

# City and Borough of Wrangell, Alaska



## REQUEST FOR PROPOSALS REAL ESTATE BROKER SERVICES

April 2023

# CITY AND BOROUGH OF WRANGELL REQUEST FOR PROPOSALS REAL ESTATE BROKER SERVICES

**SCOPE OF SERVICES:** The City and Borough of Wrangell, Alaska (“Borough”) hereby invites qualified and licensed firms (“Firm” or “Proposer”) to submit their Proposal, with Statements of Qualifications, for Real Estate Broker (“Broker”) Services (“Broker Services”). The purpose of this RFP is to establish an exclusive contract for the provision of Broker Services to the Borough to assist in the sale of the Borough-owned real property as outlined herein.

The Borough reserves the right to consider, as acceptable, only those proposals submitted in accordance with all requirements set forth in this RFP and which demonstrate an understanding of the scope of the work. Upon Determining that such actions would be in the best interest of the Borough, the Borough, in its sole discretion, reserves the right to reject or refuse to consider any or all of the submitted proposals received in response to this RFP.

**PRE-PROPOSAL MEETING:** A pre-proposal meeting will be held at the former hospital site located at 310 Bennett Street in Wrangell, at 11:00 a.m., Alaska Time on May 1, 2023. Interested Firms are encouraged to visit the site at this time, as we believe Firms will gain the best understanding of the project needs by reviewing the project site and affected area.

**DEADLINE FOR PROPOSALS:** All proposals must be sealed and delivered in person, by courier, by U.S. Mail postage paid, or by email, according to Section 1.4 Proposal Development and Submittal, to the Borough Clerk at the address below. Proposals must be received by the Borough Clerk prior to 2:00 p.m. Alaska Time on May 12, 2023, or such later time as may be announced by addendum to plan holders any time prior to the submittal date. Proposals will be time-stamped by the Borough Clerk to establish the official time of receipt of each Proposal. Late proposals are not to be accepted and shall be returned unopened. Faxed proposals are not to be accepted and will be discarded, unread.

Acknowledgement of addenda may be delivered by fax or email, and confirmation of receipt of any submitted documents is the sole responsibility of the Proposer.

Proposal documents delivered in person or by US Postal or Courier Services must be delivered to:

**In by Courier or In-Person Delivery:**

Borough Clerk  
City and Borough of Wrangell  
205 Brueger Street  
Wrangell, AK 99929

**If by U.S. Postal Service:**

Borough Clerk  
City and Borough of Wrangell  
PO Box 531  
Wrangell, AK 99929

**If by Email:**

clerk@wrangell.com

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## **1.0 GENERAL TERMS AND CONDITIONS**

### **1.1 Authority**

RFPs must be submitted by persons authorized to commit the responding qualified Firm to a procurement contract or agreement. By submitting your written proposal, you represent and warrant that have such authorization your submitted proposal does not contain information that will violate the rights of any third party.

### **1.2 Proposal Format**

Proposals are to be prepared in such a way as to provide a straightforward and concise delineation of the Proposer's capability to satisfy the requirements of this RFP.

### **1.3 Costs for Proposal Preparation**

Any costs incurred in preparing or submitting a proposal shall be the Proposer's sole responsibility.

### **1.4 Proposal Development and Materials Submittal**

Submit sealed response, including one original, three copies, and one single PDF file on a flash drive, of the complete Statement of Qualifications, serving as the Proposal package, to the City and Borough of Wrangell. Proposals shall be completely sealed in an envelope which is clearly marked with the company name.

Alternatively, the Statement of Qualifications response may be submitted electronically to the Wrangell Borough Clerk, at [clerk@wrangell.com](mailto:clerk@wrangell.com), as a password-protected document, with the following guideline:

- A. A Statements of Qualifications response, submitted electronically, shall be emailed under a password protected document. Following the submittal deadline, the Firm(s) who elect to participate electronically will be contacted for their Statement of Qualifications document password. The person from whom the Statement of Qualifications password shall be verbally provided to the Borough Clerk shall be named, along with their phone number(s), in the body of the submittal email.

All Proposals submitted shall be binding upon the Firm, if accepted by the Borough.

Please note that overnight delivery from the Lower 48 (Contiguous U.S.) states is generally not available to Wrangell. Proposers should anticipate a minimum of five to seven days delivery time for express, priority or expedited delivery services. No allowance may be requested for miscalculation resulting in late delivery.

All materials submitted in response to this RFP shall become Borough property. Such materials will not be returned to the respondents and may be used by the Borough and its designees for any purpose. One copy shall be retained for the official files of the Borough and shall become public record after award of the Contract.

Proposals are to be prepared in such a manner as to provide a straightforward, concise explanation of the Proposer's capabilities to satisfy the requirements of this RFP. Proposers should emphasize conformance to the RFP instructions, responsiveness to

the RFP requirements, and completeness and clarity of content.

This solicitation does not commit the Borough to select any Firm for the requested services. The Borough reserves the right to reject all submitted proposals.

## 1.5 Signature Requirement

Proposals may only be signed by one of the following individuals:

- An officer or other agent of a corporate vendor, if authorized to sign contracts on its behalf; or
- A member of a partnership; or
- An owner of a privately-owned vendor; or
- Other agent, if properly authorized by a power of attorney or equivalent document. The name and title of the individual(s) signing the Proposal must be clearly shown immediately below the signature.

Such acceptable signature shall be construed as binding the submitting party to the Proposal.

## 1.6 Questions

Questions must be submitted via email to Amber Al-Haddad, Capital Facilities Director, [aal-haddad@wrangell.com](mailto:aal-haddad@wrangell.com), no later than one week prior to the due date of the RFP submittal. The Capital Facilities Director is the sole point of contact for all concerns pertaining to this procurement. Ex-parte communications with the Capital Facilities Director or any other Borough employee regarding the merits of a Firm's proposal are prohibited and will not be considered for any purpose in connection with this RFP.

## 1.7 Addenda

No oral change or interpretation of any provision contained in this RFP is valid. Written addenda will be issued when changes, clarifications, or amendments to RFP document are deemed necessary by the Borough.

Proposer shall acknowledge receipt of each addendum in the space provided on the Proposal Form. Only a Proposal acknowledging receipt of all addenda may be considered responsive, unless the addendum, in the opinion of the Borough Manager, would have no material effect on the terms of the Proposal.

## 1.8 Modifications of Proposals

Modifications to the Proposal, prior to the proposal receipt deadline, will be accepted by the Borough, and binding upon the Proposer, where the modification:

- a. Is received by the Borough Clerk prior to the deadline, either by fax to number 907-874-3952 or by email to [clerk@wrangell.com](mailto:clerk@wrangell.com), or is sealed in an envelope clearly stating RFP for Real Estate Broker Services and the name of the responding firm.
- b. Is signed by the same individual who signed the original submittal.

Any modification which fails to meet any requirement of this section shall be rejected and

the submittal shall be considered as if no modification had been attempted.

## **1.9 Late Submissions**

Proposals not received prior to the date and time specified in the RFP, or otherwise modified by Addendum shall not be considered and will be returned unopened after recommendation of award.

## **1.10 Withdrawal of Proposals**

At any time prior to the scheduled closing time for receipt of RFP submittals, a Proposer may withdraw its submittal, either by appearing in person and requesting return of the Proposal or by written request addressed to the Borough Clerk. However, a Proposal shall not be withdrawn after the submission deadline without the Borough's written consent.

## **1.11 Proposal Acceptance Period**

All proposals are irrevocable for ninety (90) calendar days following the proposal submission date. The Borough is under no obligation to accept a deficient or non-responsive proposal and reserves the right to reject all submitted proposals in its discretion. The chosen proposal is subject to approval and appropriation by the Borough Assembly.

## **1.12 Licenses and Certifications**

Proposers shall include all business and professional licensing numbers associated with each firm and individual proposed to perform under the contract.

Before a Proposal is considered for award, a Proposer will be required to submit current documentation of the same as issued by, or under authority of, the State of Alaska. If documentation is from an outside jurisdiction, such documentation submitted must be of a form accepted as valid by the State of Alaska for performance in Alaska.

Such documentation shall include, but is not limited to, a current Alaska business license for the business to be conducted, applicable professional licenses, including an Alaska Broker's license, registrations, and all necessary certificates.

## **1.13 Fee Schedule**

The Proposer's Fee Schedule and Commission rate for the sale of the property, shall be submitted on the Proposed Fee Schedule Form. The Proposed Fee should be structured as the payment of commissions for the sale of the property, based on the percent commission, to be paid only upon successful sale and recording of the Property.

## **1.14 Final Contract**

The issuance of the RFP, the submission of a proposal by any Firm, and the receipt of such response by the Borough does not obligate the Borough in any manner. The Borough shall not be responsible for work done, even in good faith, prior to execution of a final contract. Pending Borough Assembly authorization, the Borough will contract with a successful Firm for a six-month term. The contract may be renewed for additional terms upon the Borough's determination of satisfactory performance by the Broker and at a

negotiated rate agreed to in writing by the Parties.

### **1.15 Invoicing and Payment**

Unless otherwise agreed, the payment terms are Net thirty (30) days following satisfactory acceptance of services provided and upon receipt of invoice, whichever is later. Original invoices are to be mailed to the Accounts Payable division of the Borough, with an emailed copy to the Borough's assigned representative. The Contract Number and Project Name must be stated on the invoice; otherwise, payment may be delayed.

