. Nothing in this RFP is a waiver of sovereign immunity.

6.7. This RFP does not obligate SEARHC or the selected Proposer until a contract is fully executed. The Contract will be fully executed when it is signed by an authorized representative of both parties. SEARHC shall not be responsible for work done, even in good faith, prior to execution of the Contract. If there is any conflict between the Contract and the proposal, the Contract shall control.

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INDEMNIFICATION, MEDICAL LIABILITY, and OTHER INSURANCE

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

(a) It is expressly agreed and understood that this is a non-personal services contract under which the professional services rendered by the Contractor are rendered in its capacity as an independent contractor. SEARHC may evaluate the quality of professional and administrative services provided but retains no control over professional aspects of the services rendered, including by example, the Contractor's professional judgment and the manner in which the services are performed. SEARHC be added to all the policies below as Additional Insured with a Waiver of Subrogation in favor of SEARHC excluding the Additional Insured requirement for Workers Compensation.

The Contractor shall be solely liable for and expressly agrees to indemnify and defend SEARHC with respect to any liability producing acts or omissions by it or by its employees or agents and SEARHC be named as Additional Insured with a Waiver of Subrogation in favor of SEARHC. The Contractor shall maintain during the term of this contract liability insurance issued by a responsible insurance carrier of **not less** than the following amount(s) per specialty per occurrence: $1,000,000.00 with $2,000,000.00 aggregate per specialty per occurrence.

(b) An apparently successful Offeror shall furnish, prior to contract award, evidence of all required insurance customary in connection with this Offeror’s line of business, including, but not limited to professional, employer’s liability insurance, employee dishonesty / crime coverage, worker’s compensation, commercial and non-commercial automobile, and general liability insurance to cover any liability that may result from performance of the services described in this RFP.

(c) Liability insurance may be on either an occurrences basis or on a claims-made basis. If the policy is on a claims-made basis, an extended reporting endorsement (tail) for a period of not less than 3 years after the end of the contract term must also be provided at the limits described below.

(d) The policies evidencing required insurance shall also contain an endorsement to the effect that any cancellation or material change adversely affecting the SEARHC's interest shall not be effective until 30 days after the insurer or the Contractor gives written notice to the Contracting Officer. If, during the performance period of the contract the Contractor changes insurance providers, the Contractor must provide evidence that SEARHC will be indemnified to the limits specified in paragraph (a) of this clause, for the entire period of the contract, either under the new policy, or a combination of old and new policies. In any case, required insurance coverage shall be continuous without interruption.

Minimum limits and conditions of insurance are required of each party to this agreement.

Workers Compensation Insurance – As required by law. Where applicable, coverage mandated by federal statutes (e.g. Marine and U.S.L. & H. and Jones Acts) must also be included.

Employers Liability Insurance – Not less than the following:

Each Accident	$1,000,000
Disease – Policy Limit	$1,000,000
Disease – Each Employee	$1,000,000

General Liability Insurance – Bodily Injury, Personal Injury and Property Damage with a combined single limit of not less than $1 million each occurrence and $2 million aggregate. The limits of general liability can be obtained with an excess liability policy.

The general liability insurance policy shall be written on an “occurrence” basis Commercial General Liability policy form. The policy shall be endorsed to name the SEARHC as an additional insured.

Automobile Liability Insurance – Bodily Injury and Property Damage coverage with a combined single limit of not less than $1 million for each occurrence. The automobile liability policy shall include coverage for owned automobiles (where applicable) as well as non-owned and hired automobile coverage.

Each policy of insurance as required above shall be written by an insurance company admitted in Alaska with a minimum rating by A. M. Best & Company of A- VI.

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ALASKA NATIVE/AMERICAN INDIAN PREFERENCE PROVISIONS AND REPRESENTATIONS

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

1) DEFINITIONS

The term "Alaska Native/American Indian firm, Alaska Native/American Indian organization or enterprise" means a sole enterprise, partnership, corporation, or other type of business organization owned and controlled by one or more Alaska Natives or American Indians who are members of a tribe, Pueblo, band, group, village, or community that is recognized by the Secretary of the Interior or the Secretary of Health and Human Services, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act (85 Stat. 688).

2) ALASKA NATIVE/AMERICAN INDIAN-OWNED, CONTROLLED, AND OPERATED BUSINESS REPRESENTATION

Any firm that misrepresents itself as an Alaska Native/American Indian-preference eligible firm in order to secure the award of a contract or purchase order shall be subject to suspension, debarment and prosecution under applicable law.

(a) Representation: The proposer represents that [_] it is, [_] is not a 51% or more Alaska Native or American Indian-owned, controlled, and operated firm as defined herein.

ALASKA NATIVE/AMERICAN INDIAN

A person who is a member of any Tribe, or is a person recognized by the federal government as eligible for the special programs, services, or rights provided by the federal government to Alaska Natives because of their status as Alaska Natives, including any person who is a "Native" as that term is defined in the Alaska Native Claims Settlement Act, 43 U.S.C. 1601(b), or the lineal descendant of a Native.

INDIAN OWNERSHIP

The specified degree of Alaska Native/American Indian ownership must be maintained during the period covered by this contract.

3) USE OF ALASKA NATIVE/AMERICAN INDIAN BUSINESS CONCERNS

(a) As used in this clause, the term "Alaska Native/American Indian Business Concern" means Alaska Native or American Indian organizations, or Alaska Native or American Indian owned economic enterprise as defined herein.

(b) The contractor agrees to give preference to qualified Alaska Native and American Indian business concerns in the awarding of any subcontracts entered into under the contract consistent with the efficient performance of the contract. The contractor shall comply with any preference requirements regarding Alaska Native and American Indian business concerns established by the entity receiving services under the contract to the extent that such requirements are not inconsistent with the purpose and intent of this paragraph.

4) ALASKA NATIVE/AMERICAN INDIAN PREFERENCE IN TRAINING AND EMPLOYMENT

(a) The contractor shall give preference in employment for all work performed under the contract, including subcontracts there under, to qualified Alaska Natives and American Indians regardless of age, religion or sex and, to the extent feasible consistent with the efficient performance of the contract, provide

employment and training opportunities to Alaska Natives and American Indians, regardless of age, religion or sex that are not fully qualified to perform under the contract. The contractor shall comply with any Indian preference requirements established by the tribe receiving services under the contract to the extent that such requirements are consistent with the purpose and intent of this paragraph.

(b) If the contractor or any of its subcontractors is unable to fill its employment openings after giving full consideration to Alaska Natives and American Indians as required in paragraph (a) above, these employment openings may then be filled by other than Alaska Natives and American Indians under the conditions set forth in the Equal Opportunity clause of this contract.

(c) The contractor agrees to include this clause or one similar thereto in all subcontracts issued under the contract.

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REPRESENTATIONS AND CERTIFICATIONS

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

1. TYPE OF BUSINESS ORGANIZATION

The Bidder/Proposer, by checking the applicable box, represents that:

(a) It operates as:

[_] a corporation incorporated under the laws of the State of _____
[_] an individual,
[_] a partnership,
[_] a nonprofit organization, or
[_] a joint venture; or

(b) If the Bidder/Proposer is a foreign entity, it operates as:

[_] an individual,
[_] a partnership,
[_] a nonprofit organization,
[_] a joint venture, or
[_] a corporation registered for business in the Country of _____

2. PARENT COMPANY INFORMATION

The Bidder/Proposer by checking the applicable box represents that:

[_] It is independently owned and operated and it is not owned or controlled by a parent company or parent organization.

[_] It is not independently owned and operated; it is owned or controlled by a parent company or parent organization; and the full name and address of the Bidder/Proposer's parent company or parent organization is:

[_] If not independently owned and operated, the parent company or parent organization's Taxpayer Identification Number (TIN) or Employer Identification Number (E.I. No.) is: _____

3. TAXPAYER IDENTIFICATION

(c) Definitions.

"Common parent," as used in this solicitation provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the proposer is a member.

"Corporate status," as used in this solicitation provision, means a designation as to whether the proposer is a corporate entity, an unincorporated entity (e.g., sole proprietorship or partnership), or a corporation providing medical and health care services.

"Taxpayer Identification Number (TIN)," as used in this solicitation provision, means the number required by the IRS to be used by the proposer in reporting income tax and other returns.

(d) All proposers are required to submit the information required in paragraphs (c) through (e) of this

solicitation provision in order to comply with reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M and implementing regulations issued by the Internal Revenue Service (IRS). If the resulting contract is subject to the reporting requirements described in FAR 4.903, the failure or refusal by the proposer to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(e) Taxpayer Identification Number (TIN): _____

[_] TIN has been applied for.

[_] TIN is not required because:

[_] Proposer is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the U.S. and does not have an office or place of business or a fiscal paying agent in the U.S.:

[_] Proposer is an agency or instrumentality of a foreign government;

[_] Proposer is an agency or instrumentality of a Federal, state, or local government;

[_] Other. State basis.

(f) Corporate Status:

[_] Corporation providing medical and health care services, or engaged in the billing and collecting of payments for such services;

[_] Other corporate entity [_] Not a corporate entity [_] Sole proprietorship [_] Partnership

[_] Hospital or extended care facility described in 26 CFR 501(c)(3) that is exempt from taxation under 26 CFR 501(a).

(g) Common Parent. [_] Proposer is not owned or controlled by a common parent as defined in paragraph (a) of this provision. Name and TIN of common parent:

Name _____

TIN _____

5. CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS
(This provision is applicable only if the amount of the bid exceeds $100,000.)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The proposer, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a

covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the proposer shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite' for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.

6. PREVIOUS CONTRACTS AND COMPLIANCE REPORTS

The Contractor represents that:

(a) It [_] has [_] has not participated in a previous contract or subcontract subject either to the Equal Opportunity clause of this solicitation, the clause originally contained in Section 310 of federal Executive Order No. 10925, or the clause contained in Section 201 of federal Executive Order No. 1114;

(b) It [_] has [_] has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, by proposed subcontractors, will be obtained before subcontract awards.

7. CERTIFICATION OF NONSEGREGATED FACILITIES

(a) "Segregated facilities", as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(b) By submission of this offer, the Bidder/Proposer certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The Bidder/Proposer agrees that a breach of this certification is a violation of the Equal Opportunity clause in the contract.

(c) The Bidder/Proposer further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) it will:

(1) Obtain identical certifications from proposed subcontractors before the award of subcontracts under which the subcontractor will be subject to the Equal Opportunity clause;

(2) Retain the certifications in the files; and

(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods).

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR CERTIFICATIONS OF NONSEGREGATED FACILITIES.

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract under which the subcontractor will be subject to the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually, or annually).

8. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS

(a) The Proposer certifies, to the best of its knowledge and belief, that:

(1) The Proposer and/or any of its Principals:

a. Are [_] are not [_] presently debarred, suspended, proposed, for debarment, or declared ineligible for the award of contracts by any Federal agency;

b. (b) Have [_] have not [_], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

c. Are [_] are not [_] presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(2) (ii) The Proposer has [_] has not [_], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(b) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

This Certification Concerns a Matter Within the Jurisdiction of an Agency of the United States and the Making of a False, Fictitious, or Fraudulent Certification May Render the Maker Subject to Prosecution Under Section 1001, Title 18, United States Code.

(c) The Proposer shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Proposer learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(d) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Proposer's responsibility. Failure of the Proposer to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Proposer non-responsible.

(e) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of a Proposer is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(d) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Proposer knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

9. CLEAN AIR AND WATER CERTIFICATION

The Proposer certifies that:

(a) Any facility to be used in the performance of this proposed contract is [_] is not [_] listed on the Environmental Protection Agency (EPA) List of Violating Facilities;

(b) The Proposer will immediately notify the Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the EPA, indicating that any facility that the Proposer proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and

(c) The Proposer will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

10. ANTI-KICKBACK PROVISIONS

(a) The Contractor assures that regarding this contract, neither the Contractor, nor any of its employees, agents, or representatives has violated the provisions of the "Anti-Kickback" Act of 1986 (41 USC 51-58) which is incorporated by reference and made a part of this contract.

(b) The Contractor warrants that neither the Contractor nor any of its representatives has been required, directly or indirectly as an express or implied condition in obtaining or carrying out this contract, to employ or retain any organization or person or to make a contribution, donation or consideration of any kind.

11. EQUAL EMPLOYMENT OPPORTUNITY AND NON-DISCRIMINATION

(a) By submitting this offer, the Bidder/Proposer agrees that after giving preference under Indian Preference Provisions of this solicitation and contract, the contractor shall not discriminate among Indians on the basis of religion, sex, or tribal affiliation.

(b) By submitting this offer, the Bidder/Proposer agrees that after giving preference under Indian Preference Provisions of this solicitation and contract to comply with all applicable State and Federal rules governing Equal Employment Opportunity and Non-Discrimination. The Bidder/Proposer agrees to include this provision in all subcontracts.

(c) The Contractor shall permit access to its books, records, and accounts by the contracting agency or the Office of Federal Contract Compliance Programs (OFCCP) for the purposes of investigation to ascertain the Contractor's compliance with the applicable rules, regulations and orders.

(d) The Contractor shall include the terms and conditions this clause in every subcontract or purchase order so that these terms and conditions will be binding upon each subcontractor or vendor.

12. CERTIFICATE OF INDEPENDENT PRICE DETERMINATION

(a) The proposer certifies that--

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other proposer or competitor relating to-

(a) Those prices;

(b) The intention to submit an offer, or

(c) The methods or factors used to calculate the prices offered.

(2) The prices in this offer have not been and will not be knowingly disclosed by the proposer, directly or indirectly, to any other proposer or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the proposer to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory--

(1) Is the person in the proposer's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision [insert full name of person(s) in the proposer's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the proposer's organization] ;

(a) As an authorized agent, does certify that the principals named in subdivision (b)(2) of this provision have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; and

(b) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the proposer deletes or modifies subparagraph (a)(2) of this provision, the proposer must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

13. DRUG FREE WORKPLACE

To the extent that any facilities, equipment, vessel, or vehicle to be provided under this bid/offer is to be used as a place of work by Contracting Agency employees, the Bidder/Proposer certifies that it does and will maintain such place of work as a drug free workplace in compliance with the Drug Free Workplace Act of 1988 (P.L. 100-690) subject to all the sanctions and penalties in that Act.

14. TOBACCO FREE WORKPLACE

(a) All SEARHC owned campuses are 100% tobacco free. The use of any tobacco product is prohibited in all areas.

(b) All SEARHC owned campuses are 100% tobacco free. The use of any tobacco product is prohibited in all areas.

(c) All employees (including contract employees, volunteers, and students), patients, visitors, and vendors will support the tobacco free campus policy at all SEARHC facilities.

15. COOPERATION FOR REQUIRED DETERMINATION OF RESPONSIBLE PROSPECTIVE CONTRACTOR PRIOR TO AWARD OF CONTRACT

(a) The Bidder/Proposer shall, upon request, promptly furnish SEARHC with a current certified statement of the Bidder/Proposer's financial condition and such data as SEARHC may request with respect to the Bidder/Proposer's operations. SEARHC will use this information to determine the Bidder/Proposer's financial responsibility and ability to perform under the contract.

(b) Failure of a Bidder/Proposer to comply with a request for information may be cause for rejection of the

bid/offer on responsibility grounds.

(c) SEARHC may make such investigations as they deem necessary to determine the ability of the Bidder/Proposer to perform the work, and the Bidder/Proposer shall furnish to SEARHC all such information and data for this purpose as SEARHC may request. SEARHC reserves the right to reject any bid/offer if the evidence submitted by, or investigation of such Bidder/Proposer fails to satisfy SEARHC that such Bidder/Proposer is properly qualified and responsible to carry out the obligations of the contract and to complete the work contemplated therein.

16. BIDDER/PROPOSER CERTIFICATION AND REPRESENTATION SIGNATURE

By signing below, the Bidder/Proposer represents that all of its statements, certifications, and representations, and other information supplied herein are true and correct as of the date of submittal of this bid/offer.

PROPOSER: _____

ADDRESS: _____
(Type or Print Company Name and Address of Proposer)

AUTHORIZED SIGNATURE: _____

DATE: _____/_____/_____

SEARHC-RFP-26-1

PRICE SCHEDULE

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Pay Item No.		Scheduled Value (Lump Sum)
1	Insurance and Bonds	
2	Project Management and Submittals	
3	Project Close-Out, Record Docs, O&M Manuals	
4	Transportation, Housing and Subsistence	
5	Mobilization and Freight	
6	Disposal	
7	Utilities (Electrical) Underground	
8	Relocation of Conex Containers	
9	Electrical Lighting and Trim	
10	Concrete Sidewalk	
11	Concrete Retaining Wall	
12	Asphalt	
13	Asphalt Striping	
14	Fencing and Gate	
	Subtotal	
	General Contractor Mark Up Overhead and Profit	
	Total	

SEARHC-RFP-26-1

EXHIBIT A – EXECUTIVE SUMMARY

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Please see attached

SEARHC-RFP-26-1

EXHIBIT B – CONSTRUCTION DRAWINGS

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Please see attached

SEARHC-RFP-26-1

EXHIBIT C – CONSTRUCTION SPECIFICATIONS

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Please see attached

SEARHC-RFP-26-1

EXHIBIT D – CONDITIONAL USE PERMIT

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Please see attached

SEARHC-RFP-26-1

EXHIBIT E – GRADING PERMIT CHECKLIST

RFP FOR CONSTRUCTION OF A LIGHTED 52-SPACE PARKING LOT AT 1960 ANKA STREET, JUNEAU, AK

Please see attached

SEARHC: JUNEAU PARKING

100% CONSTRUCTION DOCUMENTS DESIGN NARRATIVE

SEPTEMBER 19, 2025

RESPEC

EXECUTIVE SUMMARY

The Southeast Alaska Regional Health Consortium (SEARHC) has requested that RESPEC Company, LLC provide professional services needed to develop a parking lot design for a property located on Anka Street in Juneau, Alaska.

1.1 DESIGN REFERENCES

- 2021 International Code Council (ICC) International Building Code (IBC)
- Juneau, Alaska - Code of Ordinances Title 19 - Building Regulations
- Juneau, Alaska - Code of Ordinances Title 49 - Land Use
- United Facilities Criteria (UFC) 3-210-02, Design: *POV Site Circulation and Parking*

1.2 PROJECT BACKGROUND AND DESCRIPTION

The existing gravel parking lot is located at 1960 Anka Street in an industrial zoned area, spanning 2 properties owned by SEARHC, abutted by businesses to the east and west and a private apartment building to the south. There is an 8' tall chain link privacy fence surrounding the existing parking area on the north and west sides with a SEARHC warehouse on the east side. There is an electric gate entrance on the northeastern corner of the fence line accessible through the SEARHC warehouse parking lot. As this property is already being used as a parking lot, it is not expected that traffic along Anka Street will be impacted by paving the lot.

The project effort includes topographic and utility surveys and full civil engineering services necessary to design the site layout of the SEARHC Juneau parking lot. RESPEC performed a comprehensive survey of the property in July 2025, including the topographic survey shown on Sheet V-101, to capture all existing site features such as pavement edges, utilities, fencing and structures,

This project entails paving of the existing gravel lot, the placement of a 6-foot-wide concrete sidewalk along the length of the SEARHC Warehouse, and the relocation of the two conex boxes from the south-east side of the parking lot to the northwest corner of the parking lot and adding fencing along the open southern side of the property.

The parking design involves the layout of (48) 10'x20' parking spaces in 6 rows accessed by a series of two-way travel lanes, shown on Sheet C-101. The parking lot will be accessed through the existing gate via a two-way entrance lane including a varying-width grassed area running the length of the property between the entrance lane and the fence line, providing a grassed landscaped buffer to infiltrate drainage runoff before running into the existing gutter along Anka Street.

1.3 DRAINAGE

All grading and paving work entailed in this project would not impact the neighboring properties. The parking area currently is composed of a 7" nominal thickness of 2" minus shot rock over native soils. A 1 to 2-foot-tall retaining wall with fence line is proposed to be installed along the southern edge of the property between the parking lot and property line to accommodate elevations on the south side of the

parking lot and to prevent drainage from impacting the property to the south. The retaining wall height varies based on the proposed parking lot finished ground elevation and the existing ground elevations of the neighboring property. As part of this project, a low point at the south-western corner of the parking lot will be corrected, preventing paved parking lot drainage from flowing onto the neighboring property to the existing surface yard drain. The remainder of the parking lot drainage will retain the same sheet flow drainage pattern as existing. Based on an asbuilt Water & Sewer Services drawing prepared by R&M Engineering, Inc. for the City and Borough of Juneau (CBJ) dated February 2002, there is no subsurface stormwater utility infrastructure located along Anka Street near the property for a drainage collection system on the property to be installed and connect to. Therefore, it was determined that the property should be graded for stormwater runoff to sheet flow perpendicularly to the roadway across the parking lot and into a varying-width grassed area that will run along the northern length of the parking lot, placed between the parking lot and fence line.

1.4 UTILITIES

There are two electrical boxes located along Anka Street outside of the fence line. These boxes were avoided with a jog in the fence line and impact the parking layout. It is assumed these will remain in place. There is currently underground electric to the two conex boxes which will be removed and rerouted to the relocated conex box storage area.

Parking lot lighting will be installed along the fence line on the northern, western and southern sides of the parking lot to provide even lighting for parking while preventing light from shining onto the housing units on the adjacent properties.

1.5 SITE GEOLOGY

Subsurface soils are presumed to consist of intermixed silty sands and gravels as indicated in an assumed representative spoils pile observed along the west side of the site. Based on this assumption, design determined the need for geotextile separation fabric, and developed a typical pavement section for the site. There are 5 monitoring wells on the site. No known contamination has been found, and the site has been approved by ADEC to proceed with a paving project; however, excavation is expected to be minimal for grading and electric line trenching only. Site development assumes these are no longer required and may be removed.

1.6 ANTICIPATED PERMIT REQUIREMENTS

The CBJ requires a Grading Permit for this project. The checklist for this permit includes excavation and fill quantity information, a drainage plan, a Soils Engineering Report, and an Engineering Geology Report.

1.7 ATTACHMENTS

1. 100%CD Design Drawings
2. 100%CD Specifications Table of Contents
3. 100%CD Engineer's Cost Estimate
4. CBJ Grading Checklist

5. CBJ Conditional Use Permit

9109 MENDENHALL MALL RD.
SUITE 4
JUNEAU, AK 99801
907.780.6060

respec.com

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION. AFFECTING ALL LABELED SCALES

1"

SEARHC JUNEAU PARKING

FOR:

SEARHC
3100 CHANNEL DRIVE, SUITE 300
JUNEAU, ALASKA 99801

SCALE: N.T.S.

PREPARED BY:

Juneau, AK
9109 Mendenhall Mall Rd, Ste 4
Juneau, AK 99801
Phone: 907.780.6060
www.respec.com
AECC163270

SHEET INDEX:

STATE OF ALASKA 49TH
EVA M. MELANCON
CE 171121
REGISTERED PROFESSIONAL ENGINEER
09/19/2025

Juneau, AK
9109 Mendenhall Mall Rd, Ste 4
Juneau, AK 99801
Phone: 907.780.6060
www.respec.com
AECC163270

PROJECT : SEARHC JUNEAU PARKING
JUNEAU, ALASKA

SHEET TITLE : COVER SHEET
CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER G-101

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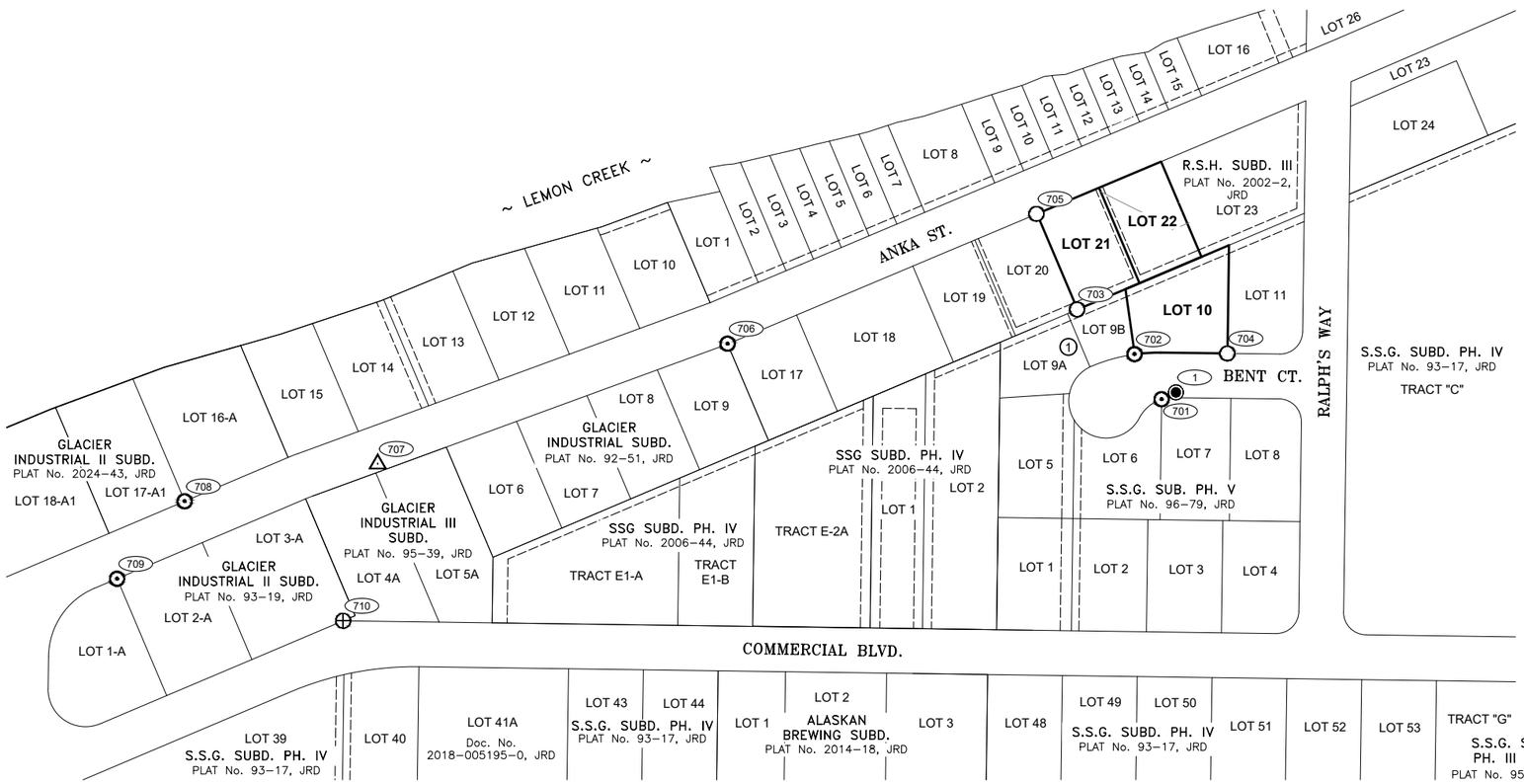

100 50 0 100 200 300
SCALE IN FEET

SURVEYOR'S CERTIFICATE

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

DATE _____ REGISTRATION NO. LS-11798

CRAIG O. RANSON

REGISTERED LAND SURVEYOR

NOTES:

1. THE BASIS OF COORDINATES IS THE NAD83(2011)(EPOCH: 2010.0000) ALASKA STATE PLANE ZONE 1 (AKSPZ1) POSITION OF CONTROL POINT (CP) 1, BASED ON A 4-HOUR GNSS OCCUPATION PROCESSED BY THE NGS OPUS UTILITY. CP 1 IS A 1-1/4" YELLOW PLASTIC CAP ON A 5/8" x 30" REBAR, SET THIS SURVEY, LOCATED SOUTH OF THE PROJECT SITE IN THE BENT CT. RIGHT-OF-WAY. THESE NAD83 AKSPZ1 COORDINATES ARE 2,384,174.93' NORTH, 2,528,649.46' EAST, U.S. SURVEY FEET (58°21'31.4939" NORTH, 134°29'08.0548" WEST).
2. THE BASIS OF BEARING FOR THIS SURVEY IS THE NAD83 AKSPZ1 GRID COORDINATE SYSTEM.
3. THE VERTICAL DATUM IS NAVD88 (DERIVED USING GEOID12B ALASKA) AT CP 1, HAVING AN ELEVATION OF 42.87'.
4. ALL MEASUREMENTS ARE IN U.S. SURVEY FEET.
5. THE ELEVATIONS AND HORIZONTAL POSITIONS OF RECOVERED MONUMENTS WERE ESTABLISHED USING GLOBAL POSITIONING SURVEYING METHODS.
6. PROPERTY LINES SHOWN ARE DERIVED FROM RECORDED PLATS. PROPERTY LINES WERE PLACED ON RECOVERED MONUMENT 710 AND ROTATED TO RECOVERED MONUMENT 704. PROPERTY LINES SHOWN ARE FOR GRAPHICAL USE ONLY AND ARE NOT INTENDED TO REPRESENT A TRUE BOUNDARY SURVEY.
7. VERIFY ALL HORIZONTAL AND VERTICAL CONTROL PRIOR TO USE.

CONTROL TABLE

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1*	2384174.93'	2528649.46'	42.86'	SET 1-1/4" YPC (RESPEC CONTROL)
701	2384165.75'	2528630.27'	43.35'	FND 1-1/4" YPC (6262-S)
702	2384226.04'	2528594.10'	43.26'	FND 1-1/4" YPC (7570-S)
703	2384285.97'	2528517.36'	41.40'	FND 5/8" REBAR
704	2384227.08'	2528718.16'	43.97'	FND 5/8" REBAR
705	2384413.65'	2528463.06'	41.71'	FND 5/8" REBAR
706	2384239.95'	2528050.30'	37.34'	FND 1-1/4" YPC (1410-S)
707	2384079.43'	2527582.76'	35.22'	FND MAG NAIL W/ WASHER (3650-S)
708	2384029.36'	2527324.75'	37.11'	FND 1-1/4" YPC (1410-S)
709	2383925.82'	2527234.39'	38.10'	FND 1-1/4" YPC (1410-S)
710	2383869.74'	2527536.58'	37.85'	FND 3-1/4" ALUM. CAP PRIMARY MON. (1410-S)

* HORIZONTAL AND VERTICAL CONTROL. ALL OTHER POINTS ARE FOR HORIZONTAL CONTROL ONLY.

LEGEND

(#)	POINT NUMBER
⊕	FOUND PRIMARY MONUMENT
⊙	FOUND PLASTIC CAP
○	FOUND REBAR
△	FOUND MAG NAIL WITH WASHER
◉	SET PLASTIC CAP
———	PROJECT BOUNDARY
———	ADJACENT PROPERTY LINE
- - - - - - - - -	EASEMENT
CBJ	CITY AND BOROUGH OF JUNEAU
JRD	JUNEAU RECORDING DISTRICT
YPC	YELLOW PLASTIC CAP
FND	FOUND
ALUM.	ALUMINUM
MON.	MONUMENT
(1)	SSG SUBD. V (PLAT No. 2013-25, JRD)

RESPEC ○ CONTROL

TYPICAL MONUMENT
(ESTABLISHED THIS SURVEY)
1-1/4" YELLOW PLASTIC CAP
ON A 5/8" x 30" REBAR

Juneau, AK
9109 Mendenhall Mall Rd, Ste 4
Juneau, AK 99801
Phone: 907.780.6060
www.respec.com
AECC163270

PROJECT : SEARHC JUNEAU PARKING
JUNEAU, ALASKA

SHEET TITLE : SURVEY CONTROL SHEET
CONSTRUCTION DOCUMENTS

DESIGN	EPV
DRAWN	CES
CHECKED	COR
DATE	09/12/2025
PROJECT No.	I1300.25005
SHEET NUMBER	V-101

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION. AFFECTING ALL LABELED SCALES

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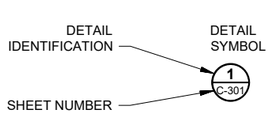
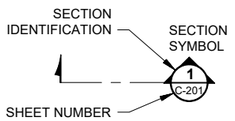
LEGEND

PROPOSED	EXISTING	
		BOLLARD
		BUILDING
		CENTERLINE
	C	COMMUNICATION
		COMMUNICATION BOX
		CONCRETE PAVEMENT / SIDEWALK
		CULVERT
	EP	EDGE OF AC PAVEMENT
	E	ELECTRICAL BOX
		ELECTRICAL EQUIPMENT
		ELECTRIC METER
		EXTERIOR LIGHTING
		FENCE
		FIRE DEPARTMENT CONNECTION
		FIRE HYDRANT
	FP	FIRE PROTECTION MAIN
	GAS	GAS LINE
		GATE VALVE
		GRASS
		GUY POLE
		HEADBOLT OUTLET
		LIGHT POLE
50	50	MAJOR CONTOUR
49.5	49.5	MINOR CONTOUR
	MW	MONITORING WELL
	OHE	OVERHEAD POWER LINE
		PAVEMENT MARKING
		POWER AND LIGHT POLE
		POWER POLE
		REGULATORY / TRAFFIC SIGN
		RETAINING WALL
	SS	SANITARY SEWER
	SD	STORM DRAIN
		TRAFFIC BOX
		TRAFFIC SIGNAL POLE
		TREE
UGE	UGE	UNDERGROUND ELECTRIC
		UTILITY HATCH
	W	WATER LINE

DETAIL & SECTION IDENTIFICATION





ABBREVIATIONS

AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITIES ACT
BGS	BELOW GROUND SURFACE
BTM	BOTTOM
C	COMMUNICATION
CONC	CONCRETE
COR	CORNER
DEMO	DEMOLISH
EA	EACH
EG	EXISTING GRADE, EDGE GRAVEL
EL, ELEV	ELEVATION
ELEC	ELECTRIC, ELECTRICAL
EP	EDGE OF PAVEMENT
E, EX, EXST	EXISTING
EXCV	EXCAVATION
FM	FORCE MAIN
FFE	FINISH FLOOR ELEVATION
FG	FINISHED GRADE
FP	FIRE PROTECTION MAIN
GB	GRADE BREAK
HOR, H	HORIZONTAL
HPS	UNDERGROUND STEAM
IE	INVERT ELEVATION
MAX	MAXIMUM
ME	MATCH EXISTING
MH	MANHOLE
MIN	MINIMUM
(N)	NEW
N.T.S., NTS	NOT TO SCALE
NO, #	NUMBER
NOM	NOMINAL
O.C., OC	ON CENTER
OCEW	ON CENTER EACH WAY
OHE	OVERHEAD ELECTRIC
OSHA	OCCUPATIONAL HEALTH AND SAFETY ADMINISTRATION
PCC	PORTLAND CEMENT CONCRETE
PP	POWER POLE
R	RADIUS
SCH	SCHEDULE
SS	SANITARY SEWER
SW	SIDEWALK
TOC	TOP OF CONCRETE
TYP	TYPICAL
UGE	UNDERGROUND ELECTRIC
VERT, V	VERTICAL
W	WATER
W/	WITH

GENERAL NOTES:

1. GRAVELS, BOULDERS, SILTS, ORGANICS, DEBRIS, AND GROUNDWATER MAY BE ENCOUNTERED AT VARIOUS DEPTHS DURING SITE EXCAVATION AND TRENCHING OPERATIONS. SEE SOILS NOTES BELOW.
2. ALL DEMOLISHED MATERIALS AND EXCAVATION SHALL BECOME THE PROPERTY OF THE CONTRACTOR, WHERE NOT INDICATED FOR SALVAGE OR REUSE.
3. THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL. ADD SILT FENCING EROSION CONTROL ALONG PROPERTY LINE PRIOR TO CONSTRUCTION TO PREVENT SEDIMENT FROM LEAVING PROJECT SITE AND AFFECTING ABUTTING PROPERTIES.
4. RESTORE ALL SURFACES TO PRE-CONSTRUCTION CONDITION PRIOR TO SUBSTANTIAL COMPLETION. PROTECT STRUCTURES TO REMAIN AND MAINTAIN A SECURE PERIMETER FOR DURATION OF THE PROJECT.
5. THE CONTRACTOR SHALL OBTAIN ALL PERMITS NECESSARY TO PERFORM THE WORK.
6. LOCATIONS OF EXISTING UNDERGROUND SEWER, WATER, TELEPHONE, CABLE TELEVISION, AND POWER UTILITIES SHOWN ON THESE PLANS WERE DERIVED FROM AVAILABLE RECORD AS-BUILTS. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THIS PROJECT. ANY DAMAGE RESULTING TO THESE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
7. THE CONTRACTOR IS RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL. THE ESTIMATED PROJECT AREA OF DISTURBANCE IS 0.61 ACRES.
8. CBJ ENGINEERING STANDARD DETAILS BOOK DATED AUGUST, 2011 IS MADE A PART OF THIS CONTRACT WITH CURRENT REVISIONS AS APPLICABLE. DETAILS CONTAINED WITHIN THIS PLAN SET SUPERSEDE THOSE IN THE CBJ STANDARDS UNLESS APPROVED BY THE ENGINEER.
9. VERTICAL GRADES AND HORIZONTAL ALIGNMENTS SHOWN ON THESE PLANS ARE SUBJECT TO MINOR REVISIONS AS APPROVED BY THE ENGINEER.
10. PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT A BOUNDARY SURVEY.
11. PER CBJ DISTURBING THE PEACE CODE, 42.20.095, THE CONTRACTOR WILL NOT BE ALLOWED TO OPERATE ANY HEAVY CONSTRUCTION EQUIPMENT BEFORE 7:00 AM OR AFTER 10:00 PM MONDAY THROUGH FRIDAY, OR BEFORE 9:00 AM OR AFTER 10:00 PM SATURDAY AND SUNDAY, UNLESS A PERMIT IS OBTAINED FROM THE CBJ BUILDING OFFICIAL.
12. DIMENSIONS SHOWN ARE TO EDGE OF PAVEMENT, GRADE BREAK, EDGE OF CONCRETE, OR FACE OF SIDEWALK UNLESS NOTED OTHERWISE.
13. RESTORE ALL DISTURBED PROPERTY OUTSIDE WORK LIMITS TO ORIGINAL CONDITIONS.

SURVEY NOTES:

1. THE CONTRACTOR SHALL REFERENCE ALL EXISTING SURVEY MONUMENTS PRIOR TO CONSTRUCTION AND RE-MONUMENT IF DISTURBED. ALL SUCH WORK SHALL BE PERFORMED BY, OR UNDER THE DIRECTION OF, AN ALASKA REGISTERED LAND SURVEYOR.
2. SEE SHEET V-101 FOR SURVEY CONTROL INFORMATION.
3. EXISTING BOUNDARY AND SITE FEATURES DEPICTED ARE BASED UPON A TOPOGRAPHIC SURVEY OF THE SITE ON 7/7/2025, WITH SUBSEQUENT FIELD LOCATED ON 7/22/2025 PERFORMED BY RESPEC.

SOILS NOTES:

1. SUBSURFACE SOILS ARE PRESUMED TO CONSIST OF INTERMIXED SILTY SANDS AND GRAVELS AS INDICATED IN AN ASSUMED REPRESENTATIVE SPOILS PILE OBSERVED ALONG THE WEST SIDE OF THE SITE.
2. CONTRACTOR SHALL EXCAVATE TO THE DEPTHS REQUIRED TO ESTABLISH STRUCTURAL SECTIONS AS DETAILED IN THESE DRAWINGS.
3. A SEPARATION GEOTEXTILE FABRIC SHALL BE PLACED AT THE BOTTOM OF EXCAVATION.

Juneau, AK
9109 Mendenhall Mall Rd, Ste 4
Juneau, AK 99801
Phone: 907.790.6060
www.respec.com
AECC163270

PROJECT : SEARHC JUNEAU PARKING JUNEAU, ALASKA

SHEET TITLE : LEGEND, NOTES AND ABBREVIATIONS CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER C-001

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES

1"

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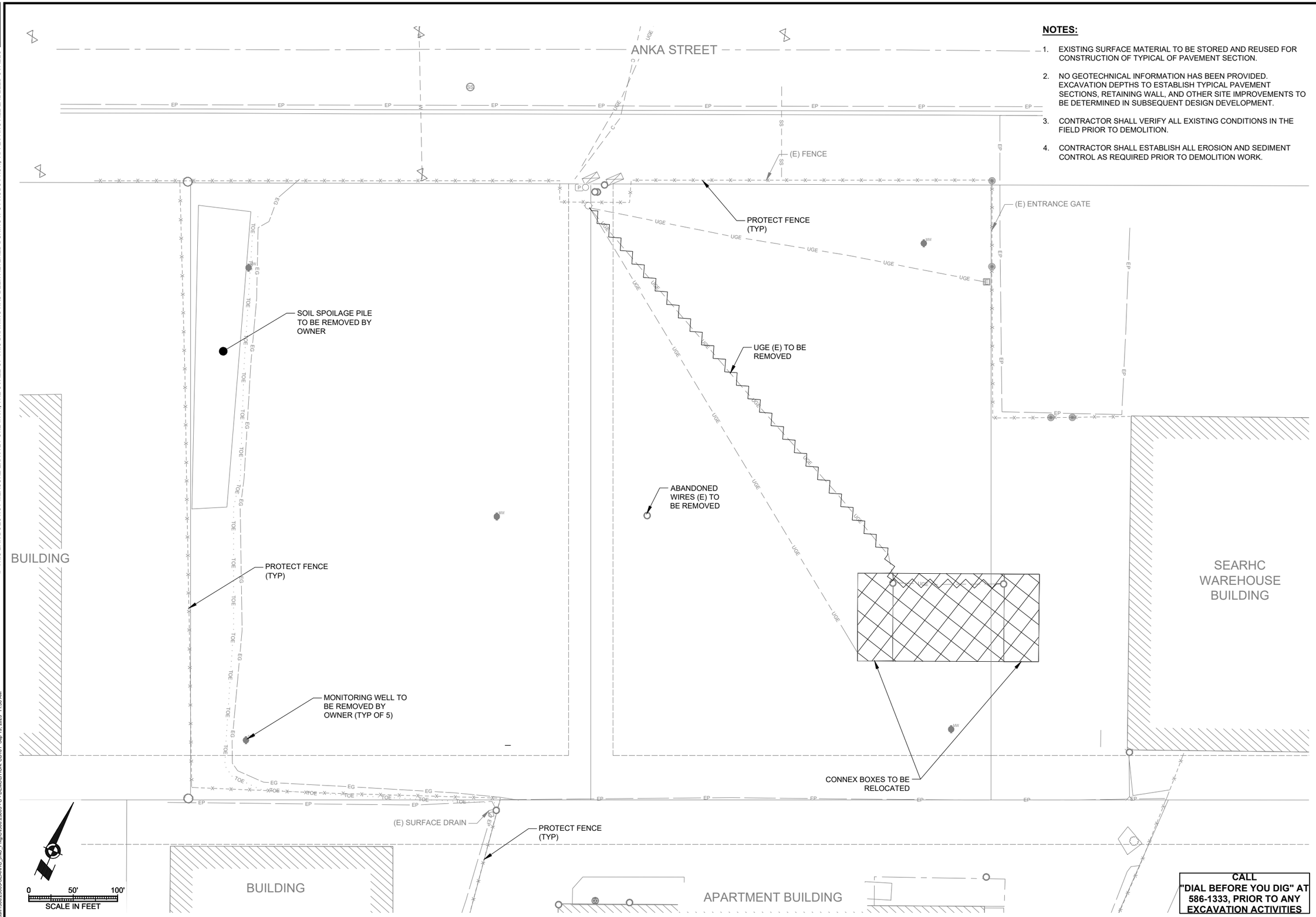

NOTES:

1. EXISTING SURFACE MATERIAL TO BE STORED AND REUSED FOR CONSTRUCTION OF TYPICAL OF PAVEMENT SECTION.
2. NO GEOTECHNICAL INFORMATION HAS been PROVIDED. EXCAVATION DEPTHS TO ESTABLISH TYPICAL PAVEMENT SECTIONS, RETAINING WALL, AND OTHER SITE IMPROVEMENTS TO BE DETERMINED IN SUBSEQUENT DESIGN DEVELOPMENT.
3. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS IN THE FIELD PRIOR TO DEMOLITION.
4. CONTRACTOR SHALL ESTABLISH ALL EROSION AND SEDIMENT CONTROL AS REQUIRED PRIOR TO DEMOLITION WORK.

CALL "DIAL BEFORE YOU DIG" AT 586-1333, PRIOR TO ANY EXCAVATION ACTIVITIES

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Eva M. Melancon
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PROJECT : SEARHC JUNEAU PARKING JUNEAU, ALASKA

SHEET TITLE : SITE DEMOLITION CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER **CD101**

1"

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES

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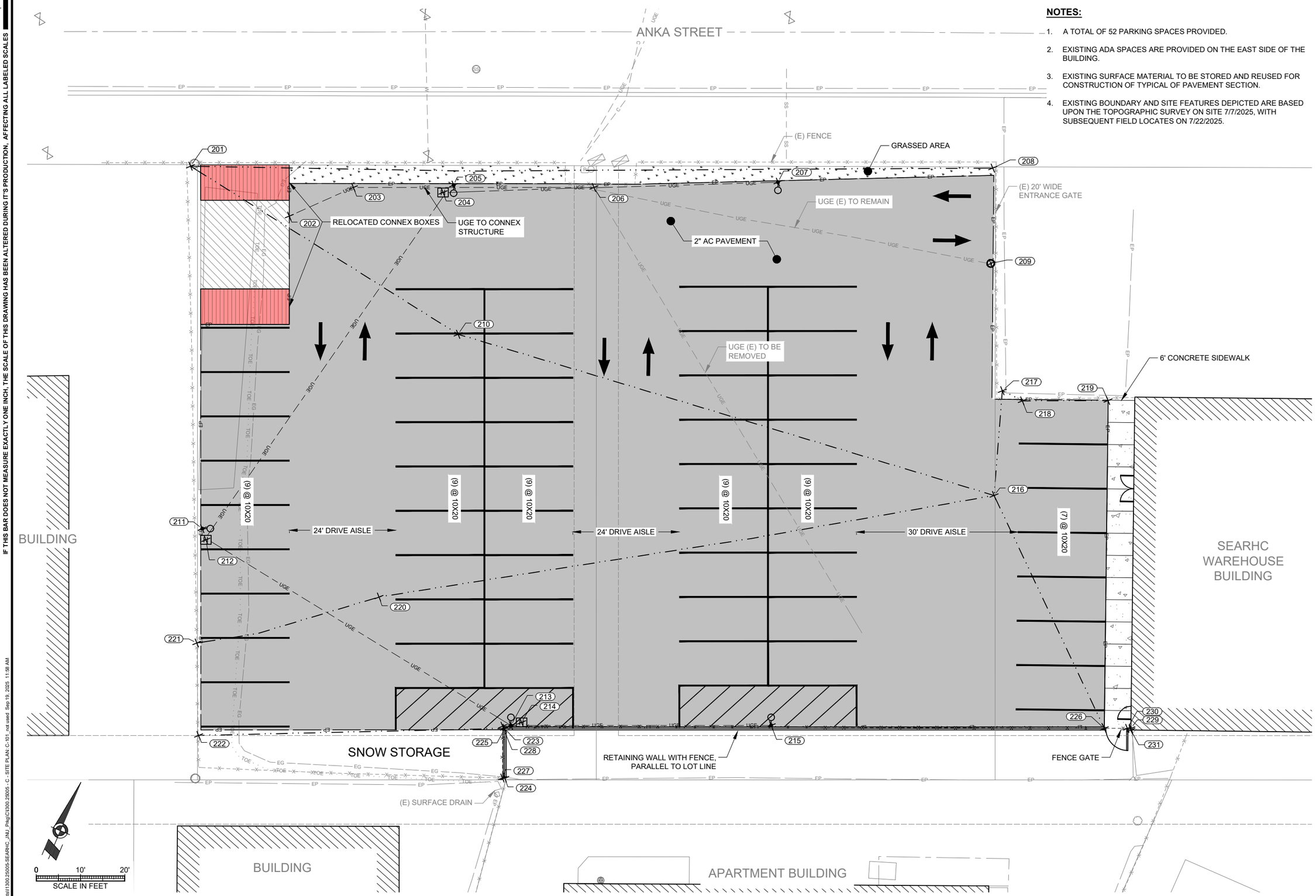

NOTES:

1. A TOTAL OF 52 PARKING SPACES PROVIDED.
2. EXISTING ADA SPACES ARE PROVIDED ON THE EAST SIDE OF THE BUILDING.
3. EXISTING SURFACE MATERIAL TO BE STORED AND REUSED FOR CONSTRUCTION OF TYPICAL OF PAVEMENT SECTION.
4. EXISTING BOUNDARY AND SITE FEATURES DEPICTED ARE BASED UPON THE TOPOGRAPHIC SURVEY ON SITE 7/7/2025, WITH SUBSEQUENT FIELD LOCATES ON 7/22/2025.

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PROJECT : SEARHC JUNEAU PARKING — JUNEAU, ALASKA

SHEET TITLE : SITE PLAN — CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER C-101

C-101 CIVIL SITE POINTS

POINT #	NORTHING	EASTING	DESCRIPTION
201	2384412.73	2528462.42	GR BRK
202	2384411.07	2528487.34	UGE
203	2384422.67	2528498.14	UGE
204	2384429.53	2528517.20	HANDHOLE
205	2384431.99	2528518.77	LIGHT
206	2384443.87	2528548.11	ELEC METER
207	2384461.18	2528585.88	LIGHT
208	2384483.03	2528629.25	GR BRK
209	2384463.04	2528637.24	JUNCTION BOX
210	2384401.39	2528532.83	GR BRK
211	2384338.47	2528496.80	LIGHT
212	2384336.47	2528498.54	HAND HOLE
213	2384324.79	2528578.27	LIGHT
214	2384326.35	2528580.21	HANDHOLE
215	2384347.71	2528632.33	LIGHT
216	2384415.13	2528658.39	GR BRK
217	2384437.62	2528650.87	GR BRK
218	2384437.27	2528655.92	GR BRK
219	2384444.90	2528673.69	GR BRK
220	2384339.83	2528539.54	GR BRK
221	2384314.24	2528505.75	GR BRK
222	2384295.17	2528514.26	GR BRK
223	2384323.61	2528577.25	GR BRK
224	2384313.31	2528581.62	RETAIN WALL
225	2384323.63	2528577.25	RETAIN WALL
226	2384376.44	2528701.81	RETAIN WALL
227	2384313.10	2528581.14	FNCE
228	2384323.89	2528576.61	FNCE
229	2384378.79	2528707.33	FNCE
230	2384378.49	2528706.59	GATE
231	2384378.48	2528707.46	FNCE

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES

1"

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PROJECT :
SEARHC JUNEAU PARKING
JUNEAU, ALASKA

SHEET TITLE :
SITE POINT TABLE

CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No.
I1300.25005

SHEET NUMBER
C-102

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES 1"

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NOTES:

1. MATCH EXISTING GRADES ALONG EXISTING FENCE LINES.

ANKA STREET

(E) FENCE

(E) 20' WIDE ENTRANCE GATE

BUILDING

SEARHC WAREHOUSE BUILDING

BUILDING

APARTMENT BUILDING

(E) SURFACE DRAIN

3 C-501 RETAINING WALL WITH FENCE, PARALLEL TO LOT LINE

1.83%
1.18%
1.29%
1.24%
1.32%
0.55%
0.38%

0 50' 100'
SCALE IN FEET

CALL "DIAL BEFORE YOU DIG" AT 586-1333, PRIOR TO ANY EXCAVATION ACTIVITIES

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PROJECT : SEARHC JUNEAU PARKING JUNEAU, ALASKA

SHEET TITLE : SITE GRADING

CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER C-201

GRADE POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	2384422.08	2528482.67	42.00	EG
102	2384417.85	2528484.46	42.06	EP
103	2384388.58	2528496.89	42.14	EP
104	2384380.77	2528478.48	41.98	EP
105	2384296.54	2528514.27	41.86	EP
106	2384323.21	2528577.05	42.20	EP
107	2384323.80	2528576.81	44.00	EP
108	2384323.21	2528577.05	44.50	RW
109	2384323.80	2528576.81	44.50	RW
110	2384313.17	2528581.32	44.50	RW
111	2384313.75	2528581.86	44.50	RW
112	2384442.10	2528541.83	42.16	EG
113	2384446.52	2528539.99	42.16	EG
114	2384448.14	2528556.34	42.40	EG
115	2384452.89	2528554.72	42.40	EG
116	2384484.45	2528629.48	43.08	EG
117	2384481.61	2528630.11	43.08	EG
118	2384434.94	2528649.45	43.80	EP
119	2384444.98	2528673.69	44.48	EP
120	2384376.75	2528701.68	44.00	EP
121	2384376.44	2528701.81	44.50	RW
122	2384376.07	2528701.94	44.50	RW

1"

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PROJECT :
SEARHC JUNEAU PARKING

JUNEAU, ALASKA

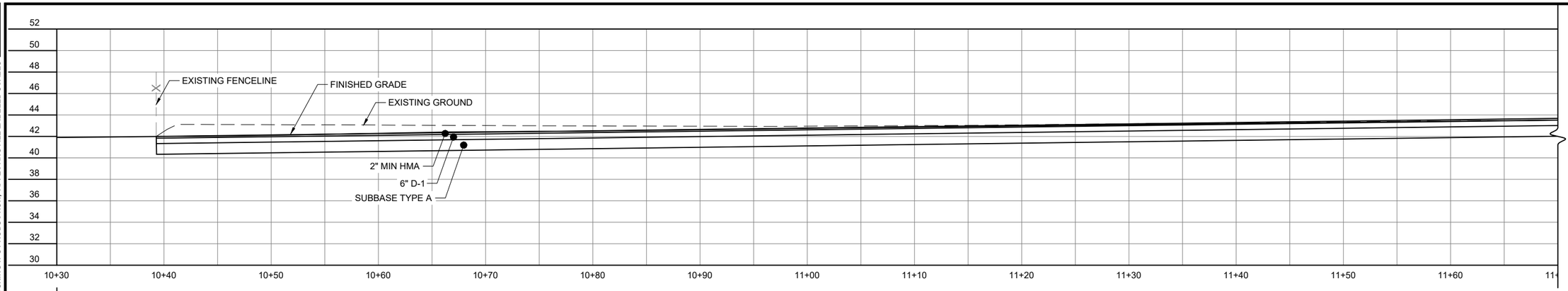
SHEET TITLE :
GRADE POINT TABLE

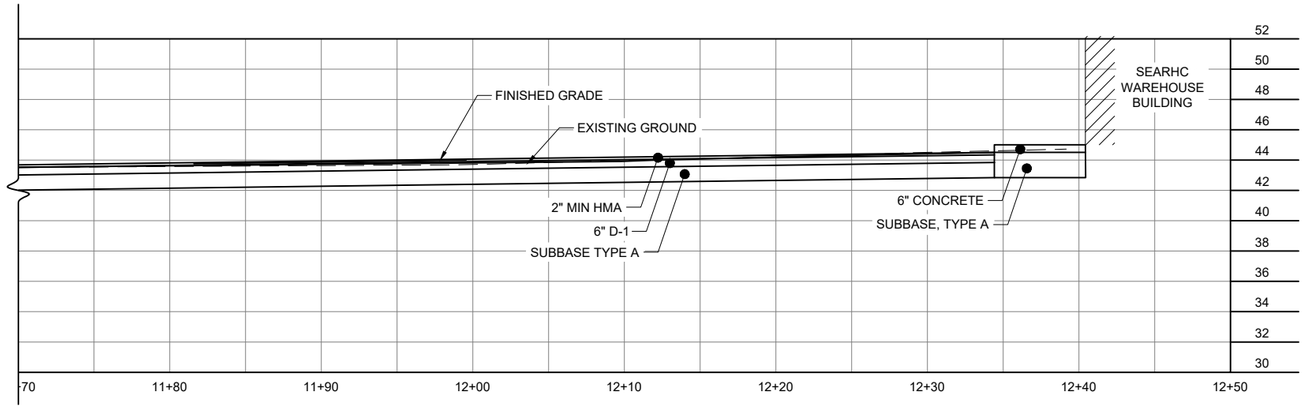
CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No.
I1300.25005

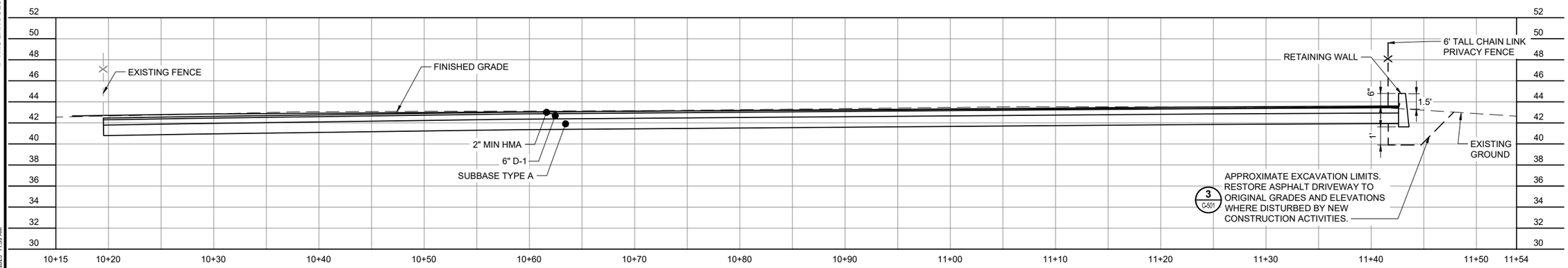
SHEET NUMBER
C-202





1 C-401 WEST TO EAST SITE SECTION

SCALE: 1" = 5'



2 C-401 NORTH TO SOUTH SITE SECTION

SCALE: 1" = 5'

CALL "DIAL BEFORE YOU DIG" AT 586-1333, PRIOR TO ANY EXCAVATION ACTIVITIES

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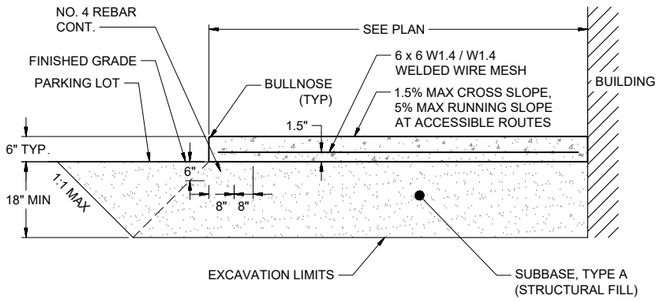
PROJECT : SEARHC JUNEAU PARKING
JUNEAU, ALASKA

SHEET TITLE : SITE SECTIONS
CONSTRUCTION DOCUMENTS

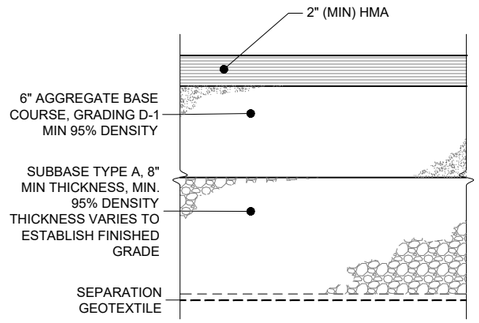
DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER C-401



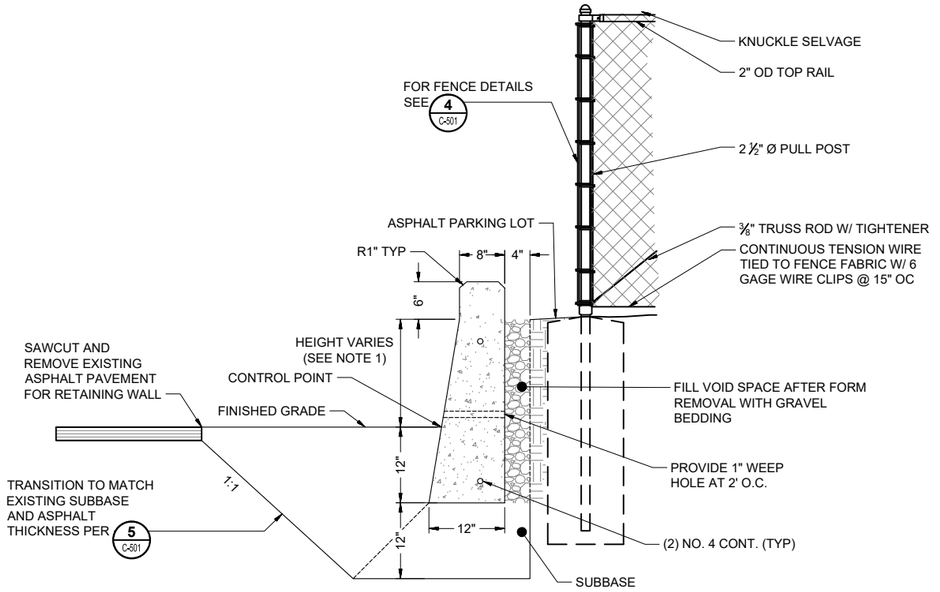
1 C-501 **PCC THICKENED EDGE SIDEWALK SECTION**
SCALE: NTS



NOTES:

1. SAW CUT AND APPLY TACK COAT TO ALL EXISTING PAVEMENT VERTICAL SURFACES THAT JOIN PROPOSED ASPHALT PAVEMENT IMMEDIATELY PRIOR TO PAVING.
2. EXTEND GEOTEXTILE TO BOTTOM OF BASE COURSE WHERE BOTTOM OF EXCAVATION SLOPES TO EG.