### **1.16 Reservation of Rights**

As the Borough Manager may determine it to be in the best interest of the Borough, the Borough may (i) amend, modify, or withdraw this RFP, (ii) revise requirements of this RFP, (iii) require supplemental statements or information from any firm, (iv) accept or reject any or all response or responses hereto, (v) extend the deadline for submission of proposals hereto, (vi) negotiate or hold discussions with any respondents and waive non-material defects and allow corrections of deficient proposals that do not completely conform to the instructions contained herein, and (vii) cancel this RFP, in whole or in part. The Borough may exercise the foregoing rights at any time without notice and without liability to any responding Firm or any other party for its expenses incurred in the preparation of the responses hereto or otherwise.

### **1.17 Choice of Law and Jurisdiction**

The laws of the State of Alaska shall govern this RFP, and any legal action brought thereon shall be filed and adjudicated in the Superior Court for the State of Alaska, First Judicial District at Wrangell, Alaska.

The Borough reserves its right to litigate in all circumstances and will reject mandatory arbitration clauses.

### **1.18 Conflicts of Interest**

No member of the Borough Assembly or other officer, employee or agent of the Borough who exercises any functions or responsibilities in connection with the project shall have any personal interests, direct or indirect, in any ensuing contract as a result of this Request for Proposals, without first disclosing his/her potential conflict of interest, by submitting a letter to the Clerk's Office establishing their "intent to do business with the Borough". The Proposer for itself and its principal employees, officers, agents, directors, and shareholders further covenants that neither the Proposer nor any of the listed classes of individuals has nor shall acquire any interest, direct or indirect, in the project, direct or indirect, to which the contract pertains which would conflict in any manner or degree with the performance of its work hereunder. The selected Proposer further covenants that in its performance of the contract no person having such interest shall be employed, without first disclosing his/her potential conflict.

## **2.0 SPECIAL CONDITIONS**

### **2.1 Insurance Requirements**

A. Firm shall maintain, in good-standing, the insurance described in subsection (B) of this

section. Before entering into an Agreement, Firm shall furnish Borough with a Certificate of Insurance showing proof of insurance in accordance with subsection (B) of this section in a form acceptable to Borough.

- B. Firm shall provide the following types of insurance, listed at parts 1-4 of this section, the minimum limits of not less than those stated below. Borough shall be named as additional insured on all insurance policies except workers' compensation and professional liability contracts, and Firm shall provide Borough with a Certificate of Insurance showing "The Borough and Borough of Wrangell, Alaska" as an additional insured.
1. Workers' compensation and employer's liability coverage as required by Alaska law.
  2. Comprehensive general liability, including contractual, property damage, bodily injury, premises operations including explosion, collapse and underground; products and complete operations, broad form property damage and personal injury coverages in amounts no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.
  3. Comprehensive automobile liability, bodily injury and property damage, including all owned, hired and non-owned automobiles in amounts no less than \$1,000,000 each occurrence and \$2,000,000 aggregate.
  4. Errors and Omissions Insurance, as required by State of Alaska law.
- C. Each policy of insurance required by this section shall provide for no less than thirty (30) days' advance notice to Borough prior to cancellation.

## 2.2 Hold Harmless and Indemnity

To the fullest extent permitted by law, Firm shall indemnify, defend, and hold harmless the Borough, its elected and appointed officials, employees, and volunteers, from and against any suit, action, claim, damages, or liability of any kind and of any nature, including death, arising out of any act, error or omission or any claim of, or liability for, negligent acts, errors, and omissions of the Firm under this agreement. Pursuant to this section, the Firm is not required to indemnify, defend, or hold harmless the Borough for a claim of, or liability for, the independent negligent acts, errors, and omissions of the Borough. If there is a claim of, or liability for, a joint negligent act, error, or omission of the Firm and the Borough, the indemnification, defense, and hold harmless obligation of this section shall be apportioned on a comparative fault basis. In this section, "Firm" and "Borough" include the employees, agents, and subcontractors who are directly responsible, respectively, to each. In this section, "independent negligent acts, errors, and omissions" means negligence other than in the Borough's selection, administration, monitoring, or controlling of the Firm, or in approving or accepting the Firm's work.

## 3.0 INTRODUCTION AND SCOPE OF WORK

### 3.1 Purpose

The Borough seeks a Broker with the ability, resources, and experience to assist the



Borough in finding a buyer for property on Lot A, Block 54, WMC Replat, Plat 2018-6; Parcel No. 02-031-351 the “Property”). Parcels may be added or removed at any time as designated by the Borough Assembly via ordinance or resolution. Work expected to be provided by the successful Proposer includes, but is not limited to, assisting the Borough in negotiating the terms and conditions for the sale of the Property, maximizing revenue from the sale, and providing an unbiased process and source of information for the Borough to be able to make the best decision regarding the sale of the Property.

### 3.2 Background and Service Area Summary

The City of Wrangell is located on the northern end of Wrangell Island in central southeast Alaska in the heart of the Tongass National Forest. It is approximately 700 miles south of Anchorage and 700 miles north of Seattle. It is 70 miles north of Ketchikan and 150 miles south of Juneau, the capital of Alaska. Wrangell Island is one of over a thousand islands making up the Alexander Archipelago that constitutes Southeast Alaska.

Access to the community of Wrangell is only by boat or plane. Alaska Airlines jet service and the Alaska Marine Highway Ferry System currently provide primary scheduled transportation for visitors and residents to and from the community. Charter companies with fixed wing or floats provide transportation options between communities and islands in southeast Alaska. A weekly freight barge originating in Seattle, the Alaska Marine Highway Ferry (when funded by the state), as well as Alaska Airlines Cargo Services provide transportation of freight. Local marine transporters, including small charter planes and smaller freight vessels, provide the movement of goods and people between islands and communities within the southeast region.



The population of Wrangell is 2,127 with Tlingit Native comprising 31% of the population. The community of Wrangell is one of the oldest communities in Alaska and the only to be governed by four nations: Tlingit Native, Russia, Great Britain, and America. The islands and mainland around Wrangell have been the traditional homelands of the Tlingit for an unknown period of time. Wrangell has experienced a boom-and-bust economy of gold, fur trapping, fish and fish processing, timber harvest and processing, and tourism.

Wrangell, located in a temperate rainforest, has a moderate, maritime climate with cool summers, mild winters, and year round rainfall. Average annual precipitation is 82 inches and 64 inches of snowfall. Average temperatures in summer vary from 42F to 64F and winter temperatures average 21F to 44F. Wrangell has ice-free deep water ports allowing year round transportation and shipping availability.

### 3.3 Property Information

The Property is located at 310 Bennett Street approximately one mile from the Wrangell Airport and one block from the intersection with Zimovia Highway. While the Property fronts Bennett Street, a state-maintained roadway, access is also via Reid Street on the south side and First Avenue on the north side. The site has no access on the east side of the Property.

In 2018, the Borough obtained an encroachment permit (WRG-18-001) from the State of Alaska Department of Transportation and Public Facilities for thirty square feet of overhang for the awning and columns supporting the emergency room entrance to the former hospital. The permit may not be assigned or transferred, and it expired March 18, 2023.

The Property is currently zoned OS (WMC 20.32 Open Space/Public) which is intended to provide for areas containing public facilities, existing potential public recreation sites, areas subject to natural hazards, public watersheds, and areas of critical wildlife habitat. A rezone could occur after the request moves through the Planning and Zoning rezone process. It is surrounded on the west and south by residential. Property. Evergreen Elementary School shares First Avenue access on the north. On the east side and part of the same block, are six (6) additional Borough owned vacant lots ranging from 8,000 square feet to 10,400 square feet, with two additional lots that host the Head Start learning center.

The subject building is the former Wrangell Medical Center (hospital), which is currently vacant and was last occupied in April 2020. The Borough has been maintaining the building since it became vacant. The property includes one primary structure. The primary structure is a two-story building with 30,596 square feet. The building was originally developed in 1967, with additions made in 1974, 1988, and again in 1994. Construction Type V with sprinklers, piling foundation, and wood framing, exterior insulated finished siding system, and standing seam metal roofing. Outbuildings include one shed and a gazebo. There are no notable landscape features. The land area is 84,988 square feet.

#### Utilities Available:

1. Three-phase electrical service is currently provided via a transformer located on First Avenue that will remain with the property, to be owned by the new owner.
2. There is a formerly used water service line that is abandoned in place from Bennett Street to the building.
3. The existing water/fire line is a 6" ductile iron pipe that routes into the building from First Ave near the east corner of the building. This line also goes directly to the boiler.
4. The sewer line routes into the property and building from Reid Street to the south corner of the building. The service line is either very flat, has a belly in it, or it is damaged. This sewer service line needed to be cleared monthly when the hospital was in operation.

### 3.4 Scope of Work

The Borough is seeking a real estate brokerage Firm to assist in selling Borough real property. The Borough seeks to sell the former Wrangell Medical Center property and building. The lot is 84,988 square feet and the building is approximately 30,000 square feet. Detailed Property information is included with this RFP.

A. The selected Firm will be expected to contract with the Borough to provide the following services:

1. Assistance determining property valuation on the parcel to be sold;
2. Develop strategies for the marketing and sale of the Property, including a website for marketing of the property;
3. Perform market analysis;
4. Provide the Borough with periodic activity reports;
5. Provide Broker's opinions for the Property;
6. Provide Marketing materials for the listed Property;
7. Negotiate with buyers on behalf of the Borough;
8. Coordinate real estate appraisals;
9. Coordinate real estate transaction closings;
10. Handle all customary activities associated with the sale of real property, including the preparation of a Term Sheet for each parcel to be sold;
11. Maintain regular contact with the Borough representative and provide regular progress reports; and
12. Presentations at public meetings may be required.