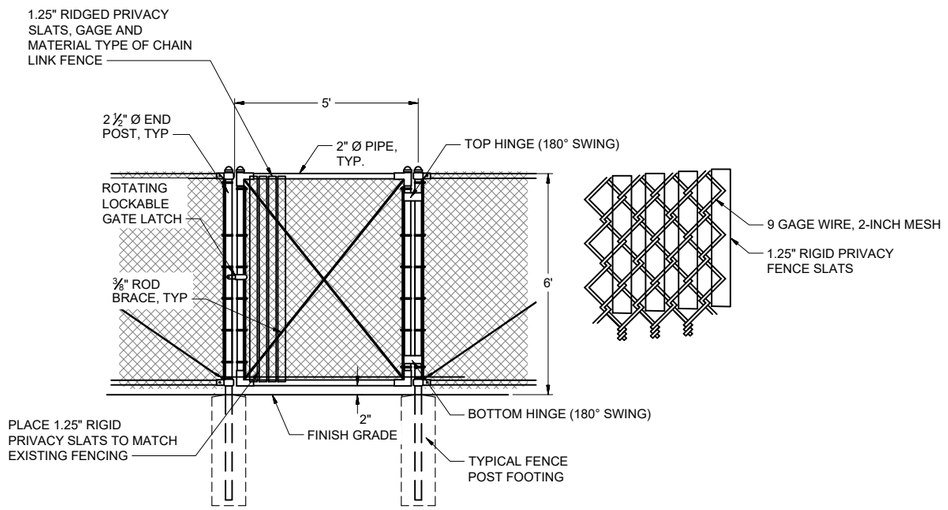
2 C-501 **HMA TYPICAL PARKING PAVEMENT SECTION**
SCALE: NTS



3 C-501 **RETAINING WALL**
SCALE: NTS

NOTES:

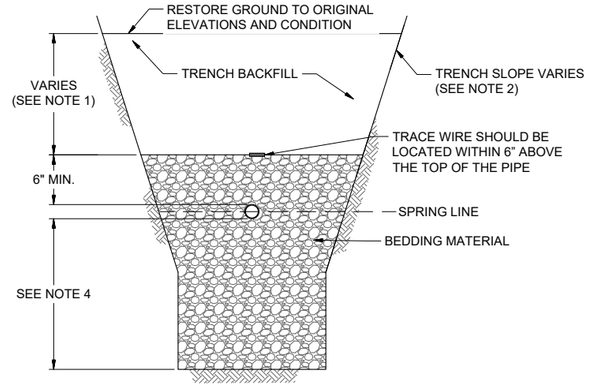
1. HEIGHT VARIES FROM 1' TO 2' BETWEEN RETAINING WALL TOP ELEVATION OF 44.5' TO EXISTING GROUND BASED ON EXISTING GROUND ELEVATION.



NOTES:

1. CHAIN LINK PRIVACY FENCE TO MATCH EXISTING FENCE

4 C-501 **CHAIN LINK PRIVACY FENCE**
SCALE: NTS



NOTES:

1. TRENCH BACKFILL MATERIAL PLACED AND COMPACTED A MINIMUM DEPTH OF 18" OR AS DETERMINED BY THE ENGINEER. COMPACT TRENCH BACKFILL TO A MINIMUM OF 95% MAXIMUM DENSITY.
2. TRENCH WALL SLOPES WILL VARY WITH SOIL STRENGTH AND CHARACTER. SLOPES SHALL CONFORM TO OSHA SAFETY STANDARDS.
3. BACKFILL SHALL BE FREE OF CLAYS AND ORGANIC MATERIALS.
4. A 6" LAYER OF SAND OR FINE GRAVEL SHALL BE PLACED AND TAMPED IN THE BOTTOM OF THE TRENCH, TO PROVIDE UNIFORM BEDDING FOR THE SYSTEM. THE ENTIRE TRENCH SHALL BE EVENLY BACKFILLED WITH THE SAME MATERIAL IN 6" COMPACTED LIFTS TO A MINIMUM HEIGHT OF 6" ABOVE THE TOP OF THE PIPING SYSTEM.

5 C-501 **UGE TYPICAL TRENCH SECTION**
SCALE: NTS

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PROJECT : SEARHC JUNEAU PARKING — JUNEAU, ALASKA

SHEET TITLE : DETAILS — CONSTRUCTION DOCUMENTS

DESIGN	EMM
DRAWN	HRB
CHECKED	DES
DATE	09/19/2025

PROJECT No. I1300.25005

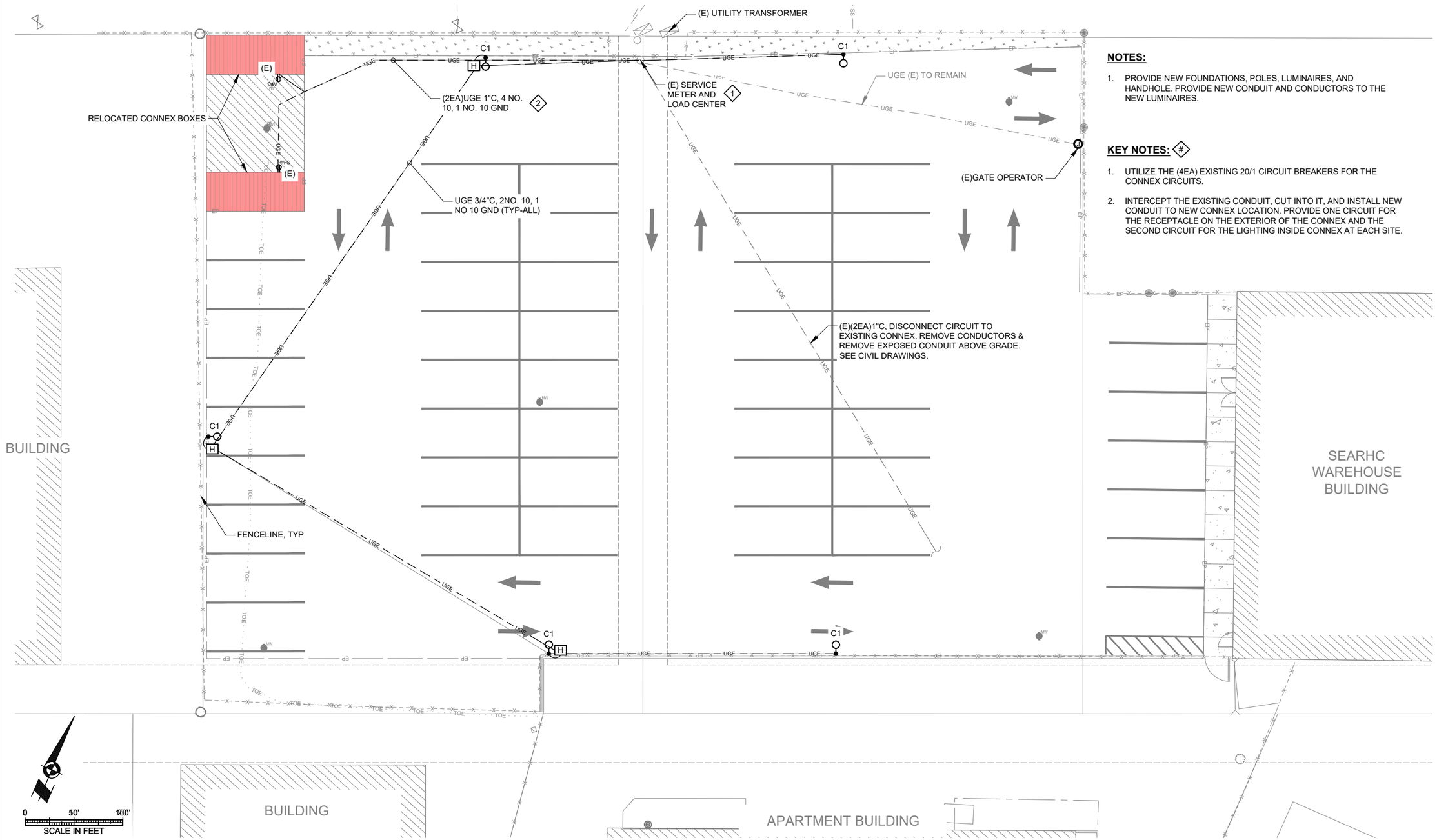
SHEET NUMBER C-501

LUMINAIRE SCHEDULE

TYPE MARK	LOAD	DESCRIPTION	MANUFACTURER	MODEL NUMBER	MOUNTING TYPE	DRIVER	NOTES
C1	50	POLE MOUNTED AREA LIGHT, DIE CAST ALUMINUM HOUSING, ACRYLIC LENS, WHITE LED 3000K, CRI 85, TYPE III WIDE DISTRIBUTION, INTEGRAL ELECTRONIC DRIVER, 120-277V, 10,040 LUMENS, POWDER COAT DARK BRONZE FINISH, EXTERNAL GLARE SHIELD, PROVIDED WITH PHOTOCELL.	LITHONIA	RSX2LED-P2-30K-R3-MVOL T-SPA-EGS-DDBXD-PE	POLE	120-277V	
POLE		20 FT TALL, STRAIGHT SQUARE STEEL POLE, 4" DIA, 100 MPH RATING, DRILL MOUNTING AT 90 DEGREES, DARK BRONZE	LITHONIA	SSS-20-4B-DM19AS-DDBXD			

LEGEND

- POLE MOUNTED LUMINAIRE
- JUNCTION BOX/ EQUIPMENT CONNECTION
- HAND HOLE
- WPG — WET-LOCATION, WEATHERPROOF GFCI DUPLEX RECEPTACLE
- UGE — UNDERGROUND ELECTRICAL



NOTES:

1. PROVIDE NEW FOUNDATIONS, POLES, LUMINAIRES, AND HANDHOLE. PROVIDE NEW CONDUIT AND CONDUCTORS TO THE NEW LUMINAIRES.

KEY NOTES: #

1. UTILIZE THE (4EA) EXISTING 20/1 CIRCUIT BREAKERS FOR THE CONNEX CIRCUITS.
2. INTERCEPT THE EXISTING CONDUIT, CUT INTO IT, AND INSTALL NEW CONDUIT TO NEW CONNEX LOCATION. PROVIDE ONE CIRCUIT FOR THE RECEPTACLE ON THE EXTERIOR OF THE CONNEX AND THE SECOND CIRCUIT FOR THE LIGHTING INSIDE CONNEX AT EACH SITE.

STATE OF ALASKA — 49TH — B.C. HAIGHT — EE 4800 — REGISTERED PROFESSIONAL ENGINEER — 19 SEP 2025

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PROJECT : SEARHC JUNEAU PARKING — JUNEAU, ALASKA

SHEET TITLE : ELECTRICAL SITE PLAN — CONSTRUCTION DOCUMENTS

DESIGN	SNH
DRAWN	HRB
CHECKED	BCH
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER **E-100**

IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES

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IF THIS BAR DOES NOT MEASURE EXACTLY ONE INCH, THE SCALE OF THIS DRAWING HAS BEEN ALTERED DURING IT'S PRODUCTION, AFFECTING ALL LABELED SCALES

1"

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ELECTRICAL SPECIFICATIONS

1. GENERAL REGULATORY REQUIREMENTS
   A. DELIVER, STORE, PROTECT, AND HANDLE PRODUCTS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. PROTECT PRODUCTS FROM WEATHER.
   B. ACCEPT PRODUCTS ON SITE IN MANUFACTURER'S PACKAGING. INSPECT FOR DAMAGE. NOTIFY PROJECT MANAGER OF ALL DAMAGED PRODUCTS.
   C. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL STATE, FEDERAL, AND OSHA SAFETY REQUIREMENTS.
   D. CONTRACTOR COORDINATION
      a. CONTRACTOR SHALL COORDINATE START-UP AND ENERGIZING OF ALL ELECTRICAL EQUIPMENT WITH PROJECT MANAGER.
      b. CONTRACTOR SHALL COORDINATE POWER OUTAGES AND DE-ENERGIZING OF ALL EXISTING ELECTRICAL EQUIPMENT WITH PROJECT MANAGER.

2. SUBMITTALS
   A. SUBMIT PRODUCT DATA AND SHOP DRAWINGS FOR REVIEW AND APPROVAL.

3. DEMOLITION
   A. EXISTING ELECTRICAL CONDITIONS BASED ON AS-BUILT DOCUMENTS AND LIMITED FIELD OBSERVATION BY THE ENGINEER. CONTRACTOR SHALL FIELD VERIFY.
   B. RACEWAY MAY BE REUSED IN PLACE IF NOT RENDERED UNUSABLE DUE TO OTHER DEMOLITION AND COMPLIES WITH CONTRACT DOCUMENTS. REUSED RACEWAY SHALL BE IN LIKE-NEW, OR REPAIRED TO LIKE-NEW CONDITION BEFORE INSTALLING CONDUCTORS.
   C. REPLACE WITH NEW SHALL MEAN REMOVE DURING DEMOLITION AND REPLACE WITH NEW DURING NEW CONSTRUCTION.
   D. ELECTRICAL EQUIPMENT REMOVED AND DEEMED UNUSABLE BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND BE PROPERLY DISPOSED

4. CONDUCTORS AND CABLES
   A. CONDUCTOR MATERIAL: STRANDED COPPER.
   B. INSULATION AND APPLICATION
      a. BRANCH CIRCUITS: EXTERIOR LOCATIONS (INCLUDING UNDERGROUND) SHALL BE TYPE XHHW-2; SINGLE CONDUCTORS IN RACEWAY.
      b. FIELD QUALITY CONTROL: AFTER INSTALLING CONDUCTORS AND CABLES AND BEFORE ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, TEST FOR UNINTENDED OPENS, SHORTS, AND GROUNDS.

5. GROUNDING AND BONDING
   a. INSULATED CONDUCTORS: COPPER WIRE OR CABLE INSULATED FOR 600V UNLESS OTHERWISE INDICATED.
   b. CONNECTORS: LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION FOR APPLICATIONS IN WHICH USED, AND FOR SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS CONNECTED.
   C. INSTALLATION
      a. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL BRANCH CIRCUITS. TERMINATE EACH END ON SUITABLE LUG, BUS OR BUSHING. SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC, UNLESS OTHERWISE INDICATED, BUT NOT SMALLER THAN NO. 12 AWG.

6. RACEWAY
   A. PERMITTED USES
      a. OUTDOORS: ABOVEGROUND USE RMC AND UNDERGROUND USE PVC SCHEDULE 80 UNLESS OTHERWISE INDICATED.
   B. RMC: COMPLY WITH ANSIC80.1 AND UL 6, HOT-DIPPED ZINC GALVANIZED.
   C. INSTALLATION
      a. MINIMUM RACEWAY SIZE:
         - 3/4-INCH TRADE SIZE HOMERUN TO PANELBOARD.
      b. COMPLETE RACEWAY INSTALLATION BEFORE STARTING CONDUCTOR INSTALLATION.
      c. FITTINGS FOR METAL CONDUIT: COMPLY WITH NEMA FB 1 AND UL 514B.

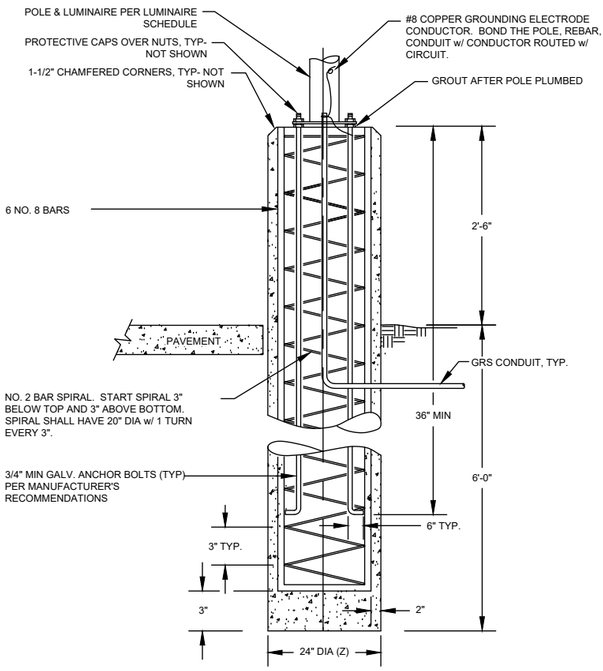
7. LIGHTING
   A. FURNISH AND INSTALL LUMINAIRES AS SPECIFIED IN THE LUMINAIRE SCHEDULE ON THE DRAWINGS.

GENERAL NOTES

1. COMPLY WITH NFPA 70, NATIONAL ELECTRICAL CODE 2020 EDITION; NECA 1, AND STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION.
2. ELECTRICAL COMPONENTS, DEVICES, ASSEMBLIES, AND ACCESSORIES ARE REQUIRED TO BE LISTED AND LABELED AS DEFINED IN NFPA 70, ARTICLE 100, BY A TESTING AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, AND MARKED FOR INTENDED USE.
3. DRAWINGS SHOW THE GENERAL LOCATIONS OF THE ELECTRICAL FEATURES ONLY, UNLESS OTHERWISE INDICATED. MAKE MINOR RELOCATIONS AS REQUIRED FOR PROJECT CONDITIONS WHEN NECESSARY TO PRESENT SYMMETRICAL APPEARANCE OR TO AVOID INTERFERENCE WITH OTHER INSTALLATIONS.
4. NEUTRAL CONDUCTORS SHALL NOT BE SHARED BETWEEN BRANCH CIRCUITS, UNLESS OTHERWISE INDICATED.
5. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTORS WITH ALL FEEDERS AND BRANCH CIRCUITS.TERMINATE EACH END ON SUITABLE LUG, BUS OR BUSHING. SIZE EQUIPMENT GROUNDING CONDUCTORS IN ACCORDANCE WITH NEC, UNLESS OTHERWISE INDICATED, BUT NOT SMALLER THAN NO. 12 AWG.

ABBREVIATIONS

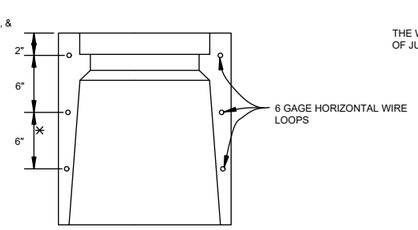
(E)	EXISTING
EA	EACH
C	CONDUIT
TYP	TYPICAL
UGE	UNDERGROUND CONDUIT
WPG	WEATHERPROOF, GFCI



NOTES:

1. BACKFILL w/ N.F.S. SAND & GRAVEL COMPACTED TO 95% MODIFIED PROCTOR DENSITY.
2. ANCHOR BOLTS TO MEET ATSM-A36 w/ MINIMUM YIELD STRESS OF 36.0 KSI.

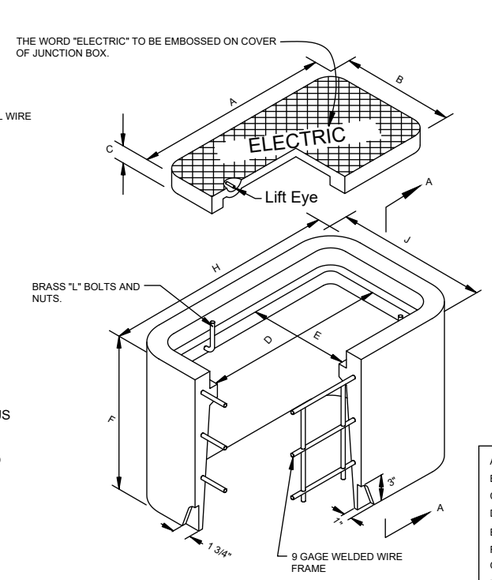
1 DETAIL - POLE BASED FOUNDATION
E-001 SCALE: NTS



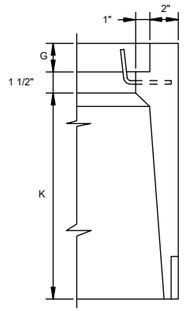
ALTERNATE REINFORCING
* TYPE I-A ONLY

GENERAL NOTES:

1. COVERS FOR TYPE IA JUNCTION BOXES SHALL BE CAST IRON.
2. JUNCTION BOXES LOCATED IN A PAVEMENT SHALL BE INSTALLED WITH A 1/2" PREFORMED BITUMINOUS JOINT MATERIAL AROUND ITS PERIMETER.
3. ALL JUNCTION BOX COVERS SHALL BE BONDED TO GROUND WITH COPPER BRAID OF #8 AWG CROSS SECTION. THE LENGTH SHALL BE 3 FEET.

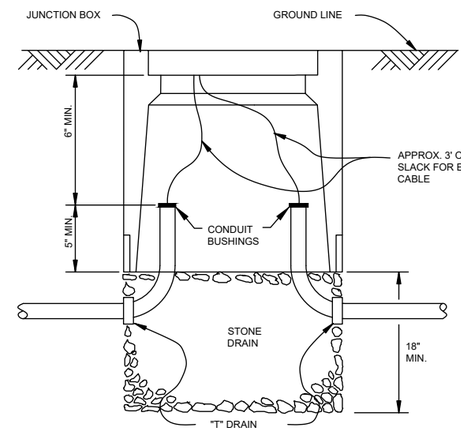


TYPE I-A JUNCTION BOX



SECTION A-A

	DIMENSIONS (IN.)
	TYPE I-A
A	22 3/4
B	13 1/4
C	2
D	21 1/4
E	11 3/4
F	18
G	2
H	27 1/4
J	17 3/4
K	14 1/2



2 DETAIL - HANDHOLE
E-001 SCALE: NTS

Juneau, AK
9109 Mendenhall Mall Rd, Ste 4
Juneau, AK 99801
Phone: 907.780.6060
www.mspec.com
AECC163270

PROJECT : SEARHC JUNEAU PARKING — JUNEAU, ALASKA

SHEET TITLE : ELECTRICAL LEGEND, NOTES AND ABBREVIATIONS — CONSTRUCTION DOCUMENTS

DESIGN	SNH
DRAWN	HRB
CHECKED	BCH
DATE	09/19/2025

PROJECT No. I1300.25005

SHEET NUMBER E-001

TABLE OF CONTENTS

END OF INDEX

END OF TABLE OF CONTENTS

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work restrictions.
4. Specification and Drawing conventions.

1.2 PROJECT INFORMATION

A. Project Identification: SEARHC JUNEAU PARKING

1. Project Location: 1960 Anka Street, Juneau, Alaska.

B. Owner: Southeast Alaska Regional Health Consortium (SEARHC)

1. Scott Martin

C. Engineer: RESPEC

1. Eva Melancon

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. The work in this project includes regrading of the project site, construction of a Portland Cement Concrete (PCC) sidewalk and retaining wall, chain link fence, new site lighting, and paving and striping to support SEARHC parking and other Work indicated in the Contract Documents.

B. Type of Contract:

1. Project will be constructed under a single prime contract.

1.4 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS

A. Owner's Responsibilities: Owner will furnish products indicated and perform the following, as applicable:

1. Provide to Contractor Owner-reviewed Product Data, Shop Drawings, and Samples.

2. Provide for delivery of Owner-furnished products to Project site.
3. Upon delivery, inspect, with Contractor present, delivered items.

    a. If Owner-furnished products are damaged, defective, or missing, arrange for replacement.

4. Obtain manufacturer's inspections, service, and warranties.
5. Inform Contractor of earliest available delivery date for Owner-furnished products.

B. Contractor's Responsibilities: The Work includes the following, as applicable:

1. Designate delivery dates of Owner-furnished products in Contractor's construction schedule, utilizing Owner-furnished earliest available delivery dates.
2. Review Owner-reviewed Product Data, Shop Drawings, and Samples, noting discrepancies and other issues in providing for Owner-furnished products in the Work.
3. Receive, unload, handle, store, protect, and install Owner-furnished products.
4. Make building services connections for Owner-furnished products.
5. Protect Owner-furnished products from damage during storage, handling, and installation and prior to Substantial Completion.
6. Repair or replace Owner-furnished products damaged following receipt.

1.5 CONTRACTOR'S USE OF SITE AND PREMISES

A. Unrestricted Use of Site: Contractor shall have full use of Project site for construction operations during construction period. Contractor's use of Project site is limited only by Owner's right to perform work or to retain other contractors on portions of Project.

B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

C. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.6 WORK RESTRICTIONS

A. Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.

B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

C. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.

1.7 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.

C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

1.2 SUBMITTALS

A. Submit name of the individual authorized to accept changes, and to be responsible for informing others in Contractor's employ of changes in the Work.

1.3 MINOR CHANGES IN THE WORK

A. Engineer will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

1. Work Change Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.

1.4 DESIGN CLARIFICATIONS

A. Upon the discovery of unforeseen conditions or contract document deficiencies, the Contractor shall immediately notify the Engineer in writing.

B. RFI shall include the Contractor’s assessment of the necessity of a contract change.

C. Regardless of which party caused the issue necessitating clarification, the Contractor shall report all unforeseen conditions and contract document deficiencies throughout the duration of the project.

1.5 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Owner will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.

1. Work Change Proposal Requests issued by Engineer are not instructions either to stop work in progress or to execute the proposed change.
2. Within 10 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
c. Include costs of labor and supervision directly attributable to the change.
d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Engineer.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
4. Include costs of labor and supervision directly attributable to the change.
5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.6 CHANGE ORDER PROCEDURES

A. On Engineer's approval of a cost or time change submitted in response to a Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor.

1.7 CORRELATION OF CONTRACTOR SUBMITTALS

A. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price as shown on Change Order.

B. Promptly revise Progress Schedules to reflect any change in Contract Time and to adjust times for other items of Work affected by the change and resubmit.

C. Promptly enter changes in Project Record Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 013100 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:

1. General coordination procedures.
2. Coordination drawings.
3. RFIs.
4. Digital project management procedures.
5. Project meetings.

B. Related Requirements:

1. Section 013200 "Construction Progress Documentation" for preparing and submitting Contractor's construction schedule.
2. Section 017300 "Execution" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
3. Section 017700 "Closeout Procedures" for coordinating closeout of the Contract.

1.2 DEFINITIONS

A. RFI: Request for Information. Request from Owner, Project Manager, Engineer, or Contractor seeking information required by or clarifications of the Contract Documents.

1.3 INFORMATIONAL SUBMITTALS

A. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:

1. Name, address, telephone number, and email address of entity performing subcontract or supplying products.
2. Number and title of related Specification Section(s) covered by subcontract.
3. Drawing number and detail references, as appropriate, covered by subcontract.

B. Key Personnel Names: Within 5 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and cellular telephone numbers and e-mail addresses. Provide names, addresses, and telephone numbers of individuals assigned as alternates in the absence of individuals assigned to Project.

1.4 GENERAL COORDINATION PROCEDURES

A. Coordination: Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations included in different Sections that depend on each other for proper installation, connection, and operation.

1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
2. Coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.

B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's construction schedule.
2. Preparation of the schedule of values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Preinstallation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.

1.5 REQUEST FOR INFORMATION (RFI)

A. General: Immediately on discovery of the need for additional information, clarification, or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI in the form specified.

1. Engineer will return without response those RFIs submitted to Engineer by other entities controlled by Contractor.
2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:

1. Project name.
2. Project number.
3. Date.
4. Name of Contractor.
5. Name of Engineer and Project Manager.
6. RFI number, numbered sequentially.
7. RFI subject.
8. Specification Section number and title and related paragraphs, as appropriate.
9. Drawing number and detail references, as appropriate.

10. Field dimensions and conditions, as appropriate.
11. Contractor's suggested resolution. If Contractor's suggested resolution impacts the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
12. Contractor's signature.
13. Attachments: Include sketches, descriptions, measurements, photos, Product Data, Shop Drawings, coordination drawings, and other information necessary to fully describe items needing interpretation.

    a. Include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments on attached sketches.

C. RFI Forms: Software-generated form with substantially the same content as indicated above, acceptable to Engineer.

    1. Attachments shall be electronic files in PDF format.

D. Engineer’s and Project Manager's Action: Engineer and Project Manager will review each RFI, determine action required, and respond. Allow seven working days for Engineer's response for each RFI. RFIs received by Engineer or Project Manager after 1:00 p.m. will be considered as received the following working day.

    1. The following Contractor-generated RFIs will be returned without action:

        a. Requests for approval of submittals.
        b. Requests for approval of substitutions.
        c. Requests for approval of Contractor's means and methods.
        d. Requests for coordination information already indicated in the Contract Documents.
        e. Requests for adjustments in the Contract Time or the Contract Sum.
        f. Requests for interpretation of Engineer’s actions on submittals.
        g. Incomplete RFIs or inaccurately prepared RFIs.

    2. Engineer's action may include a request for additional information, in which case Engineer's time for response will date from time of receipt by Engineer of additional information.
    3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit a Change Proposal.

        a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.

E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log weekly.

    1. Project name.
    2. Name and address of Contractor.
    3. Name and address of Engineer and Project Manager.
    4. RFI number including RFIs that were returned without action or withdrawn.
    5. RFI description.
    6. Date the RFI was submitted.
    7. Date Engineer's response was received.

8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

F. On receipt of Engineer's and Project Manager's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer and Project Manager within seven days if Contractor disagrees with response.

1.6 PROJECT MEETINGS

A. General: Schedule and conduct meetings and conferences at Project site unless otherwise indicated.

1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times a minimum of 5 working days prior to meeting.
2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
3. Minutes: Entity responsible for conducting meeting will record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner, Project Manager, and Engineer, within three days of the meeting.

B. Preconstruction Conference: Project Manager will schedule and conduct a preconstruction conference before starting construction, at a time convenient to Owner and Engineer, but no later than 10 days after execution of the Agreement.

1. Attendees: Authorized representatives of Owner, Project Manager, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. Participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.

2. Agenda: Discuss items of significance that could affect progress, including the following:

a. Responsibilities and personnel assignments.
b. Tentative construction schedule.
c. Phasing.
d. Critical work sequencing and long lead items.
e. Designation of key personnel and their duties.
f. Lines of communications.
g. Use of web-based Project software.
h. Procedures for processing field decisions and Change Orders.
i. Procedures for RFIs.
j. Procedures for testing and inspecting.
k. Procedures for processing Applications for Payment.
l. Distribution of the Contract Documents.
m. Submittal procedures.
n. Sustainable design requirements.
o. Preparation of Record Documents.
p. Use of the premises and existing building.
q. Work restrictions.

r. Working hours.
s. Owner's occupancy requirements.
t. Responsibility for temporary facilities and controls.
u. Procedures for moisture and mold control.
v. Procedures for disruptions and shutdowns.
w. Construction waste management and recycling.
x. Parking availability.
y. Office, work, and storage areas.
z. Equipment deliveries and priorities.
aa. First aid.
bb. Security.
cc. Progress cleaning.

3. Minutes: Entity responsible for conducting meeting will record and distribute meeting minutes.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013100

REQUEST FOR INTERPRETATION (RFI)

PROJECT:	**SEARHC JUNEAU PARKING**	**DCVR NO.**	C-1
CONTRACTOR:		**DATE SUBMITTED:**	
ORIGINATOR:			

Item:

Reference Drawing and/or Specification:

Description:

Response Requested By (Date):

Originator (Name/Firm):

Response to RFI:

Response by (Name/Firm): Date:

Owner's Comment / Direction to Contractor:

Response by (Name/Firm): Date:

This form is for clarification only. You must notify the Owner's Representative immediately if this RFI causes any changes to your contract price, schedule, or contract completion date. This RFI is not a notice to proceed with any changed condition.

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SECTION 013200 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:

1. Contractor's Construction Schedule.
2. Construction schedule updating reports.
3. Daily construction reports.
4. Site condition reports.

1.2 DEFINITIONS

A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction Project. Activities included in a construction schedule consume time and resources.

1. Critical Activity: An activity on the critical path that must start and finish on the planned early start and finish times.
2. Predecessor Activity: An activity that precedes another activity in the network.
3. Successor Activity: An activity that follows another activity in the network.

B. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of Project.

C. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall Project duration and contains no float.

D. Event: The starting or ending point of an activity.

E. Float: The measure of leeway in starting and completing an activity.

1. Float time is not for the exclusive use or benefit of either Owner or Contractor, but is a jointly owned, expiring Project resource available to both parties as needed to meet schedule milestones and Contract completion date.

1.3 INFORMATIONAL SUBMITTALS

A. Format for Submittals: Submit required submittals in the following format:

1. Working electronic copy of schedule file.

B. Startup Network Diagram: Of size required to display entire network for entire construction period. Show logic ties for activities.

C. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

D. CPM Reports: Concurrent with CPM schedule, submit each of the following reports. Format for each activity in reports to contain activity number, activity description, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.

1. Activity Report: List of activities sorted by activity number and then early start date, or actual start date if known.
2. Logic Report: List of preceding and succeeding activities for each activity, sorted in ascending order by activity number and then by early start date, or actual start date if known.
3. Total Float Report: List of activities sorted in ascending order of total float.

E. Construction Schedule Updating Reports: Submit with Applications for Payment.

F. Daily Construction Reports: Submit at weekly intervals.

G. Site Condition Reports: Submit at time of discovery of differing conditions.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Computer Scheduling Software: Prepare schedules using current version of a program that has been developed specifically to manage construction schedules.

B. Constraints: Include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.

1. Phasing: Arrange list of activities on schedule by phase.
2. Owner-Furnished Products: Include a separate activity for each product. Include delivery date indicated in Section 011000 "Summary." Delivery dates indicated stipulate the earliest possible delivery date.
3. Work Restrictions: Show the effect of the following items on the schedule:
    a. Seasonal variations.
    b. Environmental control.

C. Upcoming Work Summary: Prepare summary report indicating activities scheduled to occur or commence prior to submittal of next schedule update. Summarize the following issues:

1. Unresolved issues.
2. Unanswered Requests for Information.
3. Rejected or unreturned submittals.
4. Notations on returned submittals.
5. Pending modifications affecting the Work and the Contract Time.

1.5 REPORTS

A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site:

1. List of subcontractors at Project site.
2. List of separate contractors at Project site.
3. Approximate count of personnel at Project site.
4. Equipment at Project site.
5. Material deliveries.
6. High and low temperatures and general weather conditions, including presence of rain or snow.
7. Testing and inspection.
8. Accidents.
9. Meetings and significant decisions.
10. Stoppages, delays, shortages, and losses.
11. Meter readings and similar recordings.
12. Emergency procedures.
13. Orders and requests of authorities having jurisdiction.
14. Change Orders received and implemented.

B. Site Condition Reports: Immediately on discovery of a difference between site conditions and the Contract Documents, prepare and submit a detailed report. Submit with a Request for Information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013200

SECTION 013233 - PHOTOGRAPHIC DOCUMENTATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:

1. Preconstruction photographs.
2. Concealed Work photographs.
3. Periodic construction photographs.
4. Final Completion construction photographs.

B. Related Requirements:

1. Section 017700 "Closeout Procedures" for submitting photographic documentation as Project Record Documents at Project closeout.
2. Section 311000 "Site Clearing" for photographic documentation before site clearing operations commence.

1.2 INFORMATIONAL SUBMITTALS

A. Key Plan: Submit key plan of Project site and building with notation of vantage points marked for location and direction of each photograph. Indicate elevation or story of construction. Include same information as corresponding photographic documentation.

B. Digital Photographs: Submit image files within three days of taking photographs.

1. Submit photos on thumb-drive. Include copy of key plan indicating each photograph's location and direction.
2. Identification: Provide the following information with each image description:

a. Name of Project.
b. Name and contact information for photographer.
c. Name of Architect.
d. Name of Contractor.
e. Date photograph was taken.
f. Description of location, vantage point, and direction.
g. Unique sequential identifier keyed to accompanying key plan.

1.3 QUALITY ASSURANCE

A. Photographer Qualifications: An individual who has been regularly engaged as a professional photographer of construction projects for not less than three years.

1.4 FORMATS AND MEDIA

A. Digital Images: Submit digital media as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.

B. Metadata: Record accurate date and time and GPS location data from camera.

C. File Names: Name media files with date and sequential numbering suffix.

1.5 CONSTRUCTION PHOTOGRAPHS

A. Photographer: Engage a qualified photographer to take construction photographs.

B. General: Take photographs with maximum depth of field and in focus.

1. Maintain key plan with each set of construction photographs that identifies each photographic location.

C. Final Completion Construction Photographs: Take photographs after date of Substantial Completion for submission as Project Record Documents. Architect will inform photographer of desired vantage points.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013233

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Submittal schedule requirements.
2. Administrative and procedural requirements for submittals.

B. Related Requirements:

1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
2. Section 013100 "Project Management and Coordination" for submitting coordination drawings and subcontract list and for requirements for web-based Project software.
3. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
4. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
5. Section 017839 "Project Record Documents" for submitting record Drawings, record Specifications, and record Product Data.

1.2 DEFINITIONS

A. Action Submittals: Written and graphic information and physical samples that require Engineer's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."

B. Informational Submittals: Written and graphic information and physical samples that do not require Engineer's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.3 SUBMITTAL SCHEDULE

A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Engineer and additional time for handling and reviewing submittals required by those corrections.

1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor’s construction schedule.

1.4 SUBMITTAL FORMATS

A. Submittal Information: Include the following information in each submittal:

1. Project name.
2. Date.
3. Name of Engineer.
4. Name of Construction Manager.
5. Name of Contractor.
6. Name of firm or entity that prepared submittal.
7. Names of subcontractor, manufacturer, and supplier.
8. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier; and alphanumeric suffix for resubmittals.
9. Category and type of submittal.
10. Submittal purpose and description.
11. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
12. Drawing number and detail references, as appropriate.
13. Indication of full or partial submittal.
14. Location(s) where product is to be installed, as appropriate.
15. Other necessary identification.
16. Remarks.
17. Signature of transmitter.

B. Options: Identify options requiring selection by Engineer.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Engineer on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.5 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package, and transmit to Engineer by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Engineer.

B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.

C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.

1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required.
2. Resubmittal Review: Allow 15 days for review of each resubmittal.

D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.

E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.

F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Engineer's stamp.

1.6 SUBMITTAL REQUIREMENTS

A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.

1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
2. Mark each copy of each submittal to show which products and options are applicable.
3. Include the following information, as applicable:

    a. Manufacturer's catalog cuts.
    b. Manufacturer's product specifications.
    c. Standard color charts.
    d. Statement of compliance with specified referenced standards.
    e. Testing by recognized testing agency.
    f. Application of testing agency labels and seals.
    g. Notation of coordination requirements.
    h. Availability and delivery time information.

4. For equipment, include the following in addition to the above, as applicable:

    a. Wiring diagrams that show factory-installed wiring.
    b. Printed performance curves.
    c. Operational range diagrams.
    d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.

5. Submit Product Data before Shop Drawings, and before or concurrent with Samples.

B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.

1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:

a. Identification of products.
b. Schedules.
c. Compliance with specified standards.
d. Notation of coordination requirements.
e. Notation of dimensions established by field measurement.
f. Relationship and attachment to adjoining construction clearly indicated.
g. Seal and signature of professional engineer if specified.

C. Samples: Submit Samples for review of kind, color, pattern, and texture for a check of these characteristics with other materials.

1. Transmit Samples that contain multiple, related components such as accessories together in one submittal package.
2. Identification: Permanently attach label on unexposed side of Samples that includes the following:

a. Project name and submittal number.
b. Generic description of Sample.
c. Product name and name of manufacturer.
d. Sample source.
e. Number and title of applicable Specification Section.
f. Specification paragraph number and generic name of each item.

3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics, and identification information for record.
4. Web-Based Project Management Software: Prepare submittals in PDF form, and upload to web-based Project software website. Enter required data in web-based software site to fully identify submittal.
5. Paper Transmittal: Include paper transmittal including complete submittal information indicated.
6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.

D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:

E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of Engineers and owners, and other information specified.

F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

G. Certificates:

1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
2. Installer Certificates: Submit written statements on manufacturer's letterhead certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
4. Material Certificates: Submit written statements on manufacturer's letterhead certifying that material complies with requirements in the Contract Documents.
5. Product Certificates: Submit written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.
6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of Welding Procedure Specification and Procedure Qualification Record on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:

    a. Name of evaluation organization.

b. Date of evaluation.
c. Time period when report is in effect.
d. Product and manufacturers' names.
e. Description of product.
f. Test procedures and results.
g. Limitations of use.

1.7 ENGINEER'S REVIEW

A. Action Submittals: Engineer will review each submittal, indicate corrections or revisions required, and return it.

1. Review indication will have one of the following:

a. If a submittal is marked “No Exceptions Noted”, formal revision and resubmission will not be required.
b. If a submittal is marked “Exceptions as Noted”, the Engineer noted differences between the submitted product and the Contract requirements but no revision or resubmission will be required.
c. If a submittal is marked “Revise and Resubmit”, the Contractor shall revise the submittal and provide formal resubmission.
d. If a submittal is marked “Rejected”, it shall mean either that the proposed material or product does not satisfy the specification, the submittal is so incomplete that it cannot be reviewed, or is a substitution request that is not allowed.

B. Informational Submittals: Engineer will review each submittal and will not return it, or will return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.

C. Owner reserves the right to withhold monies due to the Contractor to cover additional costs of the Engineer’s review beyond the first resubmittal.

D. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Engineer.

E. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.

F. Engineer will return without review submittals received from sources other than Contractor.

G. Submittals not required by the Contract Documents will be returned by Engineer without action.

1.8 REVIEW BY CONTRACTOR

A. Submittals shall be carefully reviewed by an authorized representative of the Contractor prior to submission to the Engineer.

B. Each submittal shall be dated and signed by the Contractor as being correct and in strict conformance with the Contract Documents.

C. In the case of Shop Drawings, each sheet shall be so dated and signed.

D. Any deviations from the Contract Documents shall be noted on the transmittal sheet.

E. The Engineer will only review submittals that have been so verified by the Contractor.

F. Non-verified submittals will be returned to the Contractor without action taken by the Engineer, and any delays caused thereby shall be the total responsibility of the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 014000 - QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspection services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1.2 DEFINITIONS

A. Experienced: When used with an entity or individual, "experienced" unless otherwise further described means having successfully completed a minimum of five previous projects similar in nature, size, and extent to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction

B. Field Quality-Control Tests and Inspections: Tests and inspections that are performed on-site for installation of the Work and for completed Work.

C. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, assembly, and similar operations.

1. Use of trade-specific terminology in referring to a Work result does not require that certain construction activities specified apply exclusively to specific trade(s).

D. Mockups: Physical assemblies of portions of the Work constructed to establish the standard by which the Work will be judged. Mockups are not Samples.

1. Mockups are used for one or more of the following:

    a. Verify selections made under Sample submittals.
    b. Demonstrate aesthetic effects.
    c. Demonstrate the qualities of products and workmanship.
    d. Demonstrate successful installation of interfaces between components and systems.
    e. Perform preconstruction testing to determine system performance.

2. Product Mockups: Mockups that may include multiple products, materials, or systems specified in a single Section.
3. In-Place Mockups: Mockups constructed on-site in their actual final location as part of permanent construction.

E. Source Quality-Control Tests and Inspections: Tests and inspections that are performed at the source; for example, plant, mill, factory, or shop.

F. Testing Agency: An entity engaged to perform specific tests, inspections, or both. The term "testing laboratory" has the same meaning as the term "testing agency."

G. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.

H. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Contractor's quality-control services do not include contract administration activities performed by Engineer or Construction Manager.

1.3 CONFLICTING REQUIREMENTS

A. Conflicting Standards and Other Requirements: If compliance with two or more standards or requirements is specified and the standards or requirements establish different or conflicting requirements for minimum quantities or quality levels, inform the Engineer regarding the conflict and obtain clarification prior to proceeding with the Work. Refer conflicting requirements that are different, but apparently equal, to Engineer for clarification before proceeding.

B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified is the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

1.4 CONTRACTOR'S QUALITY-CONTROL PLAN

A. Quality-Control Plan, General: Submit quality-control plan within 10 days of Notice to Proceed, and not less than five days prior to preconstruction conference. Submit in format acceptable to Engineer. Identify personnel, procedures, controls, instructions, tests, records, and forms to be used to carry out Contractor's quality-assurance and quality-control responsibilities. Coordinate with Contractor's Construction Schedule.

B. Submittal Procedure: Describe procedures for ensuring compliance with requirements through review and management of submittal process. Indicate qualifications of personnel responsible for submittal review.

C. Testing and Inspection: In quality-control plan, include a comprehensive schedule of Work requiring testing or inspection, including the following:

1. Contractor-performed tests and inspections including Subcontractor-performed tests and inspections. Include required tests and inspections and Contractor-elected tests and

inspections. Distinguish source quality-control tests and inspections from field quality-control tests and inspections.
2. Special inspections required by authorities having jurisdiction and indicated on the Statement of Special Inspections.

D. Continuous Inspection of Workmanship: Describe process for continuous inspection during construction to identify and correct deficiencies in workmanship in addition to testing and inspection specified. Indicate types of corrective actions to be required to bring work into compliance with standards of workmanship established by Contract requirements and approved mockups.

E. Monitoring and Documentation: Maintain testing and inspection reports including log of approved and rejected results. Include work Engineer has indicated as nonconforming or defective. Indicate corrective actions taken to bring nonconforming work into compliance with requirements. Comply with requirements of authorities having jurisdiction.

1.5 INFORMATIONAL SUBMITTALS

A. Contractor's Statement of Responsibility: When required by authorities having jurisdiction, submit copy of written statement of responsibility submitted to authorities having jurisdiction before starting work on the following systems:

1. Seismic-force-resisting system, designated seismic system, or component listed in the Statement of Special Inspections.
2. Main wind-force-resisting system or a wind-resisting component listed in the Statement of Special Inspections.

B. Testing Agency Qualifications: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.

C. Permits, Licenses, and Certificates: For Owner's record, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents established for compliance with standards and regulations bearing on performance of the Work.

1.6 REPORTS AND DOCUMENTS

A. Test and Inspection Reports: Prepare and submit certified written reports specified in other Sections. Include the following:

1. Date of issue.
2. Project title and number.
3. Name, address, telephone number, and email address of testing agency.
4. Dates and locations of samples and tests or inspections.
5. Names of individuals making tests and inspections.
6. Description of the Work and test and inspection method.
7. Identification of product and Specification Section.
8. Complete test or inspection data.

9. Test and inspection results and an interpretation of test results.
10. Record of temperature and weather conditions at time of sample taking and testing and inspection.
11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
12. Name and signature of laboratory inspector.
13. Recommendations on retesting and reinspecting.

B. Manufacturer's Technical Representative's Field Reports: Prepare written information documenting manufacturer's technical representative's tests and inspections specified in other Sections. Include the following:

1. Statement on condition of substrates and their acceptability for installation of product.
2. Statement that products at Project site comply with requirements.
3. Summary of installation procedures being followed, whether they comply with requirements and, if not, what corrective action was taken.
4. Results of operational and other tests and a statement of whether observed performance complies with requirements.
5. Other required items indicated in individual Specification Sections.

C. Factory-Authorized Service Representative's Reports: Prepare written information documenting manufacturer's factory-authorized service representative's tests and inspections specified in other Sections. Include the following:

1. Statement that equipment complies with requirements.
2. Results of operational and other tests and a statement of whether observed performance complies with requirements.
3. Other required items indicated in individual Specification Sections.

1.7 QUALITY ASSURANCE

A. Qualifications paragraphs in this article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units. As applicable, procure products from manufacturers able to meet qualification requirements, warranty requirements, and technical or factory-authorized service representative requirements.

C. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Installer Qualifications: A firm or individual experienced in installing, erecting, applying, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing

engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar in material, design, and extent to those indicated for this Project.

F. Testing and Inspecting Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspection indicated, as documented in accordance with ASTM E329; and with additional qualifications specified in individual Sections; and, where required by authorities having jurisdiction, that is acceptable to authorities.

G. Manufacturer's Technical Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to observe and inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect, demonstrate, repair, and perform service on installations of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

1.8 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Perform additional quality-control activities, whether specified or not, to verify and document that the Work complies with requirements.

a. Contractor will not employ same entity engaged by Owner, unless agreed to in writing by Owner.

2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspection will be performed.
3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
4. Testing and inspection requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing as specified in Section 013300 "Submittal Procedures."

D. Manufacturer's Technical Services: Where indicated, engage a manufacturer's technical representative to observe and inspect the Work. Manufacturer's technical representative's services include participation in preinstallation conferences, examination of substrates and

conditions, verification of materials, observation of Installer activities, inspection of completed portions of the Work, and submittal of written reports.

E. Contractor's Associated Requirements and Services: Cooperate with agencies and representatives performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspections.
3. Adequate quantities of representative samples of materials that require testing and inspection. Assist agency in obtaining samples.
4. Facilities for storage and field curing of test samples.
5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
6. Security and protection for samples and for testing and inspection equipment at Project site.

F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspection.

1. Schedule times for tests, inspections, obtaining samples, and similar activities.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 TEST AND INSPECTION LOG

A. Test and Inspection Log: Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
2. Description of the Work tested or inspected.
3. Date test or inspection results were transmitted to Engineer.
4. Identification of testing agency or special inspector conducting test or inspection.

B. Maintain log at Project site. Post changes and revisions as they occur. Provide access to test and inspection log for reference during normal working hours.

1. Submit log at Project closeout as part of Project Record Documents.

3.2 REPAIR AND PROTECTION

A. General: On completion of testing, inspection, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with the Contract Document requirements for cutting and patching in Section 017300 "Execution."

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 014000

SECTION 014200 - REFERENCES

PART 1 - GENERAL

1.1 DEFINITIONS

A. General: Basic Contract definitions are included in the Conditions of the Contract.

B. "Approved": When used to convey Engineer's action on Contractor's submittals, applications, and requests, "approved" is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.

C. "Directed": A command or instruction by Engineer. Other terms, including "requested," "authorized," "selected," "required," and "permitted," have the same meaning as "directed."

D. "Indicated": Requirements expressed by graphic representations or in written form on Drawings, in Specifications, and in other Contract Documents. Other terms, including "shown," "noted," "scheduled," and "specified," have the same meaning as "indicated."

E. "Regulations": Laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, and rules, conventions, and agreements within the construction industry that control performance of the Work.

F. "Furnish": Supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

G. "Install": Unload, temporarily store, unpack, assemble, erect, place, anchor, apply, work to dimension, finish, cure, protect, clean, and similar operations at Project site.

H. "Provide": Furnish and install, complete and ready for the intended use.

I. "Project Site": Space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

1.2 INDUSTRY STANDARDS

A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.

B. Publication Dates: Comply with standards in effect as of date of the Contract Documents unless otherwise indicated.

1. For standards referenced by applicable building codes, comply with dates of standards as listed in building codes.

C. Copies of Standards: Each entity engaged in construction on Project should be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.

1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source.

1.3 ABBREVIATIONS AND ACRONYMS

A. Industry Organizations: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities indicated in Gale's "Encyclopedia of Associations: National Organizations of the U.S." or in Columbia Books' "National Trade & Professional Associations of the United States."

B. Industry Organizations, List: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. The information in this list is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. AASHTO - American Association of State Highway and Transportation Officials; www.transportation.org.
2. ACI - American Concrete Institute; www.concrete.org.
3. ANSI - American National Standards Institute; www.ansi.org.
4. ASCE - American Society of Civil Engineers; www.asce.org.
5. ASTM - ASTM International; www.astm.org.
6. CRSI - Concrete Reinforcing Steel Institute; www.crsi.org.

C. Code Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. This information is believed to be accurate as of the date of the Contract Documents.

1. ICC - International Code Council; www.iccsafe.org.

D. Federal Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. Information is subject to change and is up to date as of the date of the Contract Documents.

1. EPA - United States Environmental Protection Agency; www.epa.gov.
2. USDA - U.S. Department of Agriculture; Agriculture Research Service; U.S. Salinity Laboratory; www.ars.usda.gov.
3. USDA - U.S. Department of Agriculture; Rural Utilities Service; www.usda.gov.

E. State Government Agencies: Where abbreviations and acronyms are used in Specifications or other Contract Documents, they are to mean the recognized name of the entities in the following list. This information is subject to change and is believed to be accurate as of the date of the Contract Documents.

1. ADEC – Alaska Department of Conservation, Division of Water; www.dec.alaska.gov
2. ADEC – Alaska Department of Conservation, Division of Water; www.septic.alaska.gov

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 014200

SECTION 015500 – ENVIRONMENTAL PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Environmental protection requirements.

1.2 APPLICABLE REGULATIONS

A. In order to prevent, and to provide for abatement and control of, any environmental pollution arising from the construction activities of the Contractor and his subcontractors in the performance of this contract, they shall comply with all applicable control and abatement, as well as the specific requirements stated elsewhere in the contract specifications.

1.3 PROTECTION OF LAND RESOURCES

A. General: The work covered by this section consists of furnishing all labor, materials, and equipment, and performing all work required for the prevention of environmental pollution during and as the result of construction operation under this contract except for those measures set forth in other Technical Specifications. For the purpose of this specification, environmental pollution is defined as the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to man; or degrade the utility of the environment for aesthetic and recreational purposes. The control of environmental pollution requires consideration of air, water, and land and involves management of noise and solid waste as well as other pollutants. It is intended that the land resources within the project boundaries and outside the limits of permanent work performed under this contract be preserved in their present condition or be restored to previous condition after completion of the project. Insofar as possible, the Contractor shall confine his construction activities to areas defined by the plans or specifications.

B. Post-Construction Cleanup or Obliteration: The Contractor shall obliterate all signs of temporary construction facilities such as work areas, stockpiles of excess or waste materials, or any other vestiges of construction as directed by the Owner’s representative

1.4 AIR POLLUTION

A. Dust Control: The Contractor will be required to maintain all excavations, embankments, stockpiles, and all other work areas within or without the project boundaries free from dust which would cause a hazard or nuisance to others. Approved temporary methods of stabilization consisting of sprinkling or similar methods will be permitted to control dust. Sprinkling, to be approved, must be repeated at such intervals as to keep all parts of the

disturbed area at least damp at all times, and the Contractor must have sufficient competent equipment on the job to accomplish this if sprinkling is used. Dust control shall be performed as the work proceeds and whenever a dust nuisance or hazard occurs.

B. Burning: On-site burning will not be permitted.

1.5 HAUL ROUTES

A. Contractor will be required to take precautions to prevent the generation of dust along haul routes to/from borrow pits and waste disposal sites.

B. All objects that are inadvertently blown from Contractor vehicles and equipment shall be picked up by Contractor as it is discovered, or when discovered by the Engineer.

C. Gravel or topsoil spillage on paved streets shall be removed with a street sweeper by the Contractor as it is discovered, or when discovered by the Engineer. Rocks shall not be swept into maintained grass or landscaped areas.

1.6 CULTURAL RESOURCES

A. A. The CONTRACTOR's attention is directed to the National Historic Preservation Act of 1966 (16 U.S.C. 470) and 36 CFR 800 which provides for the preservation of potential historical architectural, archaeological, or cultural resources (hereinafter called "cultural resources").

B. B. The CONTRACTOR shall conform to the applicable requirements of the National Historic Preservation Act of 1966 as it relates to the preservation of cultural resources.

C. C. In the event potential cultural resources are discovered during subsurface excavations at the site of construction, stop WORK immediately and notify the ENGINEER.

1.7 EAGLE NESTING TREES

A. A. Eagle nesting trees are known to exist in the Juneau area although none are known to exist in the immediate vicinity of the Project site. The CONTRACTOR has the responsibility for adherence to the Bald Eagle Protection Act (16 U.S.C. 668-668d) which prohibits molesting or disturbing bald eagles, their nests, eggs, or young.

B. B. Guidelines for compliance to the Bald Eagle Protection Act are supervised by the U.S. Department of the Interior, Fish and Wildlife Service, Raptor Management Studies, 3000 Vintage Blvd, Suite 201, Juneau, Alaska 99801, phone (907) 586-7333 or (907) 586-7243. The contact person is Mike Jacobson, Eagle Management Specialist. The CONTRACTOR shall contact the Eagle Management Specialist for guidelines of the Bald Eagle Protection Act.

1.8 NOTIFICATION

A. The Engineer will notify the contractor in writing of any noncompliance with the foregoing provisions and the action to be taken. The contractor shall, after receipt of such notice,

immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails or refuses to comply promptly, the Owner's representative may issue an order stopping all or part of the work until satisfactory corrective action has been taken.

B. No part of the time lost due to any such stop order shall be made the subject of a claim for extension of time or for excess costs or damages by the Contractor.

C. Contractor shall immediately notify the following agencies in the event of any spills or discharges of petroleum products or other hazardous substances:

State of Alaska Department of Environmental Conservation, Juneau Office – 907-465-5010
Capital City Fire/Rescue – CBJ, Non-Emergency Line – 907-586-5322
Engineer – Eva Melancon – 907-780-6060

1.9 SUBCONTRACTORS

A. Compliance with the provisions of this section by subcontractors will be the responsibility of the Contractor.

1.10 EROSION, SEDIMENT, AND POLLUTION CONTROL

A. DESCRIPTION. Plan, provide, inspect and maintain control of erosion, sedimentation, water pollution, and hazardous materials contamination.

B. DEFINITIONS:

1. BMP (Best Management Practices): A wide range of project management practices, schedules, activities, or prohibition of practices, that when used alone or in combination, prevent or reduce erosion, sedimentation, and/or pollution of adjacent storm sewer systems, water bodies, or wetlands. BMP's include temporary or permanent structural and non-structural devices and practices. Common BMP's are described in ADOT & PF's Alaska Storm Water Pollution Prevention Guide and ADEC's Alaska Storm Water Guide, both available via the internet.
2. ESCP (Erosion and Sediment Control Plan): The contractor's general plan for control of project related erosion and sedimentation. The ESCP normally consists of a general narrative and a map or site plan.
3. Final Stabilization: A point in time when all ground-disturbing activities are complete and permanent erosion and sediment controls are established and functional. A stabilized site must be protected from erosive forces of raindrop impact and water flow. Typically, all unpaved areas except graveled shoulders, crushed aggregate base course, or other areas not covered by permanent structures are protected by either a uniform blanket of perennial vegetation (at least 70% cover density) or equivalent permanent stabilization measures such as riprap, gabions, or geotextiles.
4. HMCP (Hazardous Material Control Plan): The Contractor's detailed plan for prevention of pollution that stems from the use, containment, cleanup, and disposal of hazardous material, including petroleum products generated by construction activities and equipment.

5. NOI: Notice of Intent to commence ground-disturbing activities under the APDES Storm Water General Permit.
6. NOT: Notice of Termination of coverage under the APDES Storm Water General Permit.
7. APDES Storm Water General Permit: The permit issued by the Alaska Department of Environmental Conservation (ADEC) under the Alaska Pollutant Discharge Elimination System (APDES) for storm water discharges from construction activities. This permit requires an approved SWPPP and NOI's listed as active status by ADEC prior to ground-disturbing activities for any project that will result in a total ground disturbance of equal to or greater than one acre and discharge storm water to waters of the U.S.
8. SPCC (Spill Prevention, Control, and Countermeasure): The Contractor's detailed plan for an oil spill prevention and control measures that meets the requirements of 40 CFR 112.
9. SWPPP (Storm Water Pollution Prevention Plan): The Contractor's detailed plan for storm water management under the APDES Storm Water General Permit. The SWPPP is developed based on the Contractor's ESCP when a project will result in a total ground disturbance of equal to or greater than one acre and discharge storm water to waters of the U.S.