B. Broker Service Responsibilities

In all circumstances, all Broker services shall be provided in keeping with all applicable Federal, State, and local laws and requirements.

C. Performance Requirements

The Broker Service will faithfully pursue the marketing and sale of any properties the Borough wishes to place on the market. Said Service will provide adequate personnel hours to meet the requirements set forth under the Scope of Work heading.

D. Term of Contract

The contract period for the successful Firm will be six months from the date of award. The contract may be renewed for additional terms at the Borough's discretion upon satisfactory performance by the Firm and at a negotiated rate agreed to in writing by both parties. Alternate contract periods may be considered.

E. Required Meetings

The Broker Service shall provide representatives to meet with Borough officials as may be requested, and in no case less than quarterly, for the purpose of providing status reports on the marketing and sale of the Property.

The Broker Service agrees to accompany Borough officials to meetings which may affect the sale of the Property listed by the Borough, if the need to attend such a meeting may arise.

#### F. Required Reports

The following reports shall be provided to the Borough on a monthly, quarterly, or annual basis, as specified:

1. Monthly Progress Reports on Sale and Marketing
2. Any reports required under Federal, State, or Local law relating to the sale of real property.

The Borough may ask for any other reports as it may deem necessary to ensure the success of the plan to market and sell the Property.

#### G. Staffing Requirements and Employment Practices

Sufficient staffing levels shall be maintained to ensure the effective marketing and sale of the Property, including sufficient staffing to meet the required actions described under the 'Scope of Work' heading.

#### H. Supplies Requirements

It is the Firm's responsibility to provide supplies to perform the required actions set forth under the 'Scope of Work' heading.

### 4.0 PROPOSAL AND SUBMISSION REQUIREMENTS

#### 4.1 Proposed Timeline

- |                                      |                 |
|--------------------------------------|-----------------|
| • Advertise for Proposals            | April 20, 2023  |
| • Pre-Proposal Meeting               | May 1, 2023     |
| • Proposals due to Borough Clerk     | May 12, 2023    |
| • Review of Proposals/Interviews     | May 15-22, 2023 |
| • Assembly Award for Broker Services | June 13, 2023   |

#### 4.2 Evaluation Criteria

- A. Proposals will be evaluated based upon the Firm's experience, personnel knowledge and experience with similar projects, references, and responses to other criteria in the RFP. Qualifications for subconsultants shall be included. To achieve a uniform review process and obtain the maximum degree of comparability, it is required that Proposals be organized in the manner specified below.

##### 1. Capacity to Perform and Relevant Experience of the Team (40 points)

- The Proposal must be accompanied by a cover letter, signed by a corporate officer or other individual who has the authority to bind the firm. The cover letter should include an introduction and history of the firm and a summary statement of professional qualifications, including areas of expertise.
- Include the address of office that will manage project, length of time in

business, firm's legal structure, firm's commitment to provide necessary resources to perform and complete project in a timely manner.

- List names of the persons who are authorized to make representations for your Firm, their titles, address, and telephone numbers, and identify the primary contact person.
- Identify key project staff, both with the Firm and with subconsultants, with their roles within the project clearly identified, as well as those key staff for subconsultants expected to provide services on behalf of the firm. Provide a qualifications synopsis, resume, active professional license or registration, and other experience and qualifications that are relative to this project for each of the individuals referenced. Be specific about the proposed staff regarding their experience and qualifications on projects of similar size and scope.
- Identify the project manager who will be responsible for the day-to-day management of project tasks and will be the Borough's primary point of contact.
- Provide a general statement describing the types of services offered by the firm, location of main and branch offices, number of years in business and number of employees in the Firm. Include licenses and certification numbers both for the Firm and for each of the individuals proposed to perform the required services.
- Briefly state your Firm's understanding of the services to be performed, the commitment to perform the work, and a statement why the Firm believes itself to be best qualified to perform the services specified.
- Provide a list of public or private sector clients for whom you have performed similar services during the past five years that demonstrates experience with the type of project described in this RFP. Include a summary of the projects' scope of work and deliverables, owner name, and the address, phone number and email of a reference for each project.
- The Firm should also demonstrate how it interacts with municipal clients and how it provides and exchanges information relative to the requirements.
- In order to avoid a conflict of interest, or the appearance of a conflict of interest, the firm should not engage in any outside activities that are inconsistent, incompatible, or appear to conflict with the firm's ability to exercise independent and objective judgement in the best interest of the City and Borough of Wrangell. Please outline all conflicts of interest that may exist for your firm in relation to providing real estate services for the Borough.
- Provide a copy of firm's commercial real estate broker license with proposal package.

**BROKER QUALIFICATIONS** – Respondents to this RFP shall have the following minimum qualifications:

- Must be licensed and in good standing with the State of Alaska.
- Must have an excellent reputation in the real estate community.
- Must be knowledgeable in the local real estate market and have experience with small and large commercial and redevelopment properties.
- Must be knowledgeable in the use of all public real estate records.
- Work with other local municipalities is highly recommended although not required.

Through evaluation of this criterion, the Borough will look at the Firm's prior experience with real estate transactions, similar to those the Firm would be contracting with the Borough to perform, and the effectiveness of the Firm's proposed property transaction process as viewed through a municipal context. The Firm's experience with Commercial Real Estate transactions will also be taken into account.

Through evaluation of this criterion, the Borough will also assess Firm's personnel for their competence and experience for performing real estate work and services for municipalities or government entities, including, specifically, their experience with Commercial Real Estate Transactions.

## 2. Methodologies, Approach and Local Knowledge (30 points)

- Provide detailed information on the Firm's methodologies and approach toward meeting the scope of work requirements provided for in this RFP. Information presented may consist of a detailed work plan indicating the tasks to be accomplished, the resources that will be utilized, the methods of identifying target user groups, and a description of the marketing materials and strategy for presenting the property to a regional or national marketplace, as appropriate.
- Describe the breadth of the Firm's knowledge of the local area, economy, and the real estate climate.

Through evaluation of this criterion, the Borough will evaluate the Firm's ties to the Borough, including, but not limited to, the breadth of their real estate dealings within the Borough, their expressed knowledge of the Borough's real estate climate, and the ties of those personnel to be assigned to the project with the Borough itself.

## 3. Fee Schedule (30 points)

- The proposal shall be accompanied by the Fee Schedule Form included in this RFP under Section 10.
- The Proposed Fee should be structured as a percentage commission sought for the Broker Services.
- Additional Services shall consist of providing any other services not included in the Firm's basic fee schedule and must be authorized by a change order, signed by both parties, and compensated at either the rate listed in the Firm's Fee Schedule for Additional Services or as negotiated for each additional service occurrence. Fee Schedules for each Firm and their subconsultants shall be included with their Proposal.

Through evaluation of this criterion, the Firm will be evaluated solely on the competitiveness of the proposed fee schedule structure. Fees proposed shall remain valid for the term of the contract.

## 5.0 PROPOSAL EVALUATION PROCESS

### 5.1 Evaluation Process

The Borough will form an Evaluation Committee, of no fewer than three people, to review

and evaluate the Firms; proposals submitted in response to this RFP. The Evaluation Committee will be responsible for evaluating all responses received according to the evaluation criteria outlined in this RFP.

A responsive proposal is one which follows the requirements of the RFP, includes all documentation, is submitted in the format outlined in the RFP, is of timely submission, and has the appropriate signatures, as required. Firms must demonstrate in their proposal that they have a clear understanding of the RFP requirements. Firms should articulate in the proposal their experience with the scope of work of this project and how they will fulfill the services required under the RFP. Each Firm should submit the requested documents that evidence capability to provide the services required for the Committee's review for short-listing purposes.

The Borough may contact one or more references. The Borough may use references named or not named by the Proposer.

The Evaluation Committee will hold interviews with at least the top two highest ranking Firms and request additional information resulting from the initial evaluation. Firms may be asked to make presentations covering their relevant experience, their understanding of the project requirements and their own approach to providing the services required. Unsuccessful Firms will be notified.

For each Firm receiving evaluation, an individual rating sheet will be completed and signed by each Evaluation Committee member. A summary rating sheet will be used to determine the highest ranked Firm, as averaged by the Committee.

## 5.2 Qualitative Rating Factor

Firms will be ranked using the following qualitative rating factors, excluding cost, for each RFP criteria:

1.0 = Outstanding

.8 = Excellent

.6 = Good

.4 = Fair

.2 = Poor

0.0 = Unsatisfactory

The rating factor for each criteria category will be multiplied against the points available to determine the total points for that category.

## 6.0 SELECTION PROCESS

Award will be made to the most qualified responsive and responsible Proposer, whose offer is deemed most advantageous to the Borough, all evaluation criteria considered. The Borough may choose to interview only the top-ranking Firms as based on proposal review and scores. Unsuccessful Firms will be notified.

## **7.0 APPEAL PROCESS**

Any aggrieved Proposer, within five days after a notice of intent to award a contract is issued may appeal to the Borough Manager for a decision and shall provide written notification including identification of the factual or legal errors in the decision that forms the basis for the appeal.