1.11 ACTION SUBMITTALS

A. For all projects, submit three copies of your ESCP and HMCP to the Engineer for approval. Submit three copies of your SPCC Plan (if required by 40 CFR 112). Sign all submittals. Deliver these documents to the Engineer no less than fourteen calendar days prior to commencing ground-disturbing activities.

B. The approved ESCP, approved HMCP, and submitted SPCC Plan (if required by 40 CFR 112) becomes the basis of work required for the project's erosion, sediment, and pollution control.

1.12 EROSION AND SEDIMENT CONTROL PLAN (ESCP) REQUIREMENTS

A. For projects not requiring coverage under APDES Storm Water General Permit, prepare an ESCP based on the following guidelines:

1. Plan the project to take advantage of topography, soils, waterways, and natural vegetation;
2. Expose the smallest practical area for the shortest possible time;
3. Apply on-site erosion control measures to reduce the erosion from the site;
4. Use sediment control measures to prevent off-site detrimental impacts whenever primary on-site erosion control measures might be insufficient; and
5. Implement a thorough maintenance and follow-up program.

B. The ESCP shall include at a minimum a site map and associated narrative, describing waters of the U.S. that could be impacted, potential pollutants, BMP's that will be implemented, and a schedule of BMP inspection and maintenance activities

1.13 HAZARDOUS MATERIAL CONTROL PLAN (HMCP) REQUIREMENTS

A. Prepare a HMCP for the handling, storage, cleanup, and disposal of petroleum products and other hazardous substances. (See CFR 117 and 302 for listing of hazardous materials.)

B. List and give the location of all hazardous materials, including office materials, to be used and/or stored on site, and their estimated quantities. Detail your plan for storing these materials as well as disposing of waste petroleum products and other hazardous materials generated by the project.

C. Identify the locations where storage, fueling, and maintenance activities will take place, describe the maintenance activities, and list all controls to prevent the accidental spillage of oil, petroleum products, and other hazardous materials.

D. Detail your procedures for containment and cleanup of hazardous substances, including a list of the types and quantities of equipment and materials available on site to be used.

E. Detail your plan for the prevention, containment, cleanup, and disposal of soil and water contaminated by accidental spills. Detail your plan for dealing with unexpected contaminated soil and water encountered during construction

F. Specify the line of authority and designate your field representative for spill response and one representative for each subcontractor.

1.14 SPILL PREVENTION, CONTROL, AND COUNTERMEASURE (SPCC) PLAN REQUIREMENTS

A. Prepare and implement a SPCC Plan that is certified by a licensed Professional Engineer when required by 40 CFR 112, including:

1. When oil spills may reach navigable waters; and
2. Your total above ground oil storage capacity is greater than 1,320 gallons

B. Comply with 40 CFR 112 and address the following issued in your SPCC plan:

1. Operating procedures that prevent oil spills;
2. Control measures installed to prevent a spill from reaching navigable waters; and
3. Countermeasures to contain, clean up, and mitigate the effects of an oil spill

1.15 CONSTRUCTION REQUIREMENTS

A. Implement the ESCP and inspect and maintain all BMPs as outlined in the ESCP.

B. If you fail to:

a. Implement erosion and sedimentation control identified by the Engineer,

the Engineer may, after giving you written notice, proceed to perform such work and deduct the cost thereof, including project engineering costs from your progress payments.

C. Comply with all requirements of the approved HMCP, the submitted SPCC Plan, and all state and federal regulations that pertain to the handling, storage, cleanup, and disposal of petroleum products or other hazardous substances. Contain, clean up and dispose of all discharges of petroleum products and/or other materials hazardous to the land, air, water, and organic life forms. Perform all fueling operations in a safe and environmentally responsible manner. Comply with the requirements of 18 AAC 75 and AS46, Oil and Hazardous Substances Pollution Control. Report oil spills as required by federal, state, and local law, and as described in your HMCP and SPCC Plans.

D. Temporary erosion and pollution control measures that are required at Contractor-furnished sites are subsidiary

E. Perform temporary erosion and pollution control measures that are required due to your negligence, carelessness, or failure to install permanent controls as a part of the work as scheduled or ordered by the Engineer, or for your convenience, at your own expense.

F. Permanent erosion and pollution control measures will be measured and paid for under other contract items, when shown on the bid schedule.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 015500

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:

1. Construction layout.
2. Field engineering.
3. Installation.
4. Cutting and patching.
5. Coordination of Owner's portion of the Work.
6. Progress cleaning.
7. Starting and adjusting.
8. Protection of installed construction.
9. Correction of the Work.

B. Related Requirements:

1. Section 011000 "Summary" for limits on use of Project site.
2. Section 013300 "Submittal Procedures" for submitting surveys.
3. Section 017700 "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, replacing defective work, and final cleaning.

1.2 DEFINITIONS

A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.

B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.3 INFORMATIONAL SUBMITTALS

A. Certified Surveys: Submit two copies signed by land surveyor.

B. Certificates: Submit certificate signed by land surveyor, certifying that location and elevation of improvements comply with requirements.

1.4 CLOSEOUT SUBMITTALS

A. Final Property Survey: Submit 1 copy electronically showing the Work performed and record survey data.

1.5 QUALITY ASSURANCE

A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.
   1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
   2. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
   3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

C. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of specified products and equipment.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with requirements specified in other Sections.

   1. Where materials for patching are not otherwise specified, patching shall be identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, and other construction affecting the Work.

   1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
   2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.

B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.

1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.

C. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Existing Utility Information: Furnish information to City and Borough of Wrangel utilities that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.

B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.

C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.

D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Engineer promptly.

B. Engage a land surveyor experienced in laying out the Work, using the following accepted surveying practices:

1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
2. Establish limits on use of Project site.
3. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.

4. Inform installers of lines and levels to which they must comply.
5. Check the location, level and plumb, of every major element as the Work progresses.
6. Notify Engineer when deviations from required lines and levels exceed allowable tolerances.
7. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.

C. Site Improvements: Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and rim and invert elevations.

D. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.

E. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Engineer.

3.4 FIELD ENGINEERING

A. Identification: Owner will identify existing benchmarks, control points, and property corners.

B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

1. Do not change or relocate existing benchmarks or control points without prior written approval of Engineer. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Engineer before proceeding.
2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.

1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

D. Certified Survey: On completion of foundation walls, major site improvements, and other work requiring field-engineering services, prepare a certified survey showing dimensions, locations, angles, and elevations of construction and sitework.

E. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.

1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.

3.5 INSTALLATION

A. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.

B. Install products at the time and under conditions that will ensure satisfactory results as judged by Engineer. Maintain conditions required for product performance until Substantial Completion.

C. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.

D. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.

E. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.

F. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.

G. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Engineer. Fit exposed connections together to form hairline joints.

3.6 COORDINATION OF OWNER'S PORTION OF THE WORK

A. Site Access: Provide access to Project site for Owner's construction personnel.

1. Provide temporary facilities required for Owner-furnished, Contractor-installed products.
2. Refer to Section 011000 "Summary" for other requirements for Owner-furnished, Contractor-installed products

B. Coordination: Coordinate construction and operations of the Work with work performed by Owner's construction personnel.

1. Construction Schedule: Inform Owner of Contractor's preferred construction schedule for Owner's portion of the Work. Adjust construction schedule based on a mutually agreeable timetable. Notify Owner if changes to schedule are required due to differences in actual construction progress.

3.7 PROGRESS CLEANING

A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.

1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F (27 deg C).
3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, in accordance with regulations.

a. Use containers intended for holding waste materials of type to be stored.

B. Site: Maintain Project site free of waste materials and debris.

C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.

D. Installed Work: Keep installed work clean. Clean installed surfaces in accordance with written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.

E. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 017419 "Construction Waste Management and Disposal."

3.8 STARTING AND ADJUSTING

A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."

B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.

C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.

D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION OF INSTALLED CONSTRUCTION

A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.

B. Comply with manufacturer's written instructions for temperature and relative humidity.

3.10 CORRECTION OF THE WORK

A. Repair or remove and replace damaged, defective, or nonconforming Work. Restore damaged substrates and finishes.

1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.

B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.

C. Restore permanent facilities used during construction to their specified condition.

D. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

E. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

F. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for the following:
   1. Disposing of nonhazardous demolition and construction waste.

B. Related Requirements:
   1. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.2 DEFINITIONS

A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.

B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.

C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner’s property.

D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.

E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.

F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.3 INFORMATIONAL SUBMITTALS

A. Waste Reduction Progress Reports: Concurrent with each Application for Payment, submit report. Include the following information:

   1. Material category.
   2. Generation point of waste.
   3. Total quantity of waste in tons.
   4. Quantity of waste salvaged, both estimated and actual in tons.
   5. Quantity of waste recycled, both estimated and actual in tons.
   6. Total quantity of waste recovered (salvaged plus recycled) in tons.
   7. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste.

B. Waste Reduction Calculations: Before request for Substantial Completion, submit calculated end-of-Project rates for salvage, recycling, and disposal as a percentage of total waste generated by the Work.

C. Records of Donations: Indicate receipt and acceptance of salvageable waste donated to individuals and organizations. Indicate whether organization is tax exempt.

D. Records of Sales: Indicate receipt and acceptance of salvageable waste sold to individuals and organizations. Indicate whether organization is tax exempt.

E. Recycling and Processing Facility Records: Indicate receipt and acceptance of recyclable waste by recycling and processing facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

F. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.

1.4 QUALITY ASSURANCE

A. Waste Management Coordinator Qualifications: Experienced firm, or individual employed and assigned by General Contractor, with a record of successful waste management coordination of projects with similar requirements.

B. Waste Management Conference(s): Conduct conference(s) at Project site to comply with requirements in Section 013100 "Project Management and Coordination."

1.5 WASTE MANAGEMENT PLAN

A. Waste Identification: Indicate anticipated types and quantities of site-clearing and construction waste generated by the Work. Include estimated quantities and assumptions for estimates.

B. Waste Reduction Work Plan: List each type of waste and whether it will be salvaged, recycled, or disposed of in landfill or incinerator. Include points of waste generation, total quantity of each type of waste, quantity for each means of recovery, and handling and transportation procedures.

1. Salvaged Materials for Reuse: For materials that will be salvaged and reused in this Project, describe methods for preparing salvaged materials before incorporation into the Work.
2. Salvaged Materials for Sale: For materials that will be sold to individuals and organizations, include list of their names, addresses, and telephone numbers.
3. Recycled Materials: Include list of local receivers and processors and type of recycled materials each will accept. Include names, addresses, and telephone numbers.
4. Disposed Materials: Indicate how and where materials will be disposed of. Include name, address, and telephone number of each landfill and incinerator facility.
5. Handling and Transportation Procedures: Include method that will be used for separating recyclable waste including sizes of containers, container labeling, and designated location where materials separation will be performed.

PART 2 - PRODUCTS

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.

B. Training: Train workers, subcontractors, and suppliers on proper waste management procedures, as appropriate for the Work.

3.2 RECYCLING CONSTRUCTION WASTE

A. Packaging:

1. Cardboard and Boxes: Break down packaging into flat sheets. Bundle and store in a dry location.
2. Polystyrene Packaging: Separate and bag materials.
3. Pallets: As much as possible, require deliveries using pallets to remove pallets from Project site. For pallets that remain on-site, break down pallets into component wood pieces and comply with requirements for recycling wood.
4. Crates: Break down crates into component wood pieces and comply with requirements for recycling wood.

B. Wood Materials:

1. Clean Cut-Offs of Lumber: Grind or chip into small pieces.
2. Clean Sawdust: Bag sawdust that does not contain painted or treated wood.

C. Gypsum Board: Stack large clean pieces on wood pallets or in container and store in a dry location.

D. Paint: Seal containers and store by type.

3.3 DISPOSAL OF WASTE

A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.

1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

B. General: Except for items or materials to be salvaged or recycled, remove waste materials and legally dispose of at designated spoil areas on Owner's property.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:

1. Substantial Completion procedures.
2. Final Completion procedures.
3. List of incomplete items.
4. Submittal of Project warranties.
5. Final cleaning.
6. Correction of the Work.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
2. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of cleaning agent.

B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.3 CLOSEOUT SUBMITTALS

A. Certificates of Release: From authorities having jurisdiction.

B. Certificate of Insurance: For continuing coverage.

C. Field Report: For pest-control inspection.

1.4 SUBSTANTIAL COMPLETION PROCEDURES

A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.

B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Engineer. Label with manufacturer's name and model number.
5. Submit testing, adjusting, and balancing records.
6. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.

1. Advise Owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
3. Perform preventive maintenance on equipment used prior to Substantial Completion.
4. Advise Owner of changeover in utility services.
5. Participate with Owner in conducting inspection and walkthrough with local emergency responders.
6. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
7. Complete final cleaning requirements.
8. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.

1.5 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:

1.6 LIST OF INCOMPLETE ITEMS

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
   1. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.
   2. Include the following information at the top of each page:

      a. Project name.
      b. Date.
      c. Name of Owner or Construction Manager
      d. Name of Engineer.
      e. Name of Contractor.
      f. Page number.

   3. Submit list of incomplete items in the following format:

      a. MS Excel Electronic File: Engineer will return annotated file.

1.7 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Engineer for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

C. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.

D. Warranties in Paper Form:

   1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch (215-by-280-mm) paper.

E. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 FINAL CLEANING

A. Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.

B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.

1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

    a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
    b. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    c. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
    d. Clean flooring, removing debris, dirt, and staining; clean in accordance with manufacturer's instructions.
    e. Vacuum and mop concrete.
    f. Vacuum carpet and similar soft surfaces, removing debris and excess nap; clean in accordance with manufacturer's instructions if visible soil or stains remain.
    g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
    h. Remove labels that are not permanent.
    i. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, undesired surface materials, and other foreign substances.
    j. Leave Project clean and ready for occupancy.

3.2 CORRECTION OF THE WORK

A. Complete repair and restoration operations required by "Correction of the Work" Article in Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes: Administrative and procedural requirements for preparing operation and maintenance manuals, including the following:

1. Operation and maintenance documentation directory manuals.
2. Emergency manuals.
3. Systems and equipment operation manuals.
4. Systems and equipment maintenance manuals.
5. Product maintenance manuals.

1.2 CLOSEOUT SUBMITTALS

A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.

1. Engineer will comment on whether content of operation and maintenance submittals is acceptable.
2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

B. Format: Submit operation and maintenance manuals in the following format:

1. Submit on digital media acceptable to Engineer. Enable reviewer comments on draft submittals.

C. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Engineer will return copy with comments.

1. Correct or revise each manual to comply with Engineer's comments. Submit copies of each corrected manual within 15 days of receipt of Engineer's comments and prior to commencing demonstration and training.

D. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.3 FORMAT OF OPERATION AND MAINTENANCE MANUALS

A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.

1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.

1.4 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual to contain the following materials, in the order listed:

1. Title page.
2. Table of contents.
3. Manual contents.

B. Title Page: Include the following information:

1. Subject matter included in manual.
2. Name and address of Project.
3. Name and address of Owner.
4. Date of submittal.
5. Name and contact information for Contractor.
6. Name and contact information for Construction Manager.
7. Name and contact information for Engineer.
8. Name and contact information for Commissioning Authority.
9. Names and contact information for major consultants to the Engineer that designed the systems contained in the manuals.
10. Cross-reference to related systems in other operation and maintenance manuals.

C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

D. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.5 EMERGENCY MANUALS

A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.

B. Content: Organize manual into a separate section for each of the following:

1. Type of emergency.
2. Emergency instructions.
3. Emergency procedures.

C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:

1. Fire.
2. Flood.
3. Gas leak.
4. Water leak.
5. Power failure.
6. Water outage.
7. System, subsystem, or equipment failure.
8. Chemical release or spill.

D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.

E. Emergency Procedures: Include the following, as applicable:

1. Instructions on stopping.
2. Shutdown instructions for each type of emergency.
3. Operating instructions for conditions outside normal operating limits.
4. Required sequences for electric or electronic systems.
5. Special operating instructions and procedures.

1.6 SYSTEMS AND EQUIPMENT OPERATION MANUALS

A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.

B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:

1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
2. Performance and design criteria if Contractor has delegated design responsibility.
3. Operating standards.
4. Operating procedures.
5. Operating logs.
6. Wiring diagrams.
7. Control diagrams.
8. Piped system diagrams.
9. Precautions against improper use.

10. License requirements including inspection and renewal dates.

C. Descriptions: Include the following:

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed and identify color coding where required for identification.

1.7 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds, as described below.

C. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:

1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component

incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.

2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
3. Identification and nomenclature of parts and components.
4. List of items recommended to be stocked as spare parts.

D. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:

1. Test and inspection instructions.
2. Troubleshooting guide.
3. Precautions against improper maintenance.
4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
5. Aligning, adjusting, and checking instructions.
6. Demonstration and training video recording, if available.

E. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.

F. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.

G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

H. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.

1.8 PRODUCT MAINTENANCE MANUALS

A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.

B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.

C. Product Information: Include the following, as applicable:

1. Product name and model number.
2. Manufacturer's name.
3. Color, pattern, and texture.
4. Material and chemical composition.
5. Reordering information for specially manufactured products.

D. Maintenance Procedures: Include manufacturer's written recommendations and the following:

1. Inspection procedures.
2. Types of cleaning agents to be used and methods of cleaning.
3. List of cleaning agents and methods of cleaning detrimental to product.
4. Schedule for routine cleaning and maintenance.
5. Repair instructions.

E. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.

F. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record specifications.
3. Record Product Data.

B. Related Requirements:

1. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.2 CLOSEOUT SUBMITTALS

A. Record Drawings: Comply with the following:

1. Submit two set(s) of marked-up record color prints.
2. Submit copies of Record Drawings as follows:

B. Record Specifications: Submit 2 copies of Project's Specifications, including addenda and Contract modifications.

C. Record Product Data: Submit two copies of each submittal.

1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.

1.3 RECORD DRAWINGS

A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.

1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.

a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
b. Accurately record information in an acceptable drawing technique.
c. Record data as soon as possible after obtaining it.

d. Record and check the markup before enclosing concealed installations.
e. Cross-reference record prints to corresponding photographic documentation.

2. Content: Types of items requiring marking include, but are not limited to, the following:

a. Dimensional changes to Drawings.
b. Revisions to details shown on Drawings.
c. Depths of foundations.
d. Locations and depths of underground utilities.
e. Revisions to routing of piping and conduits.
f. Revisions to electrical circuitry.
g. Actual equipment locations.
h. Duct size and routing.
i. Locations of concealed internal utilities.
j. Changes made by Change Order.
k. Changes made following Engineer's written orders.
l. Details not on the original Contract Drawings.
m. Field records for variable and concealed conditions.
n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Engineer. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:

1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
2. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
3. Refer instances of uncertainty to Engineer for resolution.
4. Engineer will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.

C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.

1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
2. Format: Annotated PDF electronic file.
3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.

4. Identification: As follows:

    a. Project name.
    b. Date.
    c. Designation "PROJECT RECORD DRAWINGS."
    d. Name of Engineer.
    e. Name of Contractor.

1.4 RECORD SPECIFICATIONS

A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
3. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

B. Format: Submit record specifications as annotated PDF electronic file.

1.5 RECORD PRODUCT DATA

A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.

B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.

C. Format: Submit Record Product Data as annotated PDF electronic file.

1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.6 MAINTENANCE OF RECORD DOCUMENTS

A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible

condition, protected from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete standards.
2. Concrete materials.
3. Admixtures.
4. Curing materials.
5. Accessories.
6. Steel Reinforcement.
7. Concrete mixture materials.
8. Concrete mixture class types.
9. Concrete mixing.

B. Related Requirements:

1. Section 312000 "Earth Moving" for drainage fill under slabs-on-ground.

1.2 ACTION SUBMITTALS

A. Product data.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.
2. Compressive strength at 28 days or other age as specified.
3. Compressive strength required at stages of construction.
4. Durability exposure classes for Exposure Categories F, S, W, and C.
5. Maximum w/cm ratio.
6. Calculated equilibrium and fresh density for lightweight concrete.
7. Slump or slump flow limit.
8. Air content.
9. Nominal maximum aggregate size.
10. Steel-fiber reinforcement content.
11. Synthetic microfiber content.
12. Synthetic macrofiber content.
13. Intended placement method.
14. Submit adjustments to design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant changes.

C. Shop Drawings

1. Construction Joint Layout: Indicate proposed construction joints required to construct the structure.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: A qualified Installer who employs Project personnel qualified as an ACI-certified Concrete Flatwork Associate and Concrete Flatwork Finisher and a supervisor who is a certified ACI Advanced Concrete Flatwork Finisher/Technician or an ACI Concrete Flatwork Finisher with experience installing and finishing concrete.

1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

B. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing that performs duties on behalf of the Engineer.

C. Field Quality-Control Testing Agency Qualifications: An independent agency, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1.4 WARRANTY

A. Manufacturer's Warranty: Manufacturer agrees to furnish replacement sheet vapor retarder/termite barrier material and accessories for sheet vapor retarder/ termite barrier and accessories that do not comply with requirements or that fail to resist penetration by termites within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CONCRETE STANDARDS

A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

A. Cementitious Materials:

1. Portland Cement: ASTM C150/C150M, Type II, gray.
2. Blended Hydraulic Cement: ASTM C595/C595M, Type IS, Portland blast-furnace slag or Type IP, Portland-pozzolan cement.

B. Normal-Weight Aggregates: ASTM C33, uniformly graded, not exceeding 3/4-inch sieve. Provide aggregates from a single source.

2.3 ADMIXTURES

A. Air-entraining admixtures. Air-entraining admixtures shall meet the requirements of AASHTO M 154 and shall consistently entrain the air content in the specified ranges under field conditions. The air-entrainment agent and any water reducer admixture shall be compatible.

B. Water-reducing admixtures. Water-reducing admixture shall meet the requirements of AASHTO M 194, Type A, B, or D. AASHTO M 194, Type F and G high range water reducing admixtures and ASTM C1017 flowable admixtures shall not be used. Water-reducing admixtures shall be added at the mixer separately from air-entraining admixtures according to the manufacturer's printed instructions.

C. Other chemical admixtures. The use of set retarding, and set-accelerating admixtures shall be approved by the Engineer. Retarding shall meet the requirements of AASHTO M 194, Type A, B, or D and set-accelerating shall meet the requirements of AASHTO M 194, Type C. Calcium chloride and admixtures containing calcium chloride shall not be used.

2.4 CURING MATERIALS

A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. when dry.

B. Moisture-Retaining Cover: ASTM C171, polyethylene film burlap-polyethylene sheet.

1. Color:

a. Ambient Temperature Below 50 deg F: Black.
b. Ambient Temperature between 50 and 85 deg F: Any color.
c. Ambient Temperature Above 85 deg F: White.

C. Water: Potable water that does not cause staining of the surface.

2.5 ACCESSORIES

A. Joint Fillers: ASTM D1751, asphalt-saturated cellulosic fiber or ASTM D1752, cork or self-expanding cork in preformed strips.

B. Joint Sealant: ASTM C920, Type S, Grade P, Class 25, Service Temp minus 40 deg F to plus 107 deg F, Tensile Strength 550 psi (ASTM D412), Elongation at Break 700 percent (ASTM D412), Modulus of Elasticity 150 psi (ASTM D412). Use Sikaflex-1CSL. Alternate brand request or substitution request required.

2.6 STEEL REINFORCEMENT

A. Shop Drawings: Comply with ACI SP-066:

1. Include placing drawings that detail fabrication, bending, and placement.

2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, details of welding splices, tie spacing, hoop spacing, and supports for concrete reinforcement.

B. INFORMATIONAL SUBMITTALS
1. Material Certificates: For each of the following, signed by manufacturers:
a. Epoxy-Coated Reinforcement: CRSI's "Epoxy Coating Plant Certification."

2.7 CONCRETE MIXTURE MATERIALS

A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.

1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.

B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland or hydraulic cement in concrete assigned to Exposure Class F3 as follows:

1. Fly Ash or Other Pozzolans: 25 percent by mass.
2. Slag Cement: 50 percent by mass.
3. Silica Fume: 10 percent by mass.
4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.
5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

2.8 CONCRETE MIXTURE CLASS TYPES

A. Class J: Normal-weight concrete used for exterior retaining walls.

1. Exposure Class: ACI 318 (ACI 318M) Class F3.
2. Minimum Compressive Strength: 4500 psi at 28 days.
3. Maximum w/cm Ratio: 0.45.
4. Slump Limit: 4 inches, plus or minus 1 inch for concrete.
5. Air Content:

a. Exposure Classes F3: 6.0 percent, plus or minus 1.5 percent at point of delivery for concrete containing 3/4-inch nominal maximum aggregate size.

2.9 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94/C94M and furnish delivery ticket.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Before placing concrete, verify that installation of concrete forms, accessories, reinforcement, and embedded items is complete and that required inspections have been performed.

B. Do not proceed until unsatisfactory conditions have been corrected.

3.2 TOLERANCES

A. Comply with ACI 117.

3.3 INSTALLATION OF CAST-IN-PLACE CONCRETE

A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.

B. Notify testing and inspection agencies 24 hours prior to commencement of concrete placement.

C. Water addition in transit or at the Project site must be in accordance with ASTM C94/C94M and must not exceed the permitted amount indicated on the concrete delivery ticket.

D. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.

E. Deposit and consolidate concrete for floors and slabs in a continuous operation, within limits of construction joints, until placement of a panel or section is complete.

3.4 INSTALLATION OF JOINTS

A. Construct joints true to line, with faces perpendicular to main reinforcement.

3.5 INSTALLATION OF RETAINING WALL

A. Use No. 4 Epoxy-Coated Reinforcing Bars, 12” OC.

B. Steel Tie Wire: ASTM A1064/A1064M, annealed steel, not less than 0.0508 inch in diameter.

3.6 APPLICATION OF CONCRETE CURING

A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.

1. Comply with ACI 301 for cold weather protection during curing.
2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.

B. Curing Formed Surfaces: Comply with ACI 308.1 as follows:

1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
2. Cure concrete containing color pigments in accordance with color pigment manufacturer's instructions.
3. If forms remain during curing period, moist cure after loosening forms.
4. If removing forms before end of curing period, continue curing for remainder of curing period as follows:

    a. Continuous Fogging: Maintain standing water on concrete surface until final setting of concrete.
    b. Continuous Sprinkling: Maintain concrete surface continuously wet.
    c. Absorptive Cover: Pre-dampen absorptive material before application; apply additional water to absorptive material to maintain concrete surface continuously wet.
    d. Water-Retention Sheeting Materials: Cover exposed concrete surfaces with sheeting material, taping, or lapping seams.
    e. Membrane-Forming Curing Compound: Apply uniformly in continuous operation by power spray or roller in accordance with manufacturer's written instructions.

        1) Recoat areas subject to heavy rainfall within three hours after initial application.
        2) Maintain continuity of coating and repair damage during curing period.

3.7 INSTALLATION OF JOINT FILLING

A. Prepare, clean, and install joint filler in accordance with manufacturer's written instructions.

3.8 INSTALLATION OF CONCRETE SURFACE REPAIRS

A. Defective Concrete:

1. Repair and patch defective areas when approved by Engineer.
2. Remove and replace concrete that cannot be repaired and patched to meet specification requirements.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.

1. Testing agency to be responsible for providing curing facility for initial curing of strength test specimens on-site and verifying that test specimens are cured in accordance with standard curing requirements in ASTM C31/C31M.
2. Testing agency to immediately report to Engineer, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
3. Testing agency to report results of tests and inspections, in writing, to Owner, Engineer, Contractor, and concrete manufacturer within 48 hours of inspections and tests.

B. Delivery Tickets: Comply with ASTM C94/C94M.

C. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172/C 172M to be performed in accordance with the following requirements:

1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 150 cu. yd. or fraction thereof.

    a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing is to be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

2. Slump: ASTM C143/C143M:

    a. One test at point of delivery for each composite sample, but not less than one test for each day's pour of each concrete mixture.
    b. Perform additional tests as needed.

3. Air Content: ASTM C231/C231M pressure method, for normal-weight concrete.

    a. One test for each composite sample when strength test specimens are cast, but not less than one test for each day's pour of each concrete mixture.

4. Concrete Temperature: ASTM C1064/C1064M:

    a. One test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample when strength test specimens are cast.

5. Concrete Density: ASTM C138/C138M:

    a. One test for each composite sample when strength test specimens are cast.

6. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

7. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

END OF SECTION 033000

SECTION 311000 - SITE CLEARING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Removing existing vegetation.
2. Clearing and grubbing.
3. Removing above- and below-grade site improvements.
4. Temporary erosion- and sedimentation-control measures.

B. Related Sections:

1. Division 01 Section "Execution" for field engineering and surveying.

1.2 DEFINITIONS

A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.

B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.

D. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

1.3 MATERIAL OWNERSHIP

A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

1.4 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.

B. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.

C. Do not commence site clearing operations until temporary erosion- and sedimentation-control measures are in place.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Division 31 Section "Earth Moving."

1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect and maintain benchmarks and survey control points from disturbance during construction.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

A. Provide temporary erosion- and sedimentation-control measures in accordance with Section 01 55 00 ENVIRONMENTAL PROTECTION to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties.

B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.

D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 CLEARING AND GRUBBING

A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.

B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

3.4 SITE IMPROVEMENTS

A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

3.5 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 311000

SECTION 312000 - EARTH MOVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Excavating and filling for rough grading the Site.

2. Aggregate Base Course.

B. Related Sections:

1. Division 31 Section "Site Clearing" for site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.

2. Division 32 Section "Hot Mix Asphalt Paving" for paving of the site improvements.

3. Section 31 23 17 - Trenching.

1.2 REFERENCES

A. American Association of State Highway and Transportation Officials:

1. AASHTO T 96 – Test for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
2. AASHTO T 180 - Standard Specification for Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in.) Drop.