## **8.0 AGREEMENT**

The entire Agreement between the Borough and the Firm for the work shall be comprised of the following sections incorporated by reference:

- A. Real Estate Broker Services RFP
- B. Professional Services Agreement for Real Estate Broker Services
- C. Firm's Fee Proposal
- D. Professional License(s)
- E. Insurance Certificate(s)
- F. Addenda Numbers \_\_\_\_\_ to \_\_\_\_\_, inclusive
- G. Change Orders which may be delivered or issued after the date of the Agreement.

## **9.0 SUPPLEMENTAL RFP DOCUMENTS**

- A. Professional Services Agreement for Real Estate Broker Services
- B. Parcel Map
- C. Plat 2018-6
- D. Appraisal Assignment of Wrangell Medical Center, by Reliant LLC (2022)
- E. PDC Engineers' Life and Safety Plan Building Floorplan
- F. AMC Engineers' Building Condition Survey (2018)
- G. AMC Engineers; Electrical and Mechanical Deficiencies Lists (2018)
- H. Design Southeast's Building Condition Survey Structural (2018)
- I. Environmental Management Inc's Limited Asbestos Survey (2018)
- J. EHS's Hazardous Materials Assessment (2020)
- K. Alaska Department of Transportation Encroachment Permit No. WRG-18-001
- L. Wrangell Alaska Economic Conditions Report 2022



**10.0 FEE SCHEDULE FORM**

The Firm's Fee Schedule shall be accompanied by this Fee Schedule Form, signed by a corporate officer or other individual who has the authority to bind the Firm. An unsigned Fee Schedule Form is grounds for rejection. By submitting this Proposal, with the associated Statement of Qualifications, the Proposer represents and agrees that:

- A. The Proposer has carefully examined the RFP documents, including the following Addenda, receipt of which is hereby acknowledged by the undersigned:

Addendum Number	Addendum Issue Date
_____	_____
_____	_____
_____	_____
_____	_____

- B. The Proposer has visited the site and has become familiar with the general local and site conditions that may affect the work.
- C. The Proposer is familiar with all applicable federal, state, and local laws and regulations that may affect performance of the work.
- D. The Proposer has carefully studied all data relating to the project, which has been made available by the Owner, and is aware of the nature of the work to be performed at the site that relates to the work for which this Proposal is submitted.
- E. Additional Services requested will be compensated in accordance with the General Conditions of the Agreement and with the Firm's Fee Schedule for this project. Fee Schedules for each Firm and their Subconsultants shall be included in their Fee Proposal.
- F. Fee Schedule for Broker Service. State your commission rate for selling the properties. State any other costs the Borough may anticipate relating to the real estate services to be provided.

Firm's Fee Schedule or Percent Commission Rate	% _____
Additional Related Costs (identify explicitly)	\$ _____
Additional Related Costs (identify explicitly)	\$ _____

By executing this Proposal, I certify that I have the authority to bind the Firm who is submitting this Proposal.

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

Printed Name and Title of Signatory: \_\_\_\_\_

Printed Name of Consulting Firm: \_\_\_\_\_

Date: \_\_\_\_\_

Email: \_\_\_\_\_ Phone: \_\_\_\_\_

## Professional Services Agreement for Real Estate Broker Services

THIS AGREEMENT made and entered into this \_\_\_ day of \_\_\_\_\_, 2023, by and between the CITY AND BOROUGH OF WRANGELL (the “Borough”) and [SELECTED BROKER] (“Broker”) (collectively, the “Parties”).

WHEREAS, the Borough issued a Request for Proposals (“RFP”) for Real Estate Broker Services;

WHEREAS, Broker’s proposal was selected by the Borough through the RFP process;

WHEREAS, the Borough desires to establish an exclusive contract for the provision of Broker Services to the Borough to assist in the marketing and sale of the real property that was the site of the former Wrangell Medical Center;

NOW, THEREFORE, the parties agree as follows:

### Section 01 Definitions

In this Agreement:

- A. The term "Borough" means the City and Borough of Wrangell.
- B. The term "Broker" means [SELECTED BROKER].
- C. The term "Manager" means the Borough Manager of the City and Borough of Wrangell or designee.
- D. The term “Agreement” means this Professional Services Agreement for Real Estate Broker Services.
- E. The term “Parties” means the parties to this Agreement – the City and Borough of Wrangell and [SELECTED BROKER].

### Section 02 Engagement of Broker

The City hereby agrees to engage the Broker and the Broker hereby agrees to perform the services hereafter set forth.

### Section 03 Scope of Services

The Broker shall perform all the services which are described with particularity in Section 3.4 of the RFP, entitled “Introduction and Scope of Work,” attached hereto and incorporated by reference as if fully set forth herein.

#### Section 04 Contract Term

The services of the Broker shall commence upon the effective date of this Agreement and have a term of six months. The effective date of this Agreement shall be the date that it is fully executed by the Parties. The contract may be renewed for additional terms at the Borough's determination of satisfactory performance by the Broker and at a negotiated rate agreed to in writing by the Parties.

#### Section 05 Compensation

A. Subject to the provisions of this Agreement, the Borough shall pay the Broker for all services and expenses for the term of this Agreement as set forth in the Fee Schedule attached hereto as Appendix A.

B. Except as otherwise provided in this Agreement, the Borough shall not provide any additional compensation, payment, use of facilities, service, or other thing of value to the Broker in connection with performance of Agreement duties. The parties understand and agree that, except as otherwise provided in this section, administrative overhead and other indirect or direct costs the Broker may incur in the performance of its obligations under this Agreement have already been included in computation of the Broker's fee and may not be charged to the Borough.

#### Section 06 Method and Time of Payment

A. The Borough will pay to the Broker the amount set forth in Appendix A which shall constitute the full and complete compensation for the Broker's professional services. That sum will be paid only upon successful sale and recording of the Property. The Broker must submit an invoice addressed to the Accounts Payable Division of the Borough, with an emailed copy to the Borough's assigned representative.

B. The Borough agrees to make payment on the invoice within 30 days following satisfactory acceptance of services provided and upon receipt of an invoice, whichever is later. Original invoices are to be mailed to the Accounts Payable division of the Borough, with an emailed copy to the Borough's assigned representative. The Contract Number and Project Name must be stated on the invoice; otherwise, payment may be delayed.

C. It is expressly understood and agreed that in no event shall the total compensation due the Broker exceed compensation listed in appendix A.

#### Section 07 Termination of Agreement for Cause

If, through any cause, the Broker shall fail to fulfill in a timely and proper manner its obligations under this Agreement or if the Broker shall violate any of the covenants, agreements, or

stipulations of this Agreement, the Borough shall thereupon have the right to terminate this Agreement by giving written notice to the Broker of such termination and specifying the effective date thereof. Notice will be provided at least fifteen (15) days before the effective date of such termination. All finished or unfinished documents, data, studies, surveys and reports or other material prepared by the Broker under this Agreement are the property of the Borough and shall be delivered to the Borough by or upon the effective date of termination. In the event of a termination under this section, the Broker shall be entitled to receive compensation only for work completed to the Borough's satisfaction in accordance with Appendix A and the other terms of this Agreement.

#### Section 08      Termination for Convenience

The Borough or the Broker may terminate this contract at any time without cause by giving written notice of such termination and specifying the effective date of such termination. Notice must be provided at least thirty (30) days before the effective date of such termination. All finished or unfinished documents, data, studies, surveys and reports or other material prepared by the Broker under this Agreement are the property of the Borough and shall be delivered to the Borough by or upon the effective date of termination. In the event of a termination under this section, the Broker shall be entitled to receive compensation only for work completed to the Borough's satisfaction in accordance with Appendix A and the other terms of this Agreement.

#### Section 09      Causes Beyond Control

In the event either Party is prevented by a cause or causes beyond control of that Party from performing any obligation of this Agreement, non-performance resulting from such cause or causes shall not be deemed to be a breach of this Agreement which will render the Party liable for damages or give rights to the termination of the Agreement for cause. However, if such cause or causes cease to prevent performance, a Party shall exercise all reasonable diligence to resume and complete performance of the obligation with the least possible delay. The phrase "cause or causes beyond control," as used in this section, means any one or more of the following causes which are not attributable to the fault or negligence of the Party and which prevent the performance of the Party: fire, explosions, acts of God, war, orders or law of duly constituted public authorities, and other major uncontrollable and unavoidable events, all of the foregoing which must actually prevent the Party from performing the terms of the Agreement as set forth herein. Events which are peculiar to the Party and would not prevent a similarly situated entity from performing, including, but not limited to financial difficulties, are not qualifying causes under this section. The Borough will determine whether an event preventing the Broker from performing is a cause beyond the Broker's control.

Section 10     Modifications

- A.     The parties may mutually agree to modify the terms of the Agreement. Modifications to the Agreement shall be incorporated into the Agreement by written amendments.
  
- B.     It is expressly understood that the Borough may require changes in the scope of services and an unreasonable refusal by the Broker to agree to modification in the scope of services will be the basis for termination of the Agreement for cause. It is expressly understood that the total amount of compensation for successful performance of the Agreement will not be modified, under any circumstances, without prior written approval of the Borough.

Section 11     Nondiscrimination

- A.     The Broker will not discriminate against any employee or applicant for employment because of race, color, religion, national origin, ancestry, age, sex, or marital status, or mental or physical disability. The Broker will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to their race, color, religion, or mental or physical disability. Such action shall include, without limitation, employment, upgrading, demotion, or transfer, recruitment or recruiting advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship. The Broker agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
  
- B.     The Broker shall state, in all solicitations or advertisements for employees to work on contract jobs, that all qualified applicants will receive consideration for employment without regard to race, color, religion, national origin, ancestry, age, sex, or marital status, or mental or physical disability.
  