B. ASTM International:

1. ASTM D1556 - Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method.
2. ASTM D 1557 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft3 (2,700 kN-m/m3)).
3. ASTM D2167 - Standard Test Method for Density and Unit Weight of Soil in Place by the Rubber Balloon Method.
4. ASTM D2922 - Standard Test Method for Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth).
5. ASTM D3017 - Standard Test Method for Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth).

C. Specific technical portions of State of Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2004 Edition, as referenced in Specification Section 32 11 23, AGGREGATE BASE COURSE.

D. Alaska Test Method (ATM)

1. ATM 313 – Degradation Value of Aggregate

E. Western Alliance for Quality in Transportation Construction Field Operating Procedures (WAQTCFOP)

1. WAQTCFOP for AASHTO T 89 - Liquid Limit of Soils.
2. WAQTCFOP for AASHTO T 90 – Plastic Limit for Plasticity Index of Soils.

1.3 DEFINITIONS

A. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

B. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Owner. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Owner. Unauthorized excavation, as well as remedial work directed by Owner, shall be without additional compensation.

C. Fill: Soil materials used to raise existing grades.

D. Non-Frost-Susceptible (NFS) Soils: Non-frost-susceptible soils are inorganic soils containing less than 5 percent by weight of grains finer than 0.02 mm. The methods of test will be ASTM C 117, C 136, D 75, and D 422.

E. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

F. Structural Fill: The layer placed between the subgrade and base course in an asphalt concrete paving system or the layer placed between the subgrade and surface material of a pavement or walk.

G. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.

H. Surface Course: Crushed stone or gravel used for final surfacing.

I. Unauthorized Excavation: Removal of materials beyond indicated subgrade elevations or dimensions without direction by the Project Manager. Unauthorized excavation, as well as remedial work directed by the Project Manager, shall be at the Contractor's expense.

J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 INFORMATIONAL SUBMITTALS

A. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:

1. Classification according to ASTM D2487.
2. Laboratory compaction curve according to ASTM D1557.

1.5 PROJECT CONDITIONS

A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.

B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.

1. Do not proceed with work on adjoining property.

C. Utility Locator Service: Notify Alaska Dig Line before beginning earth moving operations.

D. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures are in place.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

A. General: Provide approved borrow soil materials from off-site when sufficient approved soil materials are not available from excavations.

B. Structural Fill: Free draining gravelly sand or sandy gravel that is free of cobbles and boulders. The material shall be unfrozen, free of vegetable matter, lumps, or excessive amounts of clay and other objectionable foreign substances. Pit run material which meets the requirements specified may be used. Contractor shall screen pit run as required to meet gradation requirements for Structural Fill. The aggregate shall meet the requirements of the gradation given below when tested in accordance with AASHTO T-27/T-11 or ASTM C 117/ C 136. Material shall meet the quality requirements of AASHTO M-147.

Size	Percent Passing
3-inch	100
No. 4 sieve	Less than 60
200 mesh	Less than 5 (based on the 3/4-inch minus fraction)

C. Pipe Bedding: Material meeting the requirements of Structural Fill but with 100 percent passing the No. 4 sieve.

D. Common Fill: Clean soil materials free of debris, waste, frozen materials, vegetation, organics, and other deleterious matter.

E. Silt: Clean soil materials obtained from on-site excavated loess, with 95 percent passing the 200 mesh sieve and free of debris, waste, frozen materials, vegetation, organics, and other deleterious matter.

F. Aggregate Base Course: Aggregate material placed between the subgrade and the pavement surface in road construction. Subbase Type A, min. 95% density thickness varies to establish finished grade.

1. Subbase Subsoil Material
   a. Subbase fill and backfill subsoil shall meet the following gradation. Aggregate shall be hard, durable particles or fragments of stone or gravel.

L.A. Wear %	AASHTO T96	50 maximum
Liquid Limit	WAQTCFOP for AASHTO T89	25 maximum
Plasticity Index	WAQTCFOP for AASHTO T90	6 maximum
Degradation	ATM 313	40 minimum

U.S. Std. Sieve	Cumulative % Passing by Weight
2"	100
1-1/2"	55-100
3/4"	45-85
#4	20-55
#10	12-50
#40	4-30
#200	0-6

2. Aggregate Base Course
   a. Aggregate Base Course shall meet the requirements of Alaska Department of Transportation and Public Facilities (ADOT&PF) Standard Specifications for Highway Construction, 2004 Edition, Table 703-2, D-1 Base Course. The following is ADOT&PF D-1 soil gradation.

U.S. Std. Sieve	Cumulative % Passing by Weight
1"	100
3/4"	70-100
3/8”	50-80
#4	35-65
#8	20-50
#50	8-30
#200	0-6

PART 3 - EXECUTION

3.1 PREPARATION

A. Protect existing structures, utilities, underground drainage systems, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

B. Protect subgrades and foundation soils from standing water and freezing temperatures or frost. Provide dewatering and protective insulating materials as necessary.

3.2 DEWATERING

A. Prevent surface water and ground water from ponding on prepared subgrades, and from flooding Project site and surrounding area.

B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.

3.3 EXCAVATION

A. Explosives: Not permitted.

B. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.4 REMOVAL AND DISPOSAL OF WASTE AND ORGANIC MATERIALS

A. Remove waste materials, unacceptable excavated material, excess materials, trash, and debris, and dispose of it off the University's property at no additional cost to the Owner.

B. All equipment used for the purpose of removing waste materials from the University's property shall follow legal existing traffic patterns to and from waste disposal sites. Any exceptions to legal, existing traffic patterns proposed by the Contractor shall be submitted and approved by the Project Manager and local and State Authorities.

3.5 STABILITY OF EXCAVATIONS

A. Comply with Federal, State, and CBJ safety codes and requirements.

3.6 FILL

A. Preparation: Remove vegetation, topsoil, debris, other organic materials, wet, and unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placing fills.

B. When subgrade or existing ground surface to receive fill has a density less than that required for fill, break up ground surface to depth required, pulverize, moisture-condition or aerate soil, and recompact to required density.

3.7 MOISTURE CONTROL

A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill layer before compaction to within 2 percent of optimum moisture content.

1. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
2. Remove and replace, or scarify and air-dry satisfactory soil material that is too wet to compact to specified density.

    a. Stockpile or spread and dry removed wet satisfactory soil material.

3.8 COMPACTION

A. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 6 inches in loose depth for material compacted by hand-operated tampers.

B. Material Types:

1. Structural Fill, Pipe Bedding, Subbase: Under buildings, sidewalks and roadway and parking area pavements, compact to 95 percent of Maximum Dry Density.
2. Surface Course Material: In road and parking areas, compact to 98 percent of Maximum Dry Density.

3.9 GRADING

A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.

1. Provide a smooth transition between existing adjacent grades and new grades.
2. Cut out soft spots, fill low spots, and trim high spots to conform to required surface tolerances.

B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:

1. Area Grading: Plus or minus 0.10 foot.

3.10 STRUCTURAL FILL

A. At road and parking areas, place structural fill, on prepared subgrades.

1. Compact at optimum moisture content to required grades, lines, cross sections and thickness.
2. Shape to required crown elevations and cross-slope grades.
3. When thickness of compacted subbase is 8 inches or less, place materials in a single layer.

4. When thickness of compacted subbase or base course exceeds 8 inches, place materials in equal layers, with no layer more than 8 inches thick or less than 4 inches thick when compacted.

3.11 AGGREGATE BASE COURSE FIELD QUALITY CONTROL

A. Definition

1. Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in AASHTO T 180.

B. Field in-place density shall be determined in accordance with ASTM D 1556, ASTM D 2167, or ASTM D 2922. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using the sand cone method as described in paragraph Calibration of this ASTM publication. ASTM D 2922 results in a wet unit weight of soil and when using this method, ASTM D 3017 shall be used to determine the moisture content of the soil. The calibration curves furnished with the moisture gauges shall be checked along with density calibration checks as described in ASTM D 3017. The calibration checks of both the density and moisture gauges shall be made at the beginning of a job, on each different type of material encountered, at intervals as directed by the Project Engineer. Copies of calibration curves, results of calibration tests, and field and laboratory density tests shall be furnished to the Project Engineer. When tests indicate Work does not meet specified requirements, remove soil lift, replace and retest.

C. The following table describes minimum soil compaction density and field testing requirements.

Material/Location	Test Method	Number of Tests	Minimum Compaction Density, ASTM D 1557
Subbase	ASTM D 2922	Minimum of 2 per lift, 1 for each additional 1,500 square feet	95%
Aggregate Base Course	ASTM D 2922	Minimum of 2 per lift, 1 for each additional 1,500 square feet	98%

END OF SECTION 321123

3.12 FIELD QUALITY CONTROL

A. Testing Agency Services: Schedule contractor provided testing agency inspection and testing of each subgrade and each fill or backfill layer. Do not proceed until test results for previously completed work verify compliance with requirements.

1. Perform field in-place density tests according to procedures in ASTM D 1557.
   a. Field in-place density tests may also be performed by the nuclear method according to ASTM D 2922, provided that calibration curves are periodically checked and adjusted to correlate to tests performed using ASTM D 1557. With each density calibration check, check the calibration curves furnished with the moisture gages according to ASTM D 3017.

B. When testing agency reports that subgrades, fills, or backfills are below specified density, scarify and moisten or aerate, or remove and replace soil to the depth required, recompact and retest until required density is obtained.

3.13 PROTECTION

A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.

B. Repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or lose compaction due to subsequent construction operations or weather conditions.

1. Scarify or remove and replace material to depth directed by the Project Manager; reshape and recompact at optimum moisture content to the required density.
2. Apply topsoil and hydroseed on all disturbed areas unless indicated otherwise on Drawings.

C. Settling: Where settling occurs during the Project warranty period, remove finished surfacing, backfill with additional approved material, compact, and reconstruct surfacing.

1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.14 DISPOSAL OF SURPLUS AND WASTE MATERIALS

A. Disposal: Remove surplus soil and waste material, including trash, and debris, and legally dispose of it off University property.

3.15 CLEAN-UP

A. Dust Control: Control dust resulting from demolition and removal work per requirements of Division 31 Section “Site Clearing.” Do not use water to control dust where it will result in hazardous or objectionable conditions such as ice, flooding and storm water pollution. Vacuum adjacent existing pavements as often as necessary to control the spread of dust and debris.

B. Surplus Excavation, Debris and Rubbish Control: Remove surplus, excavation material debris and rubbish per requirements of Division 31 Section “Site Clearing.”

END OF SECTION 312000

SECTION 321216 - HOT MIX ASPHALT PAVING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Description:

1. Asphalt materials.
2. Aggregate materials.
3. Pavement installation.

B. Related Requirement:

1. Section 31 20 00 – Earth Moving.
2. Section 32 17 23 - Pavement Markings.

1.2 REFERENCE STANDARDS

A. Specific technical portions of State of Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2020 Edition, as referenced in Specification Section 32 12 16, HOT MIX ASPHALT PAVING.

B. City and Borough of Juneau (CBJ), Standard Specifications for Civil Engineering Projects and Subdivision Improvements, 2003 Edition, 02801 ASPHALT CONCRETE PAVEMENT.

C. American Association of State Highway and Transportation Officials:

1. AASHTO M29 - Standard Specification for Fine Aggregate for Bituminous Paving Mixtures.
2. AASHTO MP1 - Standard Specification for Performance-Graded Asphalt Binder.
3. AASHTO T 96 - Test for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
4. AASHTO T 104 - Standard Method of Test for Soundness of Aggregate by Use Sodium Sulfate or Magnesium Sulfate
5. AASHTO T 308 - Standard Method of Test for Determining the Asphalt Binder Content of Hot Mix Asphalt (HMA) by the Ignition Method.

D. ASTM International:

1. ASTM D2950 - Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods.
2. ASTM D3549 - Standard Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens.

E. Alaska Test Method (ATM)

1. ATM 313 - Degradation Value of Aggregate.

2. ATM 306 - Flat and Elongated.

F. Western Alliance for Quality in Transportation Construction Field Operating Procedures (WAQTCFOP)

1. WAQTCFOP for AASHTO T27/11 - Sieve Analysis of Aggregates and Soils.
2. WAQTCFOP for AASHTO TP61 - Percentage of Fracture in Coarse Aggregate.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Contractor paving plan. See Specification Article PREPARATION.

C. Product Data:

1. Submit product information for all Part 2 PRODUCTS used for Project work. Include gradation for all soils.
2. Submit asphalt concrete design mix for each class of pavement used on the Project. Provide laboratory test results supporting design mix.

D. Contractor provided, independent test laboratory/Testing Agency for all soil compaction and gradation and asphalt pavement test requirements.

E. Contractor provided, independent land surveyor registered in the State of Alaska for all construction surveying.

F. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 QUALITY ASSURANCE

A. The Contractor shall use equipment in good working order and free of asphalt concrete mixture build-up. The Contractor shall make all equipment available to the Project Engineer for inspection and demonstration of operation a minimum of 24 hours before placement of asphalt concrete mix. The Contractor shall coordinate time and location of inspection and operation with the Project Engineer.

B. The asphalt mixing plant shall meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 401-3.043, Asphalt Mixing Plant.

C. Hauling equipment from the mixing plan to the job site shall meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 401-3.04, Hauling Equipment.

D. Asphalt paver equipment for the Project shall meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 401-3.05, Asphalt Pavers.

E. Roller equipment for the Project shall meet the ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 401-3.06, Rollers.

1. Do not leave rollers or other equipment on pavement that has not cooled sufficiently to prevent indentation.

1.5 QUALIFICATIONS

A. Installer: A company with at least five (5) years documented experience in the State of Alaska specializing in the performance of the work described in Specification Section 32 12 16 HOT MIX ASPHALT PAVING.

1.6 AMBIENT CONDITIONS

A. Asphalt concrete mixture shall not be placed when it is raining or when rain is imminent, on saturated or frozen surfaces, on unstable leveling course and subbase, or when weather conditions prevent proper handling or finishing of the mixture. Asphalt concrete mix shall not be placed unless the surface temperature in 45º Fahrenheit or warmer and the ambient air temperature is at least 32º Fahrenheit and not descending. Air temperature shall be measured in the shade away from heat sources at the paving site.

PART 2 - PRODUCTS

2.1 ASPHALT PAVING

A. Asphalt Binder

1. Asphalt cement binder shall conform to AASHTO MP-1, performance grade PG-58-22. A single source of asphalt material shall be used for the entire job. Test data indicating grade certification shall be provided by the supplier at the time of delivery of each load to the mix plant. Copies of these certifications shall be submitted to the Contracting Officer. The supplier is defined as the last source of any modification to the binder.

B. Aggregate For Asphalt Concrete Pavement

1. Coarse Aggregate

a. Coarse aggregate is aggregate not passing the No. 4 sieve.
b. Crushed stone or crushed gravel consisting of tough, durable rock of uniform quality. Free from clay balls, vegetative matter, or other deleterious material. Not coated with soil and meeting the following requirements taken from ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 703-2.04:

L.A. Wear %	AASHTO T96	25 maximum
Degradation	ATM 313	30 minimum
Sodium Sulfate Loss %	AASHTO T104	10, maximum (5 cycles)
Fracture, %	WAQTCFOP for AASHTO TP61	100 minimum (single face) 80 minimum (double face)
Flat, Elongated Pieces, %	ATM 306	8, maximum

2. Fine Aggregate

a. Fine aggregate is all aggregate passing the No. 4 sieve.
b. Fine aggregate shall meet the quality requirements of AASHTO M 29, including S1.1, Sulfate Soundness.

3. Blended Aggregate

a. Blend the aggregate fractions to meet the grading requirements of the following table. Gradation as determined by WAQTC FOP for AASHTO T27/T11. The following gradation is taken from ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Table 703-3.

Sieve	Gradation Type		
	Type I	Type II	Type III
1”	100		
3/4”	80-95	100	
1/2”	60-88	80-95	100
3/8”	48-77	60-87	80-95
No. 4	28-63	36-48	44-81
No. 8	14-55	19-35	26-70
No. 16	9-46	10-25	16-59
No. 30	6-39	7-21	9-49
No. 50	5-29	5-20	6-36
No. 100	4-18	4-15	4-22
No. 200	2-6	2-6	2-6

2.2 ASPHALT CONCRETE DESIGN MIX/JOB MIX

A. The asphalt concrete mix design also referred to as the Job Mix shall meet one of the three (3) ADOT&PF asphalt pavement Classes, Class A, B, or C.

B. The following table lists ADOT&PF Pavement Class and requirements (Reference Table 401-1, ADOT&PF Standard Specifications for Highway Construction, 2020 Edition).

Design Parameters	Class A	Class B
Stability (pounds)	1,800 minimum	1,800 minimum
Flow, 0.01 inch	8-14	8-14
Voids in Total Mix. %	3-5	3-5
Compaction, Number of blows each side of test specimen	75	50
%Voids filled With Asphalt (VFA)	65-75	65-78
Dust-Asphalt Ratio	0.6-1.0	0.6-1.0
Voids in the Mineral Aggregate (VMA), %, Minimum		
Type I	13.0	12.0
Type II	14.0	13.0
Type III	15.0	14.0

PART 3 - EXECUTION

3.1 EXAMINATION

A. Section 01 77 00 - Execution and Closeout Requirements: Requirements for installation examination.

B. Verify utilities indicated under paving are installed with excavations and trenches backfilled and compacted.

C. Verify compacted subbase is dry and ready to support aggregate base course installation and paving operations and required compaction densities have been achieved.

D. Verify gradients and elevations of aggregate base course are correct.

E. Verify concrete curb and gutter, gutter drainage grilles and frames, manhole frames are installed in correct position and elevation. New concrete shall have cured at least 72 hours.

3.2 PREPARATION

A. Paving Plan

1. The Contractor shall submit a paving plan for the Project Engineer's review a minimum of 5 days prior to initiating paving operations. The plan shall include the following:
2. Paving schedule with sequence of operations.
3. Number and capacity of trucks, cycle time, and delivery rate.
4. Manufacturer and model of paver and pick-up machine to include information on grade followers, sensors, operating speed, and production rate.
5. Number, type, weight, and operating speed of rollers assigned to project work.

3.3 DEMOLITION

A. The Contractor shall removal existing asphalt pavement to the extent required for installation of project work.

B. At the extent of pavement removal the Contractor shall neatly saw cut existing pavement prior to removing pavement.

1. Where new pavement joins existing traffic lanes uniformly skew saw cut 15º to 25º between each edge of pavement.

C. The Contractor shall provide disposal of demolished material in accordance with all Local, State, and Federal regulations.

3.4 INSTALLATION

A. General

1. The Contractor shall provide all plant, labor, equipment, supplies, and transportation and, perform all operations necessary to complete construction of a hot mix asphalt concrete pavement.
2. Contractor shall provide an independent land surveyor registered in the State of Alaska for all construction surveying. Service shall include all equipment, labor, and materials.
3. Contractor provided independent test laboratory/Testing Agency for all soil compaction and gradation and asphalt pavement test requirements. Testing services shall include all equipment, labor, and materials.

B. Aggregate Base Course:

1. Aggregate Base Course: Install as specified in Section 31 20 00, EARTH MOVING

C. Tack Coat:

1. Apply tack coat on asphalt and concrete surfaces adjoining new asphalt pavement.

a. Tack coat shall not be applied when the ambient temperature is above 60 degrees Fahrenheit. It shall not be applied after sunset or on a wet surface.
b. Contractor shall distribute diluted amounts of tack coat such that the mixture will cure back to 0.05 to 0.10 gallons of bituminous material per square yard. The tack coat mixture shall be applied with a mixture temperature between 75 and 130 degrees Fahrenheit. The Contractor shall supply thermometers so that the temperature is monitored. Existing improvements shall be protected from tack coat spatter. The tack coat surface shall be allowed to dry to obtain tackiness before pavement installation. The Contractor shall protect the tack coat surface from damage

D. Single Course Asphalt Paving:

1. Place asphalt within 24 hours of applying tack coat.
2. Place asphalt wearing course to thickness indicated on Drawings.

E. Asphalt Paving Overlay

1. Place wearing course to thickness indicated on Drawings.
2. Compact overlay by rolling to specified density. Do not displace or extrude paving from position.

F. Placing and Spreading

1. The asphalt concrete shall be placed on the prepared surface at a temperature not less than 250º Fahrenheit or greater than 300º Fahrenheit. Additionally the maximum temperature to which the asphalt concrete is heated shall not exceed the supplier's recommendation. The asphalt pavement temperature shall be measured directly behind the asphalt screed at time of placement. Measurements shall be provided for each load of asphalt concrete delivered to the Project site.
2. Longitudinal joints and edges shall be constructed to true line markings. Lines shall be established parallel to the center line for the paver to follow in placing individual lanes of pavement. The paver shall be operated and positioned to closely follow the established line. When backing trucks to the paver, care shall be taken not to jar the paver.

3. The texture of the unrolled surface shall be checked to determine its uniformity. The adjustment of the screed, tamping, feed screws, hopper feed, etc. shall be checked frequently to assure uniform spreading of the mix. Segregation of the material shall not be permitted. If segregation occurs, the spreading operation shall be immediately suspended and the cause determined and corrected.
4. Any irregularities left by the paver shall be corrected by trimming directly behind the machine by use of lutes or covered rakes. Excess material shall be removed by shovel or lute. Indented areas shall be filled with hot-mix and smoothed with the back of a shovel pulled over the surface. Fanning of material over these areas shall not be permitted.
5. On longitudinal joints, the paver shall be positioned so that in spreading, the material overlaps the edge of the lane previously placed by 1 or 2 inches and is sufficiently high to allow compaction. The coarse aggregate in the material overlapping shall be raked out into the cold lane as soon as possible behind the paver and broomed up and wasted. In no case shall the scattered aggregate be rolled into the surface of either lane.
6. When the section of roadway being paved is open to traffic, pave adjacent traffic lanes to same elevation within 24 hours. Place approved, temporary material against the outside pavement edge when the drop-off exceeds 2 inches.

G. Pavement Compaction
1. Immediately after the asphalt mixture has been spread and surface irregularities adjusted, it shall be uniformly compacted by rolling. The surface shall be rolled when rolling does not cause undue displacement, cracking, or shoving of the mixture. Initial rolling shall be completed while the asphalt pavement is above 225º Fahrenheit. Following initial rolling at least three coverages of the pavement shall be completed with a pneumatic wheeled roller while the pavement temperature is still above 175º Fahrenheit. Final rolling shall consist of a steel drum roller and shall continue until roller marks and specified density has been achieved.
2. Any displacement occurring as a result of the reversing direction of a roller, or from other causes, shall be corrected at once by the use of rakes and addition of fresh, hot mixture when required. Care shall be exercised in rolling not to displace the line and grade of the edges of the asphalt mixture. Hot is defined as being between the temperatures of 250º Fahrenheit and 300º Fahrenheit.
3. In areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the asphalt concrete mixture shall be spread, raked, and luted by hand tools. For such locations the asphalt concrete mixture shall be placed to the required thickness and density. The mixture shall be compacted with hot hand tampers, smoothing irons, or with mechanical tampers.

H. Joints
1. The Contractor shall not construct longitudinal joints in the vehicle wheel paths of streets and driveways. The Contractor shall align the joints of the top asphalt layer of pavement to traffic lane striping or centerline of unmarked driveway or parking area aisles. Where 2 or more traffic lanes occur, the Contractor shall offset the longitudinal joint not more than 4 inches from the centerline of traffic lane striping. All joints shall present the same texture and smoothness as other sections of installed pavement. When more than one AC layer is installed the Contractor shall offset the longitudinal joint in the top layer from the underlying layer by at least 4 inches.

I. Patching Defective Areas

1. Any asphalt concrete mixture that becomes contaminated, installed outside the range of allowable temperatures, damaged by vehicle traffic prior to cooling, or defective in any other way as determined by the Project Engineer or Project Engineer's representative, shall be removed and replaced. Skin patching shall not be permitted.
2. Defective pavement shall be removed the full thickness of installed pavement. Limits of removal shall be saw cut with vertical edges; sides of cut are parallel with traffic direction and ends of removed pavement are skewed between 15º and 25º. Edges shall be coated with a thin layer of tack coat.
3. Fresh hot asphalt concrete mixture shall be placed in sufficient quantity so that the finished surface will conform to grade and smoothness requirements. The asphalt concrete mixture shall be compacted to specification density.

3.5 TOLERANCES

A. The Project Engineer will test the finished surface after the final rolling of the wearing course at selected locations using a 16 foot straightedge. Irregularities in the finished pavement surface shall not exceed 3/16 inch within 10 feet along a straight edge or 5/16 inch within 16 feet along a straight edge. The Contractor shall furnish straightedges to the Project Engineer or Project Engineer's designated inspector.

B. Scheduled Compacted Thickness: Within 1/4 inch.

C. Variation from Indicated Elevation: Within 1/2 inch.

3.6 FIELD QUALITY CONTROL

A. General Requirements:

1. The asphalt concrete shall be placed on the prepared surface at a temperature not less than 250º Fahrenheit or greater than 300º Fahrenheit. Additionally the maximum temperature to which the asphalt concrete is heated shall not exceed the supplier's recommendation. The asphalt pavement temperature shall be measured directly behind the asphalt screed at time of placement. Measurements shall be provided for each load of asphalt concrete delivered to the Project site.
2. Improperly formed joints resulting in surface irregularities shall be removed full depth, replaced with fresh hot asphalt concrete mixture, and thoroughly compacted. Limits of removed asphalt pavement shall be saw cut and thin layer of tack coat applied to pavement edge prior to installing pavement mix.
3. Rolling of joints after the pavement mix has cooled below 175º Fahrenheit shall not be allowed.
4. Do not place the next pavement lift until the lower lift is accepted by the Project Engineer.
5. Asphalt concrete mix that is contaminated or segregated shall be rejected.

B. Asphalt Pavement Density and Asphalt Content Laboratory Test:

1. Installed pavement shall have a density equal to or greater than 96 percent of Maximum Density as determined by the Marshall Method. The compacted specimens on which the

Maximum Density is determined shall be produced from a laboratory specimen made from the Job Mix, and as close to the lay down temperature as practicable.

2. Asphalt content of the laboratory specimen as determined by AASHTO T-308.

C. Asphalt Paving Thickness: ASTM D3549; Minimum of 2 core samples and one core sample per additional 1000 square yards compacted paving.

D. Asphalt Paving Density Field Testing:

1. For the first 1,000 square yards at least three (3) randomly selected locations shall be tested for pavement density using nuclear density testing, ASTM D 2950, and one (1) density test per each additional 1,000 square yards.

E. Asphalt Content Field Sampling and Testing:

1. One sample per paving day of asphalt pavement mix delivered to the Project site. Asphalt content determined by AASHTO T-308. Asphalt content shall be reported as percent of total mix weight.

3.7 PROTECTION

A. The Contractor shall not allow vehicular traffic on the pavement until the surface has cooled to below 120º Fahrenheit.

END OF SECTION 321216

SECTION 321619 - CONCRETE CURBS, GUTTERS AND SIDEWALKS

PART 1 - GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

A. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

B. AASHTO M 182 (2005; R 2021) - Standard Specification for Burlap Cloth Made from Jute or Kenaf and Cotton Mats ASTM INTERNATIONAL (ASTM)

C. ASTM A615/A615M (2024) - Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement

D. ASTM (2024) - Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete

E. ASTM C31/C31M (2024c) - Standard Practice for Making and Curing Concrete Test Specimens in the Field

F. ASTM C94/C94M (2024c) - Standard Specification for Ready-Mixed Concrete

G. ASTM C31/C31M - (2024c) Standard Practice for Making and Curing Concrete Test Specimens in the Field

H. ASTM C94/C94M (2024c) - Standard Specification for Ready-Mixed Concrete

I. ASTM C143/C143M (2020) - Standard Test Method for Slump of Hydraulic-Cement Concrete

J. ASTM C171 (2020) - Standard Specification for Sheet Materials for Curing Concrete

K. ASTM C172/C172M (2017) - Standard Practice for Sampling Freshly Mixed Concrete

L. ASTM C173/C173M (2024a) - Standard Test Method for Air Content of Freshly Mixed Concrete by the Volumetric Method

M. ASTM C231/C231M (2024) - Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method

N. ASTM C309 (2019) - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete

O. ASTM C920 (2018; R 2024) - Standard Specification for Elastomeric Joint Sealants

P. ASTM D1751 (2018) - Standard Specification for Preformed Expansion Joint Filler for Concrete Paving and Structural Construction (Nonextruding and Resilient Bituminous Types)

Q. ASTM D1752 (2018) - Standard Specification for Preformed Sponge Rubber, Cork and Recycled PVC Expansion Joint Fillers for Concrete Paving and Structural Construction

R. ASTM D5893/D5893M (2016) - Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

S. INTERNATIONAL CODE COUNCIL (ICC) ICC A117.1 (2017) - Standard And Commentary Accessible and Usable Buildings and Facilities

T. ASTM D5893/D5893M (2016) - Standard Specification for Cold Applied, Single Component, Chemically Curing Silicone Joint Sealant for Portland Cement Concrete Pavements

U. INTERNATIONAL CODE COUNCIL (ICC) ICC A117.1 (2017) - Standard And Commentary Accessible and Usable Buildings and Facilities

1.2 SUBMITTALS

1. Product Data

    a. Concrete
    b. Test Reports
    c. Field Quality Control

1.3 EQUIPMENT, TOOLS, AND MACHINES

A. General Requirements

1. Plant, equipment, machines, and tools used in the work will be subject to approval and must be maintained in a satisfactory working condition at all times. Use equipment capable of producing the required product, meeting grade controls, thickness control and smoothness requirements as specified. Discontinue using equipment that produces unsatisfactory results. Allow the Contracting Officer access at all times to the plant and equipment to ensure proper operation and compliance with specifications.