- C.     The Broker shall comply with any and all reporting requirements that may apply to it which the Borough may establish.

Section 12     Interest of Members of Borough and Others

No officer, member or employee of the Borough and no member of its governing body, and no other public official of the governing body shall participate in any decision relating to this Agreement which affects their personal interest or the interest of any corporation, partnership or association in which they are, directly or indirectly, interested or having any personal or pecuniary interest, direct or indirect, in this Agreement or the proceeds thereof. The Broker for itself and its principal employees, officers, agents, directors, and shareholders further covenants that neither the Broker nor any of the listed classes of individuals shall acquire any interest, direct or indirect, in this Agreement or the proceeds thereof which would conflict in any manner or degree with the

performance of its work hereunder. The Broker further covenants that in its performance of the contract no person having such interest shall be employed, without first disclosing his/her potential conflict.

### Section 13 Assignability

Unless otherwise authorized by the Borough in writing, any assignment by the Broker of its interest in any part of this Agreement or any delegation of duties under this Agreement shall be void, and any attempt by the Broker to assign any part of its interest or delegate duties under this Agreement shall give the Borough the right to immediately terminate this Agreement without any liability for work performed.

### Section 14 Interest of Broker

The Broker covenants, that it presently has no interest and shall not acquire any interest, direct or indirect, which would conflict in any manner or degree with the performance of services required to be performed under this Agreement. The Broker further covenants that in the performance of this Agreement it will not employ a person having any such interest.

### Section 15 Findings Confidential

To the extent permitted or required by law any reports, information, data, etc., given to or prepared or assembled by the Broker under this Agreement which the Borough requests to be kept confidential shall not be made available to any individual or organization by the Broker without the prior written approval of the Borough.

### Section 16 Publication, Reproduction and Use of Materials

No material produced, in whole or in part, under this Agreement shall be subject to copyright in the United States or in any other country. The Borough shall have unrestricted authority to publish, disclose, distribute and otherwise use, in whole or in part, any reports, data or other materials prepared under this Agreement.

### Section 17 Jurisdiction and Choice of Law

The laws of the State of Alaska and the Wrangell Municipal Code shall govern this Agreement, and any legal action brought thereon shall be filed and adjudicated in the Superior Court for the State of Alaska, First Judicial District at Wrangell, Alaska.

### Section 18 Non-Waiver

The failure of the Borough at any time to enforce a provision of this Agreement shall in no way constitute a waiver of the provision, nor in any way affect the validity of this Agreement or any part thereof, or the right of the Borough thereafter to enforce each and every provision hereof.

## Section 19 Permits, Laws and Taxes

The Broker shall acquire and maintain in good standing all permits, licenses and other entitlements necessary to the performance under this Agreement. All actions taken by the Broker under this Agreement shall comply with all applicable statutes, ordinances, rules and regulations. The Broker shall pay all taxes pertaining to its performance under this Agreement.

## Section 20 Relationship of the Parties

The Broker shall perform its obligations hereunder as an independent contractor of the Borough. The Broker shall have no power or authority to incur any debt, obligation, or liability on behalf of the Borough. The Borough may administer this Agreement and monitor the Broker's compliance with this Agreement but shall not supervise or otherwise direct the Broker except to provide recommendations and to provide approvals pursuant to this Agreement.

## Section 21 Integration

This instrument and all appendices and amendments hereto embody the entire agreement of the Parties. There are no promises, terms, conditions or obligations other than those contained herein; and this Agreement shall supersede all previous communications, representations or agreements, either oral or written, between the Parties. To the extent they are not inconsistent with the terms of this Agreement, the following documents are incorporated by reference into this Agreement as if fully set forth herein:

- Certificate of Insurance
- State of Alaska Business License
- State of Alaska Broker's License
- Appendix A. Fees/Compensation

## Section 22 Defense and Indemnification

To the fullest extent permitted by law, Broker shall indemnify, defend, and hold harmless the Borough, its elected and appointed officials, employees, and volunteers, from and against any suit, action, claim, damages, or liability of any kind and of any nature, including death, arising out of any act, error or omission or any claim of, or liability for, negligent acts, errors, and omissions of the Broker under this agreement. Pursuant to this section, the Broker is not required to indemnify, defend, or hold harmless the Borough for a claim of, or liability for, the independent negligent acts, errors, and omissions of the Borough. If there is a claim of, or liability for, a joint negligent act, error, or omission of the Broker and the Borough, the indemnification, defense, and hold harmless obligation of this section shall be apportioned on a comparative fault basis. In this section, "Broker" and "Borough" include the employees, agents, and subcontractors who are directly responsible, respectively, to each. In this section, "independent negligent acts, errors, and

omissions” means negligence other than in the Borough’s selection, administration, monitoring, or controlling of the Broker, or in approving or accepting the Broker’s work.

Section 23      Interpretation and Enforcement

This Agreement is being executed by the parties following negotiations between them. It shall be construed according to the fair intent of the language as a whole, not for or against any party. The titles of sections in this Agreement are not to be construed as limitations or definitions but are for identification purposes only.

Section 24      Insurance

- A. Broker shall maintain, in good-standing, the insurance described in subsection (B) of this section. Before entering into this Agreement, Broker shall furnish Borough with a Certificate of Insurance showing proof of insurance in accordance with subsection (B) of this section in a form acceptable to Borough.
  
- B. Broker shall provide the following types of insurance, listed at parts 1-4 of this section, the minimum limits of not less than those stated below. Borough shall be named as additional insured on all insurance policies except workers' compensation and professional liability contracts, and Broker shall provide Borough with a Certificate of Insurance showing “The City and Borough of Wrangell, Alaska” as an additional insured.
  - 1. Workers' compensation and employer's liability coverage as required by Alaska law.
  
  - 2. Comprehensive general liability, including contractual, property damage, bodily injury, premises operations including explosion, collapse and underground; products and complete operations, broad form property damage and personal injury coverages in amounts no less than \$1,000,000 per occurrence and \$2,000,000 aggregate.
  
  - 3. Comprehensive automobile liability, bodily injury and property damage, including all owned, hired and non-owned automobiles in amounts no less than \$1,000,000 each occurrence and \$2,000,000 aggregate.
  
  - 4. Errors and Omissions Insurance, as required by State of Alaska law.

Each policy of insurance required by this section shall provide for no less than thirty (30) days' advance notice to Borough prior to cancellation.



C. Other Insurance Provisions

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability, Automobile Liability

- a. The Borough, its Manager, officers, officials, employees and volunteers are to be covered as additional insured as respects: liability arising out of activities performed by or on behalf of the Broker; products and completed operations of the Broker premises owned, occupied or used by the Broker or automobiles owned, leased, hired or borrowed by the Broker. The coverage shall contain no special limitation on the scope of protection afforded to the Borough, its Administrator, officers, officials, employees and volunteers.
- b. The Broker's insurance coverage shall be primary insurance as respects the Borough, its Administrator, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the Borough, its Administrator, officers, officials, employees and volunteers shall be excess of the Broker insurance and shall not contribute to it.
- c. The Broker's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. Worker's Compensation and Employer's Liability

The insurer shall agree to waive all rights of subrogation against the Borough, its Administrator, officers, officials, employees and volunteers for losses arising from work performed by the Broker or any subcontractor for the Borough.

D. Subcontractors

Broker shall include all subcontractors as insured under its policies or shall furnish separate certificates and endorsements for each subcontractor. All coverage for subcontractors shall be subject to all requirements stated herein.

E. Lapse in Coverage

A lapse in insurance coverage is a material breach of this Agreement which shall result in termination of the Agreement for cause.

Section 25 Severability

If any section or clause of this Agreement is held invalid by a court of competent jurisdiction, or is otherwise invalid under the law, the remainder of this Agreement shall remain in full force and effect.

Section 26 Understanding

The Broker acknowledges that the Broker has read and understands the terms of this Agreement, has had the opportunity to review the same with counsel of their choice, and is executing this Agreement of its own free will.

Section 27 Notices

Any notice required pertaining to the subject matter of the Agreement shall be personally delivered or mailed by prepaid first-class, registered or certified mail to the following address:

City and Borough of Wrangell: P.O. Box 531, Wrangell, AK 99929

Broker: [INSERT ADDRESS]

Section 28 Counterparts

This Agreement may be executed in more than one counterpart, each of which shall be deemed to be an original but all of which taken together shall be deemed a single instrument.

Section 29 Survival of Representations and Warranties

The representations, warranties, covenants, and agreements of the parties under this Agreement, and the remedies of either party for the breach of such representations, warranties, covenants, and agreements by the other party shall survive the execution and termination of this Agreement.

Section 30 Availability of Funds

This Agreement is subject to the availability of funds lawfully appropriated for its performance.

IN WITNESS WHEREOF, the Parties have executed this Agreement:

CITY AND BOROUGH OF WRANGELL

By: \_\_\_\_\_  
Jeff Good, Borough Manager Date

[BROKER'S NAME]

By: \_\_\_\_\_  
Date

IRS Taxpayer Identification No: \_\_\_\_\_

State of Alaska )  
)ss.  
Third Judicial District )

Subscribed and sworn to before me at Anchorage, Alaska this \_\_\_\_ day of \_\_\_\_\_, 2023.