1.4 ENVIRONMENTAL REQUIREMENTS

A. Placing During Cold Weather

1. Do not place concrete when the air temperature reaches 40 degrees F and is falling or is already below that point. Placement may begin when the air temperature reaches 35 degrees F and is rising, or is already above 40 degrees F. Make provisions to protect the concrete from freezing during the specified curing period. If necessary to place concrete when the temperature of the air, aggregates, or water is below 35 degrees F, placement and protection must be approved in writing. Approval will be contingent upon full conformance with the following provisions. Prepare and protect the underlying material

so that it is entirely free of frost when the concrete is deposited. Heat mixing water as necessary to result in the temperature of the in-place concrete being between 50 and 85 degrees F. Methods and equipment for heating must be approved. Use only aggregates that are free of ice, snow, and frozen lumps before entering the mixer. Provide covering or other means as needed to maintain the concrete at a temperature of at least 10 degrees C 50 degrees F for not less than 72 hours after placing, and at a temperature above freezing for the remainder of the curing period.

B. Placing During Warm Weather

1. The temperature of the concrete as placed must not exceed 85 degrees F except where an approved retarder is used. Cool the mixing water and aggregates as necessary to maintain a satisfactory placing temperature. The placing temperature must not exceed 95 degrees F at any time.

PART 2 - PRODUCTS

2.1 CONCRETE

A. Concrete must have a minimum compressive strength of 3500 psi at 28 days. Size of aggregate must not exceed 1-1/2 inches. Submit copies of certified delivery tickets for all concrete used in the construction.

B. Air Content

1. Use concrete mixtures that have an air content by volume of concrete of 5 to 7 percent, based on measurements made immediately after discharge from the mixer.

C. Slump

1. Use concrete with a slump of 3 inches plus or minus 1 inch for hand placed concrete or 1 inch plus or minus 1/2 inch for slip formed concrete as determined in accordance with ASTM C143/C143M.

2. Reinforcement Steel Use reinforcement bars conforming to ASTM A615/A615M. Use wire mesh reinforcement conforming to ASTM A1064/A1064M.

2.2 CONCRETE CURING MATERIALS

A. Impervious Sheet Materials

1. Use impervious sheet materials conforming to ASTM C171, type optional, except that polyethylene film, if used, must be white opaque.

B. Burlap

1. Use burlap conforming to AASHTO M 182.

2.3 CONCRETE PROTECTION MATERIALS

A. Use concrete protection materials consisting of a linseed oil mixture of equal parts, by volume, of linseed oil and either mineral spirits, naphtha, or turpentine. At the option of the Contractor, commercially prepared linseed oil mixtures, formulated specifically for application to concrete to provide protection against the action of deicing chemicals may be used, except that emulsified mixtures are not acceptable.

2.4 JOINT FILLER STRIPS

A. Expansion Joint Filler, Premolded

B. Unless otherwise indicated, use 13 mm 1/2 inch thick premolded expansion joint filler conforming to ASTM D1751 or ASTM D1752.

2.5 JOINT SEALANTS

A. Use cold-applied joint sealant conforming to ASTM C920 or ASTM D5893/D5893M.

2.6 FORM WORK

A. Design and construct form work to ensure that the finished concrete will conform accurately to the indicated dimensions, lines, and elevations, and within the tolerances specified. Use wood or steel forms that are straight and of sufficient strength to resist springing during depositing and consolidating concrete.

B. Wood Forms

1. Use forms that are surfaced plank, 2 inches nominal thickness, straight and free from warp, twist, loose knots, splits or other defects. Use forms with a nominal length of 10 feet. Radius bends may be formed with 3/4 inch boards, laminated to the required thickness.

C. Sidewalk Forms

1. Use sidewalk forms that are of a height equal to the full depth of the finished sidewalk.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

A. Construct subgrade to the specified grade and cross section prior to concrete placement.

1. Sidewalk Subgrade

B. Place and compact the subgrade in accordance with Section 31 20 00 EARTHMOVING. Test the subgrade for grade and cross section with a template extending the full width of the sidewalk and supported between side forms.

1. Maintenance of Subgrade

C. Maintain subgrade in a smooth, compacted condition in conformity with the required section and established grade until the concrete is placed. The subgrade must be in a moist condition when concrete is placed. Prepare and protect subgrade so that it is free from frost when the concrete is deposited.

3.2 FORM SETTING

A. Set forms to the indicated alignment, grade and dimensions. Hold forms rigidly in place by a minimum of 3 stakes per form placed at intervals not to exceed 4 feet. Use additional stakes and braces at corners, deep sections, and radius bends, as required. Use clamps, spreaders, and braces where required to ensure rigidity in the forms. Remove forms in a manner that will not injure the concrete. Do not use bars or heavy tools against the concrete when removing the forms. Promptly and satisfactorily repair concrete found to be defective after form removal. Clean forms and coat with form oil or biodegradable form release agent each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory.

1. Sidewalks

B. Set forms for sidewalks with the upper edge true to line and grade with an allowable tolerance of 1/8 inch in any 10 foot long section. After forms are set, grade and alignment must be checked with a 10 foot straightedge. Sidewalks must have a transverse slope 1/4 inch per foot. Do not remove side forms less than 12 hours after finishing has been completed.

3.3 SIDEWALK CONCRETE PLACEMENT AND FINISHING

A. Formed Sidewalks

1. Place concrete in the forms in one layer. When consolidated and finished, the sidewalks must be of the thickness indicated. Use a strike-off guided by side forms after concrete has been placed in the forms to bring the surface to proper section to be compacted. Consolidate concrete by tamping and spading or with an approved vibrator. Finish the surface to grade with a strike off.

B. Retaining Walls

1. Place in accordance with Section 03 30 00 CAST-IN-PLACE CONCRETE.

C. Concrete Finishing

1. After straight edging, when most of the water sheen has disappeared, and just before the concrete hardens, finish the surface with a wood or magnesium float or darby to a smooth and uniformly fine granular or sandy texture free of waves, irregularities, or tool marks.

Produce a scored surface by brooming with a fiber-bristle brush in a direction transverse to that of the traffic, followed by edging.

D. Edge and Joint Finishing

1. Finish all slab edges, including those at formed joints, with an edger having a radius of 1/8 inch. Edge transverse joints before brooming. Eliminate the flat surface left by the surface face of the edger with brooming. Clean and solidly fill corners and edges which have crumbled and areas which lack sufficient mortar for proper finishing with a properly proportioned mortar mixture and then finish.

E. Surface and Thickness Tolerances

1. Finished surfaces must not vary more than 5/16 inch from the testing edge of a 10-foot straightedge. Permissible deficiency in section thickness will be up to 1/4 inch.

3.4 SIDEWALK JOINTS

A. Construct sidewalk joints to divide the surface into rectangular areas.

1. Space transverse contraction joints at a distance equal to the sidewalk width or 5 feet on centers, whichever is less, and continuous across the slab. Construct longitudinal contraction joints along the centerline of all sidewalks 3 m 10 feet or more in width. Construct transverse expansion joints at sidewalk returns and opposite expansion joints in adjoining curbs. Where the sidewalk is not in contact with the curb, install transverse expansion joints as indicated. Form expansion joints around structures and features which project through or into the sidewalk pavement, using joint filler of the type, thickness, and width indicated. Expansion joints are not required between sidewalks and curb that abut the sidewalk longitudinally.

B. Sidewalk Contraction Joints

1. Form contraction joints in the fresh concrete by cutting a groove in the top portion of the slab to a depth of at least one-fourth of the sidewalk slab thickness. Unless otherwise approved or indicated, either use a jointer to cut the groove or saw a groove in the hardened concrete with a power-driven saw. Construct sawed joints by sawing a groove in the concrete with a 1/8 inch blade. Provide an ample supply of saw blades on the jobsite before concrete placement is started. Provide at least one standby sawing unit in good working order at the jobsite at all times during the sawing operations.

C. Sidewalk Expansion Joints

1. Form expansion joints using 1/2 inch joint filler strips. Joint filler in expansion joints surrounding structures and features within the sidewalk may consist of preformed filler material conforming to ASTM D1752 or building paper. Hold joint filler in place with steel pins or other devices to prevent warping of the filler during floating and finishing. Immediately after finishing operations are completed, round joint edges using an edging tool having a radius of 1/8 inch. Remove any concrete over the joint filler. At the end of the curing period, clean the top of expansion joints and fill with cold-applied joint sealant. Use joint sealant that is gray or stone in color. Thoroughly clean the joint

opening before the sealing material is placed. Do not spill sealing material on exposed surfaces of the concrete. Apply joint sealing material only when the concrete at the joint is surface dry and atmospheric and concrete temperatures are above 50 degrees F. Immediately remove any excess material on exposed surfaces of the concrete and clean the concrete surfaces.

D. Reinforcement Steel Placement

1. Accurately and securely fasten reinforcement steel in place with suitable supports and ties before the concrete is placed.

3.5 CURING AND PROTECTION

A. General Requirements

1. Protect concrete against loss of moisture and rapid temperature changes for at least 7 days from the beginning of the curing operation. Protect unhardened concrete from rain and flowing water. All equipment needed for adequate curing and protection of the concrete must be on hand and ready for use before actual concrete placement begins. Protect concrete as necessary to prevent cracking of the pavement due to temperature changes during the curing period.

a. Mat Method

2. Cover the entire exposed surface with two or more layers of burlap. Overlap mats at least 150 mm 6 inches. Thoroughly wet the mat with water prior to placing on concrete surface and keep the mat continuously in a saturated condition and in intimate contact with concrete for not less than 7 days.

a. Impervious Sheeting Method

3. Wet the entire exposed surface with a fine spray of water and then cover with impervious sheeting material. Lay sheets directly on the concrete surface with the light-colored side up and overlapped 300 mm 12 inches when a continuous sheet is not used. Use sheeting that is not less than 450 mm 18-inches wider than the concrete surface to be cured. Secure sheeting using heavy wood planks or a bank of moist earth placed along edges and laps in the sheets. Satisfactorily repair or replace sheets that are torn or otherwise damaged during curing. Sheeting must remain on the concrete surface to be cured for not less than 7 days.

a. Membrane Curing Method

4. Apply a uniform coating of white-pigmented membrane-curing compound to the entire exposed surface of the concrete as soon after finishing as the free water has disappeared from the finished surface. Coat formed surfaces immediately after the forms are removed and in no case longer than 1 hour after the removal of forms. Do not allow concrete surface to dry before application of the membrane. If drying has occurred, moisten the surface of the concrete with a fine spray of water and apply the curing compound as soon as the free water disappears. Apply curing compound in two coats by hand-operated pressure sprayers at a coverage of approximately 5 square meters/L 200 square

feet/gallon for the total of both coats. Apply the second coat in a direction approximately at right angles to the direction of application of the first coat. The compound must form a uniform, continuous, coherent film that will not check, crack, or peel and must be free from pinholes or other imperfections. If pinholes, abrasion, or other discontinuities exist, apply an additional coat to the affected areas within 30 minutes. Respray concrete surfaces that are subjected to heavy rainfall within 3 hours after the curing compound has been applied by the method and at the coverage specified above. Respray areas where the curing compound is damaged by subsequent construction operations within the curing period. Take precautions necessary to ensure that the concrete is properly cured at sawed joints, and that no curing compound enters the joints.

5. Tightly seal the top of the joint opening and the joint groove at exposed edges before the concrete in the region of the joint is resprayed with curing compound. Use a method used for sealing the joint groove that prevents loss of moisture from the joint during the entire specified curing period. Provide approved standby facilities for curing concrete pavement at a location accessible to the jobsite for use in the event of mechanical failure of the spraying equipment or other conditions that might prevent correct application of the membrane-curing compound at the proper time. Adequately protect concrete surfaces to which membrane-curing compounds have been applied during the entire curing period from pedestrian and vehicular traffic, except as required for joint-sawing operations and surface tests, and from other possible damage to the continuity of the membrane.

B. Backfilling

1. After curing, remove debris and backfill, grade, and compact the area adjoining the concrete to conform to the surrounding area in accordance with lines and grades indicated.

C. Protection

1. Protect completed concrete from damage until accepted. Repair damaged concrete and clean concrete discolored during construction. Remove and reconstruct concrete that is damaged for the entire length between regularly scheduled joints. Refinishing the damaged portion will not be acceptable. Dispose of removed material as directed.

D. Protective Coating

1. Apply a protective coating of linseed oil mixture to the exposed-to-view concrete surface after the curing period, if concrete will be exposed to de-icing chemicals within 6 weeks after placement. Moist cure concrete to receive a protective coating.

a. Application

1) Complete curing and backfilling operation prior to applying two coats of protective coating. Concrete must be surface dry and clean before each application. Spray apply at a rate of not more than 11 square meters/L 50 square yards/gallon for first application and not more than 15.5 square meters/L 70 square yards/gallon for second application, except that the number of applications and coverage for each application for commercially prepared mixture must be in accordance with the manufacturer's

instructions. Protect coated surfaces from vehicular and pedestrian traffic until dry.

b. Precautions

1) Do not heat protective coating by direct application of flame or electrical heaters and protect the coating from exposure to open flame, sparks, and fire adjacent to open containers or applicators. Do not apply material at ambient or material temperatures lower than 10 degrees C 50 degrees F.

3.6 FIELD QUALITY CONTROL

Submit copies of all test reports within 24 hours of completion of the test.

A. General Requirements

1. Perform the inspection and tests described and meet the specified requirements for inspection details and frequency of testing. Based upon the results of these inspections and tests, take the action and submit reports as required below, and additional tests to ensure that the requirements of these specifications are met.

B. Concrete Testing

1. Strength Testing

a. Take concrete samples in accordance with ASTM C172/C172M not less than once a day nor less than once for every 250 cubic yards of concrete placed. Mold cylinders in accordance with ASTM C31/C31M for strength testing by an approved laboratory. Each strength test result must be the average of 2 test cylinders from the same concrete sample tested at 28 days, unless otherwise specified or approved. Concrete specified on the basis of compressive strength will be considered satisfactory if the averages of all sets of three consecutive strength test results equal or exceed the specified strength, and no individual strength test result falls below the specified strength by more than 500 psi.

2. Air Content

a. Determine air content in accordance with ASTM C173/C173M or ASTM C231/C231M. Use ASTM C231/C231M with concretes and mortars made with relatively dense natural aggregates. Make two tests for air content on randomly selected batches of each class of concrete placed during each shift. Make additional tests when excessive variation in concrete workability is reported by the placing foreman or the Government inspector. Notify the placing foreman if results are out of tolerance. The placing foreman must take appropriate action to have the air content corrected at the plant. Additional tests for air content will be performed on each truckload of material until such time as the air content is within the tolerance specified.

3. Slump Test

a. Perform two slump tests on randomly selected batches of each class of concrete for every 190 cubic meters 250 cubic yards, or fraction thereof, of concrete placed during each shift. Perform additional tests when excessive variation in the workability of the concrete is noted or when excessive crumbling or slumping is noted along the edges of slip-formed concrete.

4. Surface Evaluation

a. Provide finished surfaces for each category of the completed work that are uniform in color and free of blemishes and form or tool marks.

3.7 SURFACE DEFICIENCIES AND CORRECTIONS

A. Thickness Deficiency

1. When measurements indicate that the completed concrete section is deficient in thickness by more than 6 mm 1/4 inch the deficient section will be removed, between regularly scheduled joints, and replaced.

B. High Areas

1. In areas not meeting surface smoothness and plan grade requirements, reduce high areas either by rubbing the freshly finished concrete with carborundum brick and water when the concrete is less than 36 hours old or by grinding the hardened concrete with an approved surface grinding machine after the concrete is 36 hours old or more. The area corrected by grinding the surface of the hardened concrete must not exceed 5 percent of the area of any integral slab, and the depth of grinding must not exceed 1/4 inch. Remove and replace pavement areas requiring grade or surface smoothness corrections in excess of the limits specified.

C. Appearance

1. Exposed surfaces of the finished work will be inspected by the Contracting
2. Officer and deficiencies in appearance will be identified. Remove and replace areas which exhibit excessive cracking, discoloration, form marks, or tool marks or which are otherwise inconsistent with the overall appearances of the work.

3.8 DETECTABLE WARNING SYSTEM

A. Install Detectable Warning Systems required by Contract plans in accordance with ICC A117.1, Section 705, and by manufacturers' installation instructions.

END OF SECTION 321619

SECTION 321723 - PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Description:

1. Materials for Pavement Markings.
2. Application equipment requirements.
3. Stripe dimension tolerance.
4. Field application and quality control.

1.2 REFERENCE STANDARDS

A. Specific technical portions of State of Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2020 Edition, as referenced in Specification Section 32 17 23, PAVEMENT MARKINGS.

B. American Association of State Highway and Transportation Officials:

1. AASHTO M247 - Standard Specification for Glass Beads Used in Traffic Paint.

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Product Data: Submit data for all products in Part 2 PRODUCTS used for Project Work.

C. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

D. Manufacturer's Instructions: Submit instructions for application temperatures, eradication requirements, application rate, line thickness, type of glass beads, bead embedment and bead application rate, and any other data on proper installation.

1.4 QUALITY ASSURANCE

A. Sustainable Design Requirements:

1. Regional Materials: Furnish materials extracted, processed, and manufactured within 500 miles of Project site.

1.5 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three (3) years documented experience.

B. Applicator: Company specializing in performing work of Section 32 17 23, PAVEMENT MARKINGS, with minimum three (3) years documented experience.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Invert containers several days prior to use when paint has been stored more than 2 months. Minimize exposure to air when transferring paint. Seal drums and tanks when not in use.

B. Glass Beads. Store glass beads in cool, dry place. Protect from contamination by foreign substances.

1.7 AMBIENT CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside temperature ranges required by paint product manufacturer.

B. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.

C. Do not apply paint when temperatures are expected to fall below 40 degrees F for 24 hours after application.

D. Volatile Organic Content (VOC). Do not exceed State or Environmental Protection Agency maximum VOC on traffic paint.

PART 2 - PRODUCTS

2.1 PAVEMENT MARKINGS

A. Paint for Traffic Markings: Furnish materials in accordance with Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2020 Edition, Article 708-2.03, Paint for Traffic Markings.

B. Preformed Pavement Markings: Furnish material is accordance with ADOT&PF, Standard Specifications for Highway Construction, 2020 Edition, Article 712-2.14, Preformed Pavement Marking Tape.

C. Glass Beads: AASHTO M247, Type 1, coated to enhance embedment and adherence with paint and moisture resistant coating. Apply glass beads only where indicated on the Project drawings.

2.2 EQUIPMENT

A. Continuous Longitudinal Line Application Machine: Use application equipment with following capabilities.

1. Dual nozzle paint gun to simultaneously apply parallel lines of indicated width in solid or broken patterns or various combinations of those patterns.
2. Pressurized bead-gun to automatically dispense glass beads onto painted surface, at required application rate.
3. Measuring device to automatically and continuously measure length of each line placed, to nearest foot.
4. Device to heat paint to for fast dry applications. Do not heat paint above manufacturer's recommended temperature for fast dry.

B. Machine Calibration:

1. Paint Line Measuring Device: Calibrate automatic line length gauges to maintain tolerance of plus or minus 25 feet per mile.
2. Cycle Length/Paint Line Length Timer: Calibrate cycle length to maintain tolerance of plus or minus 6 inches per 40 feet; calibrate paint line length to maintain tolerance to plus or minus 3 inches per 10 feet.
3. Paint Guns: Apply the paint at the rate of 80 square feet per gallon (approximately 20 mils wet film thickness). This rate is effectively 22 gallons of paint per mile of solid 4 inch stripe. A tolerance not to exceed 10% is allowed for film thickness or yield.
4. Bead Guns: Pressure apply glass beads over the wet painted stripes in a uniform pattern at the rate of 6 pounds (± 0.1 pounds) of beads per gallon of paint.

C. Other Equipment:

1. For application of crosswalks, parking area striping, intersections, stop lines, legends and other miscellaneous items by walk behind stripers, hand spray or stencil trucks, apply with equipment meeting requirements of this section. Do not use hand brushes or rollers. Apply glass beads only where indicated on the Project drawings.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Do not apply paint to concrete surfaces until concrete has cured for 28 days.

3.2 PREPARATION

A. Maintenance and Protection of Traffic:

1. Prevent interference with marking operations and prevent traffic on newly applied markings before markings dry.
2. Maintain travel lanes between 7: 00 AM to 9: 00 AM, and between 4: 00 PM and 6: 00 PM.

3. Maintain access to existing businesses, and other properties requiring access.

B. Surface Preparation.

1. Clean and dry paved surface prior to painting.
2. Blow or sweep surface free of dirt, debris, oil, grease or gasoline.
3. Spot location of final pavement markings as specified and as indicated on Drawings by applying pavement spots not to exceed 50 feet on center. Provide the necessary control points at intervals including all changes of direction and changes in the basic configuration of striping, such as at the beginning and ending of no-passing zones on a 2-way, 2-lane roadway. Use these points in preliminary spotting of lanes before striping is commenced.
4. Notify Project Engineer after placing pavement spots and minimum three (3) days prior to applying traffic lines.

3.3 PAVEMENT MARKING REMOVAL

A. Remove all existing traffic markings that are in conflict with the striping details shown in the Project drawings following ADOT&PF, Standard Specifications for Highway Construction, 2020 Edition, Article 670-3.04, Pavement Marking Removal.

3.4 PAINT APPLICATION

A. Agitate paint for 1-15 minutes prior to application to ensure even distribution of paint pigment.

B. See Article, EQUIPMENT, for application equipment and equipment calibration.

C. See Article, PREPARATION, for stripe control points.

D. Prevent splattering and over spray when applying markings.

E. Unless material is track free at end of paint application convoy, use traffic cones to protect markings from traffic until track free. When vehicle crosses a marking and tracks it or when splattering or over spray occurs, eradicate affected marking and resultant tracking and apply new markings.

F. Collect and legally dispose of residues from painting operations.

3.5 PREFORMED PAVEMENT MARKING APPLICATION

A. Apply the preformed pavement markings following ADOT&PF, Standard Specifications for Highway Construction, 2020 Edition, Article 670-3.01.2, Construction Requirements, Preformed Marking Tapes (PMT).

3.6 TOLERANCES FOR STRIPING

A. Section 01 40 00 - Quality Requirements: Tolerances.

B. Maximum Variation from Wet Film Thickness: 1 mil.

C. Maximum Variation from Wet Paint Line Width: Plus or minus 1/4 inch.

D. Lane Width: Plus or minus 4 inches from the widths shown in the Project drawings (measured from the edge of traveled way to center of lane line or between the centers of adjacent lane lines).

E. Stripes on Tangent: Do not vary more than 1 inch laterally within a distance of 100 feet when using the edge of the stripe as a reference.

F. Stripes on Curves: Uniform in alignment with no apparent deviations from the true curvature.

G. All Stripes: Keep the center of the lane stripe within 4 inches of the planned alignment.

H. Parking Stall: Width of stripe shall not vary more than 1/2 inch. Centerline spacing between stall stripes shall not vary more than 1/4 inch. Length of stripe shall not vary more than 1 inch.

3.7 FIELD QUALITY CONTROL

A. Section 01 73 00 - Execution and Section 01 77 00 Closeout Procedures: Requirements for testing, adjusting, and balancing.

B. Inspect for incorrect location, insufficient thickness, line width, coverage, retention, uncured or discolored material, and insufficient bonding.

C. Repair lines and markings, which after application and curing do not meet following criteria:

1. Incorrect Location: Remove and replace incorrectly placed patterns.
2. Insufficient Thickness, Line Width, Paint Coverage, Glass Bead Coverage or Retention: Prepare defective material by acceptably grinding or blast cleaning to remove substantial amount of beads and to roughen marking surface. Remove loose particles and debris. Apply new markings on cleaned surface in accordance with this Section.
3. Uncured or Discolored Material, Insufficient Bonding: Remove defective markings in accordance with this Section and clean pavement surface one foot beyond affected area. Apply new markings on cleaned surface in accordance with this Section.

D. Prepare list of defective areas and areas requiring additional inspection and evaluation to decide where material may need replaced. Provide traffic control as necessary if markings require more detailed evaluation.

E. Replace failed or defective markings in entire section of defective markings within 30 days after notification when any of the following exists during warranty period:

1. Average retroreflectivity within any 528 foot section is less than 1225 mcd/m2/1x for white pavement markings and 100 mcd/m2/1x for yellow pavement markings.
2. Marking is discolored or exhibits pigment loss, and is determined to be unacceptable by three member team based on visual comparison with beaded color plates.
3. More than 15 percent of area of continuous line, or more than 15 percent of combined area of skip lines, within any 528 foot section of roadway is missing.

F. When eradication of existing paint lines is necessary, remove stripe per Article, PAVEMENT MARKING REMOVAL.

G. Maintain daily log showing work completed, results of above inspections or tests, pavement and air temperatures, relative humidity, presence of any moisture on pavement, and any material or equipment problems. Make legible entries in log in ink, sign and submit by end of each work day. Enter environmental data into log prior to starting work each day and at two additional times during day.

3.8 PROTECTION

A. Protect painted pavement markings from vehicular and pedestrian traffic until paint is dry and track free. Follow manufacturer's recommendations or use minimum of 30 minutes. Consider barrier cones as satisfactory protection for materials requiring more than 2 minutes dry time.

END OF SECTION 321723

SECTION 323113 - CHAIN LINK FENCES AND GATES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Description:

1. Fence framework, fabric, and accessories.
2. Excavation for post bases.
3. Concrete foundation for posts.
4. Manual gates and related hardware.
5. Privacy slats

1.2 REFERENCES

A. ASTM International:
1. ASTM A123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products.
2. ASTM A153 - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
3. ASTM F3000/F3000M - Polymer Privacy Insert Slats (2022).
4. ASTM B429 - Standard Specification for Aluminum-Alloy Extruded Structural Pipe and Tube.
5. ASTM F552 - Standard Terminology relating to Chain Link Fencing.
6. ASTM F567 - Standard Practice for Installation of Chain-Link Fence.
7. ASTM F626 - Standard Specification for Fence Fittings.
8. ASTM F900 - Standard Specification for Industrial and Commercial Swing Gates.
9. ASTM F1043 - Standard Specification for Strength and Protective Coatings on Metal Industrial Chain Link Fence Framework.
10. ASTM F1083 - Standard Specification for Pipe, Steel, Hot-Dipped Zinc-Coated (Galvanized) Welded, for Fence Structures.
11. ASTM F1184 - Standard Specification for Industrial and Commercial Horizontal Slide Gates.

B. Specific technical portions of State of Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2020 Edition, as referenced in Specification Section 32 31 13, CHAIN LINK FENCES AND GATES.

1.3 SYSTEM DESCRIPTION

A. Line Post Spacing: At intervals not exceeding 10 feet.

B. See Project drawings for fence location and details.

1.4 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Requirements for submittals.

B. Shop Drawings:

1. Personnel Gates

C. Product Data: Submit data for all products in Part 2 PRODUCTS used for Project Work.

D. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.5 SUSTAINABLE DESIGN SUBMITTALS

A. Manufacturer's Certificate: Certify products meet or exceed specified sustainable design requirements.

1. Materials Resources Certificates:

a. Certify source and origin for salvaged and reused products.
b. Certify recycled material content for recycled content products.
c. Certify source for local and regional materials and distance from Project site.

1.6 CLOSEOUT SUBMITTALS

A. Section 01 73 00 - Execution and Section 01 77 00 Closeout Procedures: Closeout procedures.

B. Project Record Documents: Accurately record actual locations of property perimeter posts relative to property lines and easements.

C. Operation and Maintenance Data: Procedures for submittals.

1.7 QUALITY ASSURANCE

A. Perform installation in accordance with ASTM F567.

1.8 QUALIFICATIONS

A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum five (5) years documented experience.

B. Installer: Company specializing in performing work of this section five (5) years documented experience in the State of Alaska.

1.9 DELIVERY, STORAGE AND HANDLING

A. Deliver fence fabric and accessories in packed cartons or firmly tied rolls.

B. Identify each package with manufacturer's name.

C. Store fence fabric and accessories in secure and dry place.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Framing (Steel): ASTM F1083 Schedule 40 galvanized steel pipe, welded construction, minimum yield strength of 30 ksi; coating conforming to ASTM F1043 Type 1.

B. Fabric Wire (Steel): ASTM A392 Class 1 zinc coated 9 gauge steel wire.

C. Fittings: All steel fittings shall be zinc or aluminum coated per ASTM F626. Minimum zinc coating of 1.2 ounces of zinc or aluminum alloy per square foot of fitting surface.

D. Fence Post Concrete: Portland Cement Concrete, 2,500 psi strength at 28 days.
1. ADOT&PF, Standard Specifications for Highway Construction, 2020 Edition, Class W Portland cement concrete.

2.2 COMPONENTS

A. Line Posts: Schedule 40 steel pipe with at least 1.8 ounces of zinc coating per square foot of surface area, conforming to ASTM F1083, Type 1.

1. Fence Fabric Width 72 inches or less, 2.0 inch outside diameter
2. Fence Fabric Width greater than 72 inches but less than 108 inches, 2.5 inch outside diameter.
3. Fence Fabric Width 108 inches to 144 inches, 3.0 inch outside diameter.

B. Corner and Terminal Posts: Schedule 40 steel pipe with at least 1.8 ounces of zinc coating per square foot of surface area, conforming to ASTM F1083, Type 1.

1. Fence Fabric Width 72 inches or less, 2.5 inch outside diameter
2. Fence Fabric Width greater than 72 inches but less than 108 inches, 3.0 inch outside diameter.
3. Fence Fabric Width 108 inches to 144 inches, 4.0 inch outside diameter.

C. Swing Gate Posts: Schedule 40 steel pipe with at least 1.8 ounces of zinc coating per square foot of surface area, conforming to ASTM F1083, Type 1.

1. Single Gate Width:

a. Up to 72 inches, 3.0 inch outside diameter.
b. 72 inches to 144 inches, 4.0 outside diameter.

D. Rails and Braces: Schedule 40, 1.625 inch outside diameter, steel pipe with at least 1.8 ounces of zinc coating per square foot of surface area, conforming to ASTM F1083, Type 1.

E. Gate Frame: Schedule 40 steel pipe with at least 1.8 ounces of zinc coating per square foot of surface area, conforming to ASTM F1083, Type 1. Pipe diameter shall be at least 1.5 inches.

F. Fabric: ASTM A392 Class 1 zinc coated 9 gauge steel wire in a 2 inch diamond mesh. Top selvage to be twisted and barbed, bottom selvage to be knuckled.

G. Tension Wire: 7 gage steel, single strand, marcelled, minimum coating of 0.80 ounces of zinc or 0.40 ounces of aluminum per square foot of wire surface, tension wire conforming to ASTM A824.