\_\_\_\_\_

\_\_\_\_\_

Notary Public in & for Alaska  
My Commission Expires: \_\_\_\_\_

Appendix A  
FEES and COMPENSATION

# CITY AND BOROUGH OF WRANGELL, ALASKA



Public Map



1 inch = 100 feet  
Date: 12/7/2021

**DISCLAIMER: THESE MAPS ARE FOR PLANNING PURPOSES ONLY.  
PROPERTY LINES ARE APPROXIMATE.**

**CERTIFICATE OF OWNERSHIP AND DEDICATION**

WE HEREBY CERTIFY THAT WE ARE THE LESSEES OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY ADOPT THIS PLAN OF SUBDIVISION WITH OUR FREE CONSENT AND DEDICATE ALL STREETS, ALLEYS, WALKS, PARKS AND OTHER OPEN SPACES TO PUBLIC OR PRIVATE USE AS NOTED.

DATE 10-9-18 [Signature]  
MAYOR, CITY AND BOROUGH OF WRANGELL

**CERTIFICATE OF APPROVAL BY THE ASSEMBLY**

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF WRANGELL ASSEMBLY AS RECORDED IN MINUTE BOOK \_\_\_\_\_ PAGE \_\_\_\_\_ DATED \_\_\_\_\_ 20\_\_\_\_ AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT COURT, EX-OFFICIO RECORDER, WRANGELL, ALASKA.

DATE 10-9-18 [Signature]  
MAYOR, CITY AND BOROUGH OF WRANGELL  
ATTEST: [Signature]  
CITY CLERK

**CERTIFICATE STATE OF ALASKA (FIRST JUDICIAL DISTRICT)SS**

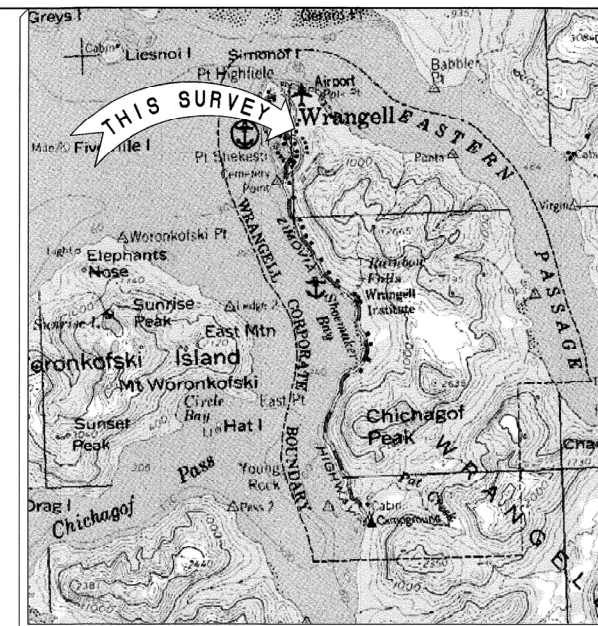
I THE UNDERSIGNED, BEING DULY APPOINTED AND QUALIFIED, AND AN ACTING ASSESSOR FOR THE CITY AND BOROUGH OF WRANGELL, HEREBY CERTIFY THAT ACCORDING TO THE RECORDS IN MY POSSESSION, THE FOLLOWING DESCRIBED PROPERTY IS CARRIED ON THE TAX RECORDS OF THE CITY AND BOROUGH OF WRANGELL, IN THE NAME OF City of Borough of Wrangell

AND THAT ACCORDING TO THE RECORDS IN MY POSSESSION, ALL TAXES ASSESSED AGAINST SAID LANDS ARE PAID IN FULL; THAT CURRENT TAXES FOR THE YEAR 2018 WILL BE DUE ON OR BEFORE OCTOBER 15, 2018. DATED THIS 9th DAY OF October 2018  
[Signature]  
ASSESSOR CITY AND BOROUGH OF WRANGELL

**CERTIFICATE OF APPROVAL BY THE PLANNING COMMISSION**

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF WRANGELL PLANNING COMMISSION, AND THAT SAID PLAT HAS BEEN APPROVED BY THE COMMISSION BY PLAT RESOLUTION NO. \_\_\_\_\_ DATED October 3, 2018, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT MAGISTRATE, EX-OFFICIO RECORDER, WRANGELL, ALASKA.

DATE 10-3-18 [Signature]  
CHAIRMAN, PLANNING COMMISSION  
DATE 10-3-18 [Signature]  
SECRETARY



VICINITY MAP:  
SCALE: NOT TO SCALE

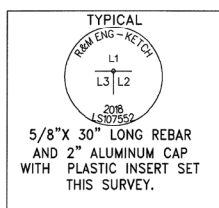
**NOTARY'S ACKNOWLEDGMENT**

U.S. OF AMERICA  
STATE OF ALASKA  
CITY AND BOROUGH OF WRANGELL

THIS IS TO CERTIFY THAT ON THIS 9th day of October 2018, BEFORE ME, THE UNDERSIGNED A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED Walter's [Signature] TO ME KNOWN TO BE THE IDENTICAL INDIVIDUAL(S) MENTIONED AND WHO EXECUTED THE WITHIN PLAT AND \_\_\_\_\_ ACKNOWLEDGED TO ME THAT \_\_\_\_\_ SIGNED THE SAME FREELY AND VOLUNTARILY FOR THE USES AND PURPOSES THEREIN SPECIFIED.

WITNESS MY HAND AND NOTARY SEAL THE DAY AND YEAR IN WITNESS WHEREOF I FIRST HERELIN WRITTEN.

[Signature]  
NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA  
MY COMMISSION EXPIRES 7-27-21



**PLAT NOTES**

1. THE PURPOSE OF THIS SURVEY IS TO COMBINE LOTS 1 & 10, BLOCK 54, WRANGELL TOWNSITE, ACCORDING TO PLAT NO. 68-81; AND TRACT "B", SUPPLEMENTAL PLAT OF WRANGELL TOWNSITE, USS 1119, ACCORDING TO PLAT 68-129; AND A PORTION OF LOT 1, LOT 2, LOT 9, AND PORTION OF LOT 10, BLOCK 54, TOWNSITE OF WRANGELL, ALASKA, USS 1119, WRANGELL RECORDING DISTRICT, FIRST JUDICIAL DISTRICT, STATE OF ALASKA. CREATING LOT A, BLOCK 54, W.M.C. REPLAT, WRANGELL RECORDING DISTRICT, FIRST JUDICIAL DISTRICT, STATE OF ALASKA.
2. THIS PLAT WILL VACATE A PORTION OF A 10' WIDE ALLEYWAY ALONG WITH A PORTION OF A 30' WIDE SCENIC STRIP.
3. REFERENCE THE FOLLOWING WITHIN THE WRANGELL RECORDING DISTRICT:  
PLAT 68-129 (SUPPLEMENTAL PLAT OF WRANGELL TOWNSITE)  
PLAT 68-81 (SUBD. OF BLOCK 54, WRANGELL TOWNSITE)  
PLAT 82-1 (USS 1119)  
PLAT 39-30  
PLAT 39-31  
DEPARTMENT OF HIGHWAYS PROJECT NO. S-0943 (9)  
DEED 69-340 (BOOK 17, PAGE 69 - 70)  
DEED 72-71 (BOOK 17, PAGE 453)  
DEED 69-341 (BOOK 17, PAGE 72 - 73)  
ALASKA D.O.T. ENCROACHMENT PERMIT NO. WRG-18-001
4. REFERENCE FIRST AMERICAN TITLE INSURANCE COMPANY CERTIFICATE TO PLAT FILE NO. 32421.
5. ALL BEARINGS SHOWN ARE TRUE BEARINGS AS ORIENTED TO THE BASIS OF BEARING AND DISTANCES SHOWN ARE REDUCED TO HORIZONTAL GROUND DISTANCES.
6. THE ERROR OF CLOSURE DOES NOT EXCEED 1:5000.

**OWNERSHIP STATUS**

1. LOT 1 (CITY OF WRANGELL)
2. LOT 10 (CITY OF WRANGELL)
3. TRACT "B" (CITY OF WRANGELL)
4. PORTION OF LOT 1 (CITY OF WRANGELL)
5. LOT 2 (CITY OF WRANGELL)
6. PORTION OF LOT 10 (CITY OF WRANGELL)
7. LOT 9 (CITY OF WRANGELL)

**PROPOSED OWNERSHIP**

1. LOT A (CITY & BOROUGH OF WRANGELL)

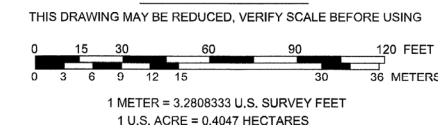
**PREVIOUS LOT AREAS**

1. LOT 1 (9,848 SQ. FT)(0.23 ACRES)
2. LOT 10 (11,200 SQ. FT)(0.26 ACRES)
3. TRACT "B" (10,577 SQ. FT)(0.24 ACRES)
4. PORTION OF LOT 1 (10,606 SQ. FT)(0.24 ACRES)
5. LOT 2 (17,000 SQ. FT)(0.39 ACRES)
6. PORTION OF LOT 10 (12,379 SQ. FT)(0.28 ACRES)
7. LOT 9 (17,000 SQ. FT)(0.39 ACRES)