H. Tension Band: Pressed steel, 14 gauge thickness x 3/4 inch wide.

I. Tension Bar: Steel strip, 5/8 inches wide x 3/16 inches thick.

J. Tie Wire/Hog Rings:

1. Aluminum, 9 gauge single strand wire, alloy 1100-H4 or equal.
2. 11 gauge steel wire with a minimum zinc coating of 0.80 ounces per square foot of wire surface.

2.3 ACCESSORIES

A. Post Caps: Pressed steel, conforming to ASTM F626, designed to fit snuggly over top end of posts to exclude moisture. Cone type caps for terminal posts and loop type for line posts.

B. Fittings: All ferrous fittings shall be galvanized with a zinc coating with not less than 1.2 ounce per square foot of actual surface and shall conform to ASTM F626. Zinc-coated surfaces shall be free from imperfectly coated spots, bruised or scaled coating, drops of zinc, sharp projections, and sal ammoniac spots.

C. Gate Hardware: See Drawings.

2.4 GATES

A. General:

1. Gate Types, Opening Widths and Directions of Operation: As indicated on Drawings.
2. Factory assemble gates.
3. Design gates for operation by one person.

B. Swing Gates:

1. Fabricate gates to permit 180 degree swing.
2. Gates Construction: ASTM F900 with welded corners. Use of corner fittings is not permitted.

2.5 PRIVACY SLATS

A. Privacy Slats: Extruded polyethylene, with color pigments and ultraviolet inhibitors, color to match existing privacy fence slats.

1. Slat Profile: Flat tubular shape nominal 1/4 inch deep, 0.020 inch wall thickness; width to suit fence fabric.
2. Slat Locking: Self-locking horizontal bottom channel system.

2.6 FINISHES

A. Components and Fabric: Galvanized to ASTM A123 for components; ASTM A153 for hardware; ASTM A392 for fabric; 1.8 oz/sq ft coating.

B. Hardware: Galvanized to ASTM A153, 1.8 oz/sq ft coating.

C. Accessories: Same finish as framing.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install framework, fabric, accessories and gates in accordance with ASTM F567.

B. Set intermediate, terminal, gate, and pull posts plumb, in concrete footings with top of footing 2 inches above finish grade or as shown in the Project drawings. Slope top of concrete for water runoff.

C. Line Post Footing Depth Below Finish Grade: See Project drawings. Where soil conditions allow, the preferred post installation method is using a post driver.

D. Corner, Gate and Terminal Post Footing Depth Below Finish Grade.

E. Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail one bay from end and gate posts.

F. Where top rail occurs, install top rail through line post tops and splice with 6 long rail sleeves. See Project drawings for occurrence of top rail or top tension wire.

G. Install bottom and top tension wire stretched taut between terminal posts.

H. Install support arms sloped outward and attach barbed wire; tension and secure.

I. Support gates from gate posts. Do not attach hinged side of gate from building wall.

J. Install gate with privacy slats and barbed wire overhang to match fence.

K. Where a gate drop rod occurs, provide concrete center drop to footing depth and drop rod retainers at center of double gate openings.

L. Connect to existing fence at an existing terminal post or new terminal post or existing line post converted to terminal post by installation of brace rails and brace rods.

M. Install posts with no more than 6 inches clear opening from end posts to buildings, fences and other structures.

N. Where concrete footings are required, excavate holes for posts to diameter and spacing indicated on Project drawings without disturbing underlying materials.

3.2 PRIVACY SLATS

A. Where privacy slats occur, install slat inserts in vertical pattern woven through fence.

B. Fasten slats according to manufacturer’s instructions.

3.3 ERECTION TOLERANCES

A. Maximum Variation From Plumb: 1/4 inch.

B. Maximum Offset From Indicated Position: 1 inch.

C. Minimum distance from property line: 6 inches.

END OF SECTION 323113

SECTION 329113 - SOIL PREPARATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes topsoil specified by composition of the mixes.

1.2 DEFINITIONS

A. Imported Soil: Off-Site Soil that is transported to Project site for use.

B. Manufactured Soil: Soil produced by blending soils, sand, stabilized organic soil amendments, and other materials to produce topsoil.

C. Topsoil: Imported soil; or manufactured soil that has been modified as specified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

D. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before topsoil is placed.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

PART 2 - PRODUCTS

2.1 SPECIFICATION AND DRAWING CONVENTIONS

A. On-Site Topsoil: Surface soil stripped and stockpiled on site and modified as necessary to meet the requirements specified for topsoil in paragraph 2.A.B. When available topsoil must be existing surface soil stripped and stockpiled on-site in accordance with Section 313000 EARTH MOVING.

B. Topsoil: Imported, naturally formed soil from off-site sources and consisting of loam soil according to USDA textures; and modified to produce viable topsoil.

1. Additional Properties of Imported Soil before Amending: Soil reaction of pH 5.5 to 7 and minimum of 5 percent organic-matter content, friable, and with sufficient structure to give good tilth and aeration. Soil mixture shall contain the following materials:

a. Organic material: 5-10%

b. Silt: 25-45%

c. Sand: 35-55%

2. Unacceptable Properties: Clean soil of the following:

a. Unsuitable Materials: Stones, roots, plants, sod, clay lumps, and pockets of coarse sand that exceed a combined maximum of 8 percent by dry weight of the imported soil.

b. Large Materials: Particles exceeding 1/4” in any dimension.

PART 3 - EXECUTION

3.1 GENERAL

A. Use of spray-applied vegetation growth media is not allowed.

B. Place topsoil and fertilizers according to requirements in other Specification Sections.

C. Verify that no foreign or deleterious material has been deposited in topsoil.

3.2 LACING MANUFACTURED TOPSOIL OVER EXPOSED SUBGRADE

A. General: Apply manufactured soil on-site in its final, blended condition, during dry weather. Do not apply materials or till if existing soil or subgrade is frozen, muddy, or excessively wet.

B. Fine grade topsoil to eliminate low areas. Maintain profiles and contour of subgrade.

C. Remove roots, weeds, and foreign materials while spreading.

D. Manually spread topsoil close to plant material, buildings, and other structures to prevent damage.

E. Application: If not otherwise indicated in Drawings, place topsoil to total depth of 4 inches, but not less than required to meet finish grades after natural settlement. Do not spread if soil or subgrade is frozen, muddy, or excessively wet.

F. Compaction: Compact topsoil using lawn roller or hand-tampers. Do not over-compact topsoil. Fill shall be placed and compacted to 84 to 88 percent Standard Proctor.

G. Finish Grading: Grade topsoil to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades.

H. Remove surplus topsoil from site.

3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner may engage a qualified testing agency to perform tests and inspections.

B. Soil will be considered defective if it does not pass tests and inspections.

C. Contractor to provide material samples as requested by Engineer.

3.4 PROTECTION AND CLEANING

A. Protect areas of in-place soil from additional compaction, disturbance, and contamination. Prohibit the following practices within these areas except as required to perform planting operations:

1. Vehicle traffic.
2. Foot traffic.
3. Impoundment of water.
4. Excavation or other digging unless otherwise indicated.

B. Remove surplus soil and waste material including excess subsoil, unsuitable materials, trash, and debris and legally dispose of them off Owner's property unless otherwise indicated.

C. Use of spray-applied vegetation growth media is not allowed.

D. Place topsoil and fertilizers according to requirements in other Specification Sections.

E. Verify that no foreign or deleterious material has been deposited in topsoil.

END OF SECTION 329113

SECTION 329200 – TURF AND GRASSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Seeding of disturbed areas

B. Related Sections:

1. Scope of Work document

1.2 REFERENCES

A. Specific technical portions of State of Alaska Department of Transportation and Public Facilities (ADOT&PF), Standard Specifications for Highway Construction, 2020 Edition, as referenced in Specification Section 32 92 00, TURF AND GRASSES.

1.3 DEFINITIONS

A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.

B. Finish Grade: Elevation of finished surface of planting soil.

C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.

D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.

E. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.

F. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.

G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.

H. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.

I. Surface Soil: Whatever soil is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product indicated.

1.5 INFORMATIONAL SUBMITTALS

A. Certification of grass seed.

1. Certification of each seed mixture.

B. Product certificates.

1.6 QUALITY ASSURANCE

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.

PART 2 - PRODUCTS

2.1 TOPSOIL

A. The Topsoil shall meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 726-2.01, Topsoil.

2.2 SEED

A. Grass Seed: Grasses of the type specified shall meet the applicable requirements as outlined by the State of Alaska Department of Natural Resources, Division of Agriculture, “Seed Regulations,” latest edition.

B. The Grass Seed shall also meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 724-2.02, Materials.

C. Seed Species: Seed shall meet or exceed the percentages of purity and germination as specified below:

1. Sun and Partial Shade: Proportioned by weight as follows:

a. Lawn Areas:

Proportion	Name	Min. % Germ.	Min. % Pure Seed	Max. % Weed Seed
50%	Nugget Bluegrass	80	85	0.50
50%	Red Fescue (Arctared)	85	98	0.50

b. Other Disturbed Areas:

Proportion	Name	Min. % Germ.	Min. % Pure Seed	Max. % Weed Seed
30%	Nugget Bluegrass	80	85	0.50
30%	Red Fescue	85	98	0.50
40%	Smooth Brome	80	75	1.00

2.3 FERTILIZERS

A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:

1. Composition: 20 percent nitrogen, 20 percent phosphorus, and 10 percent potassium, by weight.

B. The Fertilizer shall also meet the requirements of ADOT&PF Standard Specifications for Highway Construction, 2020 Edition, Article 725-2.02, Materials.

PART 3 - EXECUTION

3.1 TOPSOIL

A. Spread 4 inches uniformly over subgrade in lawn or other areas to be seeded.

3.2 SEEDING

A. Do not broadcast or drop seed when wind velocity exceeds 5 mph. Evenly distribute seed by sowing equal quantities in two directions at right angles to each other. Do not seed against existing trees. Limit extent of seed to outside edge of planting saucer.

B. Sow seed at a total rate of 2 lbs./1,000 sq. ft.

C. Apply fertilizer uniformly spread over seeded area at rate of 10 lbs./1,000 sq. ft.

D. Rake seed lightly into top 1/8 inch of soil, roll lightly, and water with fine spray.

END OF SECTION 039200

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

ALLOWABLE/CONDITIONAL USE PERMIT APPLICATION

See reverse side for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

Grading and paving of existing gravel parking at 1960 Anka Street with 2" HMA pavement underlaid with D-1, addition of 3ft tall concrete retaining wall with 6ft tall privacy fence along southern property line with personal gate. Addition of 6ft wide concrete sidewalk along building on eastern side of property.

TYPE OF ALLOWABLE OR CONDITIONAL USE PERMIT REQUESTED

- ○ Accessory Apartment – Accessory Apartment Application (AAP)
- ◉ Use Listed in 49.25.300 – Table of Permissible Uses (USE)
  - Table of Permissible Uses Category: 10.300

IS THIS A MODIFICATION or EXTENSION OF AN EXISTING APPROVAL? ○ YES – Case # _____ ◉ NO

UTILITIES PROPOSED **WATER:** ☐ Public ☐ On Site **SEWER:** ☐ Public ☐ On Site

SITE AND BUILDING SPECIFICS

Total Area of Lot 23,283 square feet Total Area of Existing Structure(s) 0 square feet

Total Area of Proposed Structure(s) 0 square feet

EXTERNAL LIGHTING

Existing to remain	◉ No	○ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures
Proposed	○ No	◉ Yes – Provide fixture information, cutoff sheets, and location of lighting fixtures

ALL REQUIRED DOCUMENTS ATTACHED

☑ **Narrative including:**

- ☑ Current use of land or building(s)
- ☑ Description of project, project site, circulation, traffic etc.
- ☑ Proposed use of land or building(s)
- ☑ How the proposed use complies with the Comprehensive Plan

☑ **Plans including:**

- ☑ Site plan
- ☐ Floor plan(s)
- ☐ Elevation view of existing and proposed buildings
- ☑ Proposed vegetative cover
- ☑ Existing and proposed parking areas and proposed traffic circulation
- ☑ Existing physical features of the site (e.g.: drainage, habitat, and hazard areas)

If this is a modification or extension include:

- ☐ Notice of Decision and case number
- ☐ Justification for the modification or extension
- ☐ Application submitted at least 30 days before expiration date

----------**DEPARTMENT USE ONLY BELOW THIS LINE**----------

ALLOWABLE/CONDITIONAL USE FEES

	Fees	Check No.	Receipt	Date
Application Fees	$_____			
Admin. of Guarantee	$_____			
Adjustment	$_____			
Pub. Not. Sign Fee	$_____			
Pub. Not. Sign Deposit	$_____			
Total Fee	$_____			

This form and all documents associated with it are public record once submitted.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

Case Number	Date Received

Allowable/Conditional Use Permit Application Instructions

Allowable Use permits are outlined in CBJ 49.15.320, Conditional Use permits are outline in CBJ 49.15.330

Pre-Application Conference: A pre-application conference is required prior to submitting an application. There is no fee for a pre-application conference. The applicant will meet with City & Borough of Juneau and Agency staff to discuss the proposed development, the permit procedure, and to determine the application fees. To schedule a pre-application conference, please contact the Permit Center at 586-0770 or via e-mail at permits@juneau.org.

Application: An application for an Allowable/Conditional Use Permit will not be accepted by the Community Development Department until it is determined to be complete. The items needed for a complete application are:

1. **Forms:** Completed Allowable/Conditional Use Permit Application and Development Permit Application forms.
2. **Fees:** Fees generally range from $350 to $1,600. Any development, work, or use done without a permit issued will be subject to double fees. All fees are subject to change.
3. **Project Narrative:** A detailed narrative describing the project.
4. **Plans:** All plans are to be drawn to scale and clearly show the items listed below:
    A. Site plan, floor plan and elevation views of existing and proposed structures
    B. Existing and proposed parking areas, including dimensions of the spaces, aisle width and driveway entrances
    C. Proposed traffic circulation within the site including access/egress points and traffic control devices
    D. Existing and proposed lighting (including cut sheets for each type of lighting)
    E. Existing and proposed vegetation with location, area, height and type of plantings
    F. Existing physical features of the site (i.e. drainage, eagle trees, hazard areas, salmon streams, wetlands, etc.)

Document Format: All materials submitted as part of an application shall be submitted in either of the following formats:

1. Electronic copies in the following formats: .doc, .txt, .xls, .bmp, .pdf, .jpg, .gif, .xlm, .rtf (other formats may be preapproved by the Community Development Department).
2. Paper copies 11" X 17" or smaller (larger paper size may be preapproved by the Community Development Department).

Application Review & Hearing Procedure: Once the application is determined to be complete, the Community Development Department will initiate the review and scheduling of the application. This process includes:

Review: As part of the review process the Community Development Department will evaluate the application for consistency with all applicable City & Borough of Juneau codes and adopted plans. Depending on unique characteristics of the permit request the application may be required to be reviewed by other municipal boards and committees. During this review period, the Community Development Department also sends all applications out for a 15-day agency review period. Review comments may require the applicant to provide additional information, clarification, or submit modifications/alterations for the proposed project.

Hearing: All Allowable/Conditional Use Permit Applications must be reviewed by the Planning Commission for vote. Once an application has been deemed complete and has been reviewed by all applicable parties the Community Development Department will schedule the requested permit for the next appropriate meeting.

Public Notice Responsibilities: Allowable/Conditional Use requests must be given proper public notice as outlined in CBJ 49.15.230:

The Community Development Department will give notice of the pending Planning Commission meeting and its agenda in the local newspaper a minimum of 10-days prior to the meeting. Furthermore, CDD will mail notices to all property owners within 500-feet of the project site.

The Applicant will post a sign on the site at least 14 days prior to the meeting. The sign shall be visible from a public right-of-way or where determined appropriate by CDD. Signs may be produced by the Community Development Department for a preparation fee of $50, and a $100 deposit that will be refunded in full if the sign is returned within seven days of the scheduled hearing date. If the sign is returned between eight and 14 days of the scheduled hearing $50 may be refunded. The Applicant may make and erect their own sign. Please contact the Community Development Department for more information.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

Grading Permit Checklist

JUNEAU PERMIT CENTER, 4TH FLOOR MARINE VIEW CENTER, (907) 586-0770

All grading must conform with CBJ Title 19.12 Excavation and Grading.

Section I: **Case Number: _____**

Applicant's Name Southeast Alaska Regional Health Consortium (SEARHC)
Mailing Address 3100 Channel Drive, Suite 300 Juneau, AK 99801
Phone Number _____
Project Address 1960 Anka Street Juneau, AK
Project Parcel Number 5B1201320050 & 5B1201320060

Section II:

GRADING PLAN REQUIREMENTS

Grading permit applications must be accompanied by a drawing which graphically shows the grading site and the proposed grading changes. The plan shall show the following features:

- ☑ A. Name, address and phone number of applicant
- ☑ B. Lot number, legal description, and street address of grading site
- ☑ C. Lot boundary lines
- ☑ D. Buildings (existing and proposed)
- ☑ E. All easements affecting lot
- ☑ F. Location of driveway, including width and size of culvert
- ☑ G. Streams, ditches, swales and all other drainage features including locations where drainage leaves the grading site. (PLAN SHALL SHOW ALL DRAINAGE FLOWING INTO AN APPROVED DRAINAGE WAY)
- ☑ H. Location of underground utilities (water, sewer, phone, power, tv)
- ☑ I. Limits of all proposed cuts and fills
- ☑ J. Elevations and dimensions of proposed grading and buildings
- ☑ K. All structures within 15 feet of the boundaries of the site
- ☑ L. Survey of existing terrain shown with, elevations, cross sections or contours

The Building Official may require a more detailed plan and/or survey by licensed professionals for grading on sites with steep slopes, large excavations or fills (greater than 5,000 cubic yards), or for structural fills.

Section III:

Will excavation be required? ■ YES ☐ NO

How many cubic yards? 166.5 Cubic Yards

What type of material will be excavated? 2" minus shot rock

Will excavated material be removed from the site? ■ YES ☐ NO

How many cubic yards of material will be removed? 232.87 Cubic Yards

What is the location of the disposal site? unknown

Has a permit been obtained for the disposal site? ☐ YES ● NO

Will fill be brought on to site? ☐ YES ■ NO

How many cubic yards? 17.35 Cubic Yards

What type of material? D-1 subbase for HMA pavement

Where shall the material be obtained from? unknown

Will stumps need to be removed? ☐ YES ■ NO

Describe method of disposal: N/A

Will erosion protection be required? ■ YES ☐ NO

Describe method: Silt fencing along property line

Will a retaining wall be required to hold the cut or fill? ■ YES ☐ NO

(Note: Walls four feet or greater in height must be designed by a professional engineer licensed in the State of Alaska.)

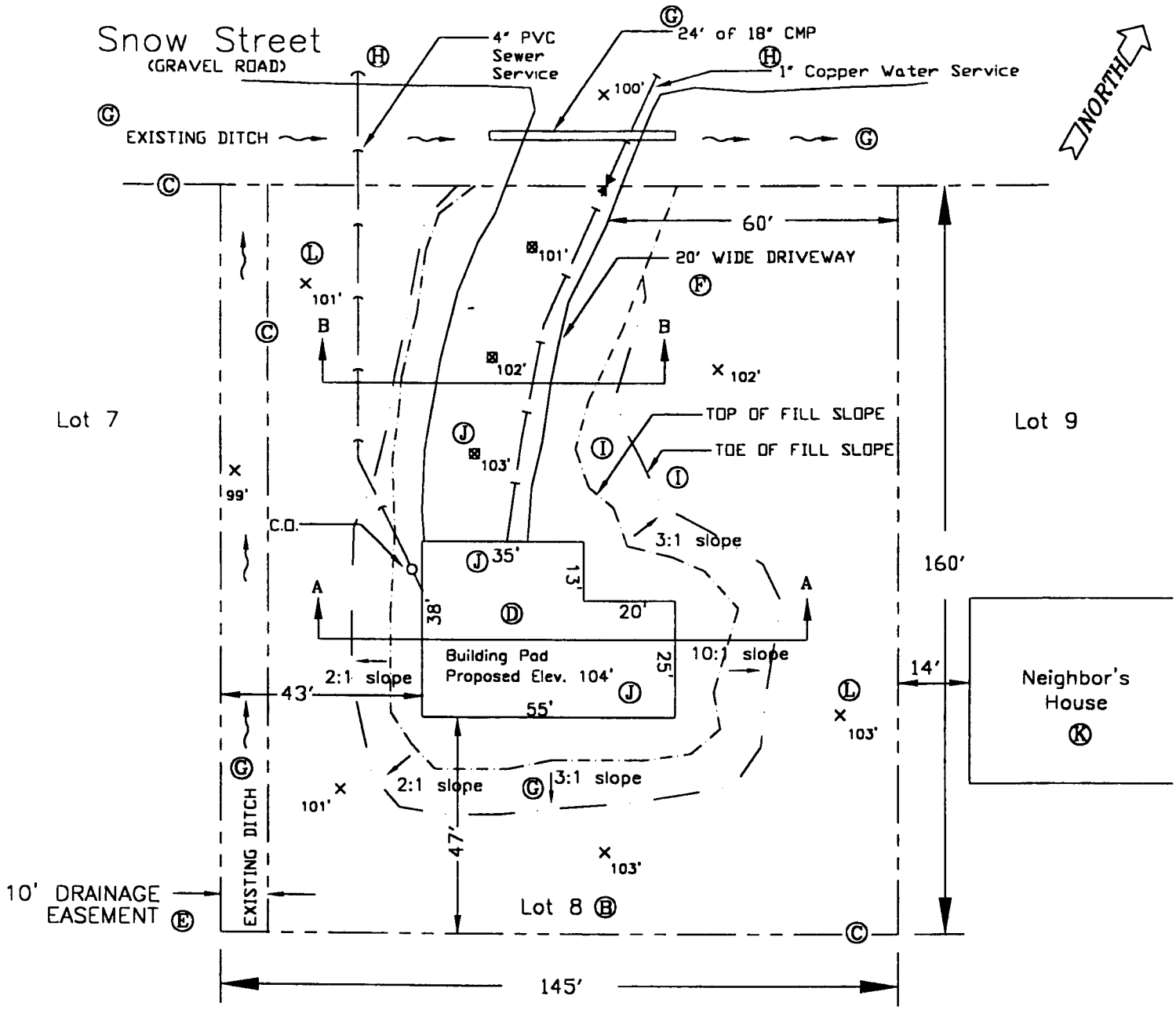
Section IV:

Has a grading plan been stapled to this checklist? (Note: See Grading Plan Requirements on the back of this page.)	YES ☒	NO ☐
If a driveway is to be constructed to a State of Alaska Department of Transportation right-of-way, attach a copy of the ADOT driveway permit. (Note: Glacier Highway, Mendenhall Loop Road, and other major arterial roads in the CBJ are ADOT rights-of-way.) Are ADOT permits required and attached to this checklist?	YES ☐	NO ☒
If grading project will require a well or on-site sanitary sewer disposal, permits from the State of Alaska Department of Environmental Conservation are required. Are ADEC permits required and attached to this checklist?	YES ☐	NO ☒
CBJ Land Use Code may require a Conditional Use Permit to be issued by the Planning Commission for Sand and Gravel Extraction. Please respond to the following questions in order to determine if the extraction is exempt from a planning permit.		
A. Is the extraction a necessary incident to work authorized under a valid building permit for a proposed permitted use?	YES ☐	NO ☒
B. Has a building permit been issued for the proposed permitted use?	YES ☐	NO ☒
C. Is the extraction a necessary incident to improvements which are part of an approved subdivision plat?	YES ☐	NO ☒
D. If associated with subdivision improvement, will the material excavated remain entirely on the property or original tract or parcel subdivided?	YES ☐	NO ☒
E. Is the extraction less than two feet in depth and not creating a slope greater than five feet in height or steeper than one and one-half horizontal to one vertical?	YES ☒	NO ☐
F. Does the extraction involve the removal of less than fifty cubic yards from the lot?	YES ☐	NO ☒
G. Is the extraction a necessary incident to the location or placement of work located primarily in the public way which is exempt from the building code?	YES ☐	NO ☒
H. Is the extraction for cemetery graves, excavations for wells or tunnels, utilities or exploratory excavation totaling less than two hundred cubic yards?	YES ☐	NO ☒

A NO answer to one or more of the questions A through H above may indicate that a Conditional Use Permit is required.

⇒ **See Example Grading Plan. Required features are shown on example plan by encircled letters which correspond to the above list.**

1. All grading must conform with CBJ Title 19.12 Excavation and Grading. (Note: Grading activity shall comply with grading setbacks.)
2. Prior to placing fill, all organic material and overburden must be removed.
3. Stumps shall be disposed of in an approved manner.
4. If fill or excavation has the potential to endanger adjoining property, the Building Official may require a soils engineering report.
5. If drainage is modified, the site plan must show no additional drainage impact on adjoining properties.
6. All retaining walls shall be shown on the grading plan, and with a detail which shows the wall's construction. Walls four feet in height or greater must be designed by a professional engineer licensed in the State of Alaska.
7. Some projects on steep slopes will require a HILLSIDE DEVELOPMENT PERMIT as defined in section 49.70 of the municipal code. For information, contact the CBJ Community Development Department at 907-586-0770.
8. Fills placed on existing slopes between 5:1 and 2:1 shall be benched to minimize slippage.
9. Fills placed on slopes steeper than 2:1 must be placed in accordance with an approved soil engineer's or geologist's plan or report.
10. Fills to be used to support structures must be placed in accordance with an approved plan and soils report prepared and submitted by a civil or soils engineer licensed in the State of Alaska.



Example Grading Plan

(Applicant shall attach own plan to grading permit application)

Key

$\times_{103'}$	Existing Elevation	Ⓛ
$\boxtimes_{103'}$	Proposed Elevation	Ⓙ
— - - —	Legal Boundary	Ⓒ
- · - · -	Top of Fill Slope	Ⓘ
— —	Toe of Fill Slope	Ⓘ
~→	Direction of Flow	Ⓖ
⟶	Sewer Line	Ⓗ
⟶	Water Line	Ⓗ

Notes:

1. Phone, Power, and TV lines are aerial. Ⓗ
2. Basis of elvevations is the center of the driveway at the intersection of the road. Ⓙ

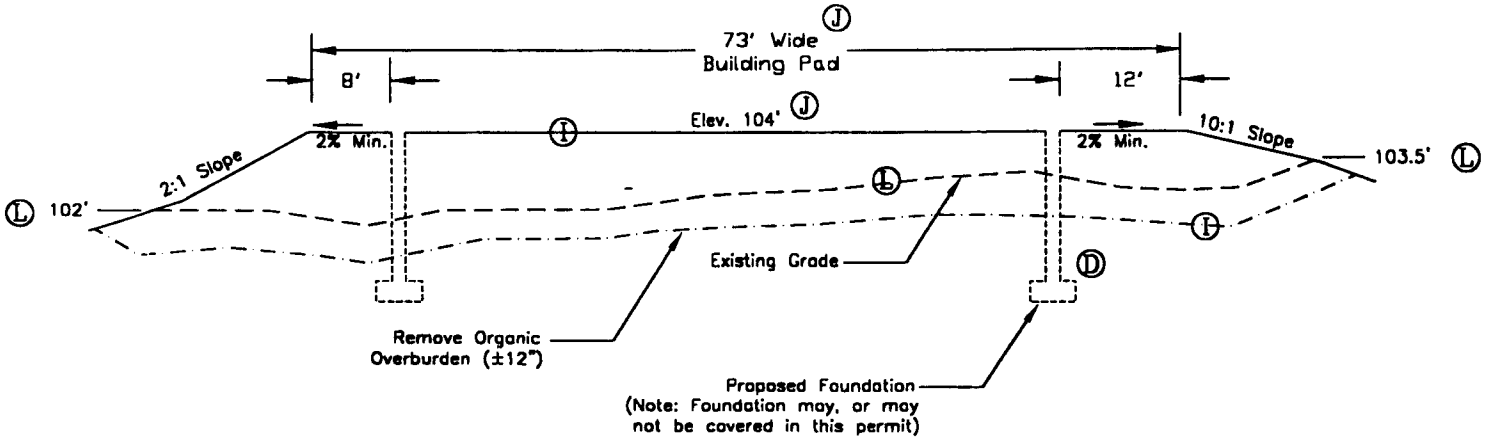
Ⓐ Permit Applicant's Contact Information:

Jane Propertyowner
526 Fifteenth Street
Douglas, AK 99824
364-9999

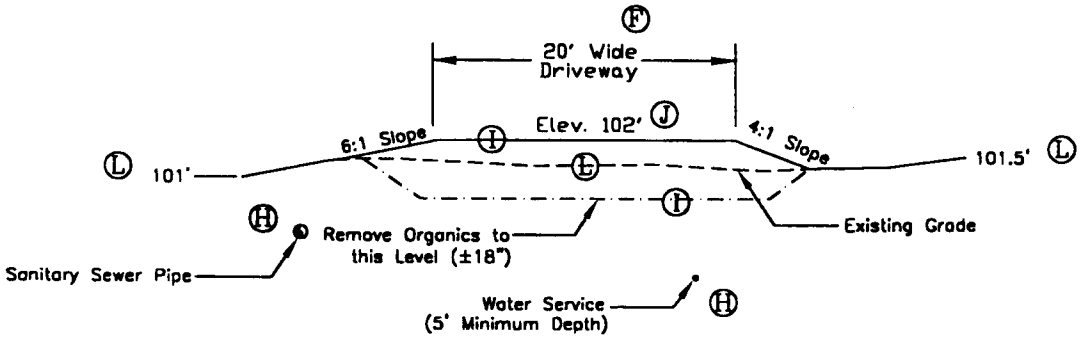
Ⓑ Grading Site

Lot 8, Block B
Sleepy Subdivision
Snow Street
(No mail address assigned yet)

Form Date: January 22, 1996



Section A–A



Section B–B

Example Grading Plan

Page 2 of 2

(Applicant shall attach own plan to grading permit application)

Ⓐ

Permit Applicant's
Contact Information:

Jane Propertyowner
526 Fifteenth Street
Douglas, AK 99824
364–9999

Ⓑ

Grading Site

Lot 8, Block B
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(No mail address assigned yet)