**NEW LOT AREAS**

1. LOT A (84,988 SQ. FT)(1.95 ACRES)

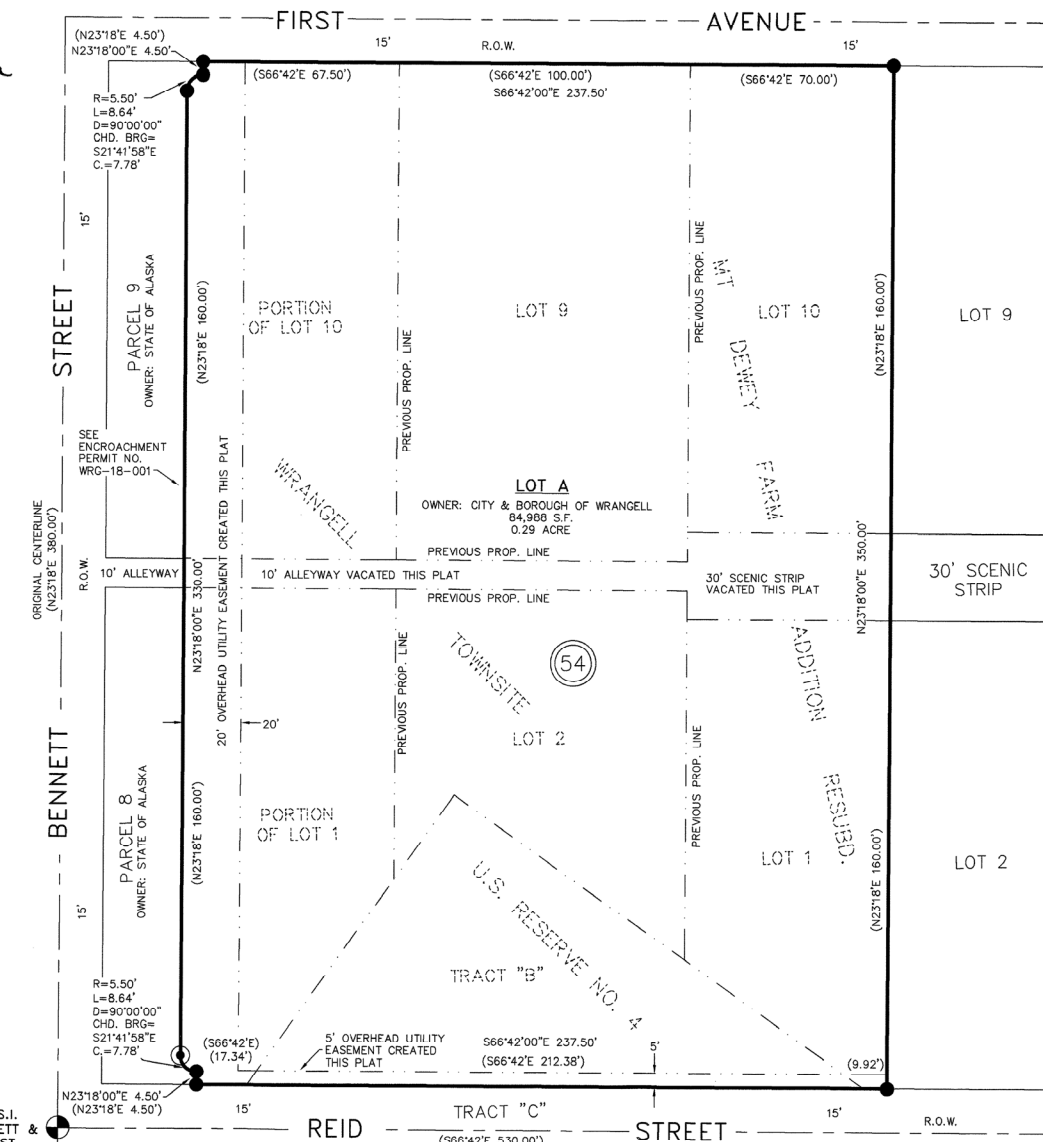
**SCALE 1"=30'**



**LEGEND**

- HIGHWAY CENTERLINE BRASS CAP RECOVERED THIS SURVEY
- 5/8 REBAR 30" LONG WITH 2" ALUM CAP WITH PLASTIC INSERT SET THIS SURVEY
- SECONDARY MONUMENT FOUND THIS SURVEY
- (88.09) DATA OF RECORD
- 88.09 DATA MEASURED OR COMPUTED
- PREVIOUS PROPERTY LINE

2018-6  
Plat #  
Wrangell  
Rian Dist  
Date 10-12-2018  
Time 10:05 AM



CLIENT: CITY & BOROUGH OF WRANGELL  
P.O. BOX 541  
WRANGELL, ALASKA 99929

DRAWN BY: MCH  
CHECKED BY: CGP  
DATE PLATTED: SEPTEMBER, 2018  
DATE SURVEYED: AUGUST, 2018  
SCALE: 1"=30'  
SURVEYED BY: MCH  
PROJ NO.: 182757

OLD S.I. BENNETT & CHURCH ST.

**SURVEYOR'S CERTIFICATE**

I HEREBY CERTIFY THAT I AM A REGISTERED SURVEYOR, LICENSED IN THE STATE OF ALASKA, AND THAT IN 2018 A SURVEY OF THE HEREIN DESCRIBED LANDS WAS CONDUCTED UNDER MY DIRECT SUPERVISION AND THAT THIS PLAT IS A TRUE AND ACCURATE REPRESENTATION OF THE FIELD NOTES OF SAID SURVEY, AND THAT ALL DIMENSIONS AND OTHER DETAILS ARE CORRECT ACCORDING TO SAID FIELD NOTES.

9/28/2018  
DATE

[Signature]  
CHRISTOPHER G. PIBURN LS 107552



**WRANGELL RECORDING DISTRICT**

Revisions	
No.	Description

R&M ENGINEERING-KETCHIKAN, INC. Phone: (907) 225-7917  
7180 REVILLA ROAD Fax: (907) 225-3441  
Ketchikan, AK 99901

WRANGELL OFFICE Phone: (907) 305-0820  
P.O. BOX 701  
WRANGELL, AK 99929

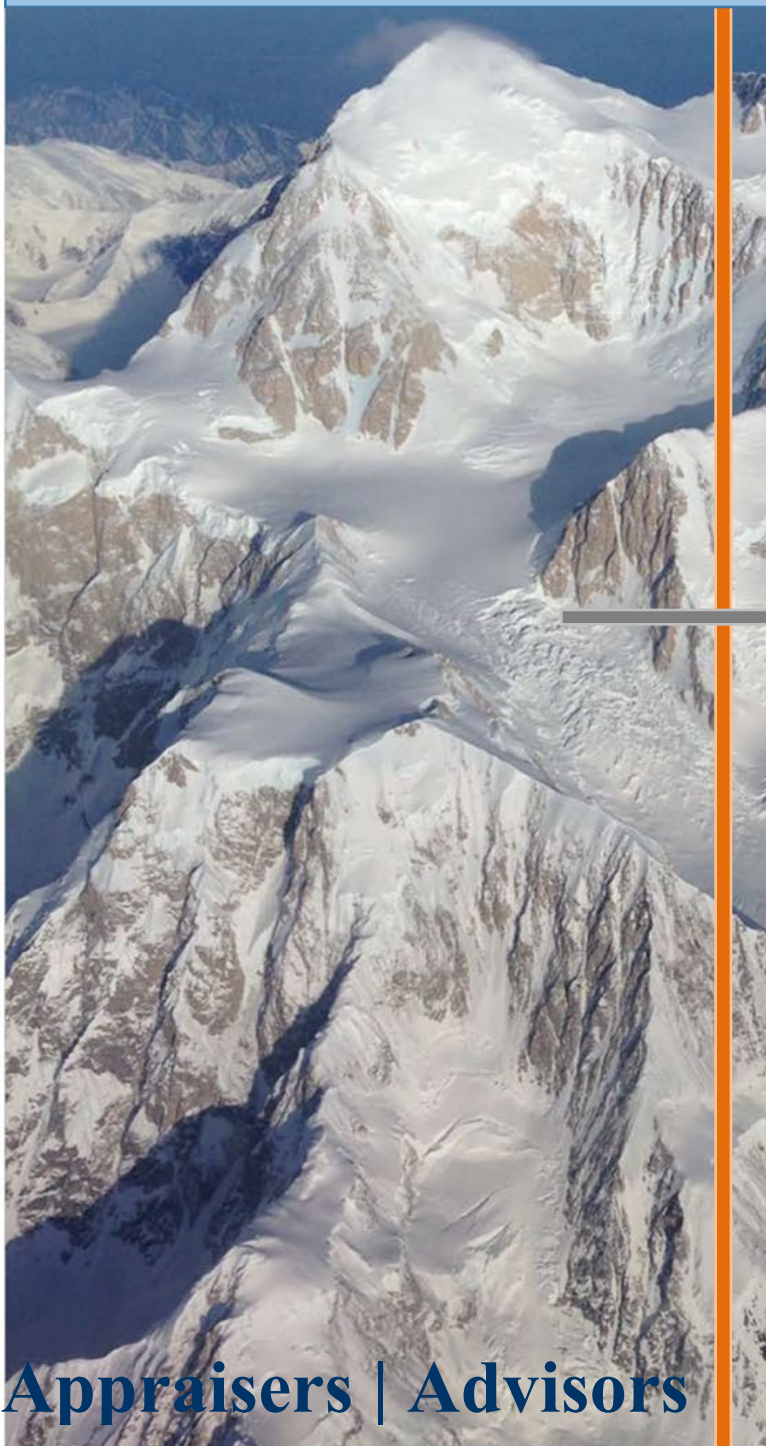
CERTIFICATE OF AUTHORIZATION #: C576

**PROJECT: W.M.C. REPLAT**

THE REPLAT OF LOTS 1 & 10, BLOCK 54, WRANGELL TOWNSITE, ACCORDING TO PLAT NO. 68-81; AND TRACT "B", SUPPLEMENTAL PLAT OF WRANGELL TOWNSITE, USS 1119, ACCORDING TO PLAT 68-129; AND A PORTION OF LOT 1, LOT 2, LOT 9, AND PORTION OF LOT 10, BLOCK 54, TOWNSITE OF WRANGELL, ALASKA, USS 1119, WRANGELL RECORDING DISTRICT, FIRST JUDICIAL DISTRICT, STATE OF ALASKA. CREATING LOT A, BLOCK 54, W.M.C. REPLAT, WRANGELL RECORDING DISTRICT, FIRST JUDICIAL DISTRICT, STATE OF ALASKA.

# RELIANT

LLC



**Appraisal Assignment of:**

**Wrangell Medical Center**

**310 Bennett St.  
Wrangell, AK 99929**

Latitude: 56.471796, Longitude: -132.375866

Reliant Reference Number: 22-0325b

**As of: March 26, 2022**

**Prepared for:  
City and Borough of Wrangell**

**Appraisers | Advisors**



9330 Vanguard Drive, Suite 201  
Anchorage, Alaska 99507  
Phone: (907) 929-2226  
Fax: (907) 929-2260  
Email: [admin@reliantadvisory.com](mailto:admin@reliantadvisory.com)  
[www.reliantadvisory.com](http://www.reliantadvisory.com)

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[www.reliantadvisory.com](http://www.reliantadvisory.com)

# Letter of Transmittal

April 21, 2022

Mr. Jeff Good  
Borough Manager  
City and Borough of Wrangell  
PO Box 531  
Wrangell, AK 99929

RE: **Wrangell Medical Center**  
310 Bennett St.  
Wrangell, AK 99929

Dear Mr. Good:

At your request, an appraisal of the above referenced property has been prepared. The results of the assignment are presented in *Appraisal Report* format. The purpose of the assignment is to estimate the market value of the real estate in its current As Is condition. The *Fee Simple* interest in the subject has been analyzed.

The client(s) of this assignment is City and Borough of Wrangell. The intended user(s) of the report is the Client, for the intended use of prospective sale purposes. Although other parties may in some cases obtain a copy of this report, it should not be relied upon by anyone other than the intended user(s), or for anything other than the intended use.

This assignment has been prepared and presented in conformance with the scope of work developed in consultation with the client, the current Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal Standards Board of the Appraisal Foundation, as well as the bylaws of the Appraisal Institute.

The property is a 22-bed critical access hospital and long-term care facility that was originally constructed in 1967. There have been subsequent additions and remodeling over the years. The facility is currently closed and will likely remain closed until remodeling or demolition takes place. A complete interior and exterior walk-through of the subject has been made, and photographs taken by Mr. Greg Bucklin, MAI, on March 26, 2022. Mr. Wold did not conduct a walk-through of the property for purposes of this appraisal; however, he is familiar with the property and the neighborhood. Market information and data regarding other similar real estate has been obtained. This data has been analyzed using appropriate techniques and methodologies necessary to develop a credible and reliable estimate of market value.



RE: **Wrangell Medical Center**

As a result of research and analysis, the value estimate(s) for the subject is/are as follows:

<b><u>FINAL MARKET VALUE ESTIMATE</u></b>	
<b><u>Wrangell Medical Center</u></b>	
<b>Property Rights</b>	<b>Fee Simple</b>
<b>Condition</b>	<b>As Is</b>
<b>Effective Date of Appraisal</b>	<b>March 26, 2022</b>
<b>Final Market Value Estimate</b>	<b>\$830,000</b>

The value estimates are based on a marketing period of approximately 12 months and an exposure period of approximately 12 months. The value opinion reported above is qualified by certain assumptions, limiting conditions, certifications, and definitions, which are set forth in the body of the report. This letter is invalid as an opinion of value if detached from the report, which contains the text, exhibits and Addendum. Thank you for the opportunity to be of service. If you have any questions, please feel free to call.

Respectfully submitted,

A handwritten signature in black ink that reads 'Kim M. Wold'.

**Kim Wold**  
Senior Appraiser  
Alaska Certified General – No. 52  
kim@reliantadvisory.com

# Certification

The undersigned certify that, to the best of their knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are their personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. They have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
4. They have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
5. Engagement in this assignment was not contingent upon their developing or reporting predetermined results.
6. Compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value/assignment result or direction in value/assignment result that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this assignment.
7. Analysis, opinions, and conclusions were developed, and this report has been prepared, in conformity with the Uniform Standards of Professional Appraisal Practice.
8. The reported analyses, opinions and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and Standards of Professional Appraisal Practice of the Appraisal Institute.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. A personal walk-through of the subject property has not been made by Mr. Wold.
11. No one provided significant real property appraisal assistance to the persons signing this certification and they are competent and qualified to perform the appraisal assignment.
12. They have not provided a previous service, as an appraiser or in any other capacity, regarding the subject within the three years prior to accepting this assignment.
13. As of the date of this report, Kim Wold has completed the requirements of the continuing education program for Candidates / Practicing Affiliates of the Appraisal Institute, and for certified appraisers in the State of Alaska.



**Kim Wold**

Alaska Certified General – No. 52

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# Assignment-Specific Premises & Special Risk Factors

## Overview

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The information presented in this section is for convenience purposes only and the intended user should read and understand the report in its entirety as there may be additional highly relevant information contained within the body of the report.

General assumptions and limiting conditions, which apply to all assignments, are presented in the report Addenda. In addition, the following assumptions and limiting conditions are presented separately in this chapter because they are specific to the current assignment. All the assumptions and limiting conditions, whether general or specific and regardless of location within the report, are of equal relevance and importance, and should be carefully reviewed and understood by the intended user(s).

## Assignment-Specific Extraordinary Assumptions, Limiting Conditions

---

Extraordinary assumptions and extraordinary limiting conditions specific to this assignment follow. The value estimate(s) presented in this report may be amended if the extraordinary assumptions or limiting conditions are found to be false. The reader is advised that the use of these assumptions and limiting conditions might have affected the assignment results.

1. It is assumed that the subject would be rezoned to Commercial when / if the property is transferred to a private party.

## Assignment-Specific Hypothetical Conditions

---

Hypothetical conditions specific to this assignment are as follows. The reader is advised that the use of these hypothetical conditions (if any) might have affected the assignment results.

This appraisal is not predicated on any hypothetical conditions.

## Special Risk Factors

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A special risk factor is defined as a risk that is extraordinary (atypical and unusual), whose potential impacts are not easily quantifiable, that may presently, or at some point in the future, impact the subject and/or all asset classes of real estate, including the subject.

No special risk factors are present.

# Assignment Overview

## Identity of Property

<b>Name</b>	Wrangell Medical Center
<b>Brief Description</b>	The property is a 22-bed critical access hospital and long-term care facility that was originally constructed in 1967. There have been subsequent additions and remodeling over the years. The facility is currently closed and will likely remain closed until remodeling or demolition takes place.
<b>Address</b>	310 Bennett St. Wrangell, AK 99929
<b>Geo Coordinates</b>	Latitude: 56.471796, Longitude: -132.375866
<b>Physical Location</b>	The subject is located on the easterly side of Bennett St, between First Ave and Reid St.
<b>Assessor's Tax Parcel Number(s)<sup>1</sup></b>	02-131-351
<b>Abbreviated Legal Description</b>	<i>Lot A, Block 54, WMC Replat, Plat 2018-6, Wrangell Townsite Survey.</i> (Per Department of Natural Resources Records)
<b>Current Use</b>	Commercial Development / Former Hospital
<b>Appraised Use</b>	Commercial Development / Former Hospital
<b>Highest and Best Use</b>	
<b>AS VACANT</b>	May include development as medical-office, healthcare facility or other unidentified use once feasibility has been ascertained.
<b>AS IMPROVED</b>	Highest and best use as improved is remodeling of the existing improvements to permit medical related use.

## Scope of Assignment

<b>Value Definition(s)</b>	The following definition(s) of value is/are utilized in this report:
<b>MARKET VALUE (OCC)<sup>2</sup></b>	<i>The most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller</i>

<sup>1</sup> Per Tax Assessor Records.

<sup>2</sup> Source: Office of the Comptroller of the Currency under 12 CFR, Part 34, Subpart C-Appraisals, 34.43 Definitions [g].

*each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date, and the passing of title from seller to the buyer under conditions whereby:*

- a. the buyer and seller are typically motivated;*
- b. both parties are well informed or well advised, and acting in what they consider their own best interests;*
- c. a reasonable time is allowed for exposure in the open market;*
- d. payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto;*
- e. and the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

<b>Other Definitions</b>	Please refer to the Terms & Definitions section presented in the Addenda for additional definitions of significant terminology used in this report.
<b>Purpose</b>	To estimate the market value of the real estate in its current As Is condition.
<b>Intended Use</b>	The intended use of the assignment is for prospective sale purposes. It should not be relied upon for any other uses.
<b>Client(s)</b>	City and Borough of Wrangell
<b>Intended User(s)</b>	City and Borough of Wrangell (the Client)
<b>Property Interest Appraised`</b>	This is an appraisal of the real property. Any intangible and personal property is specifically excluded from this valuation.
<b>Property Rights Appraised</b>	Fee Simple
<b>Report Presentation</b>	This is an Appraisal Report as defined by Uniform Standards of Professional Appraisal Practice under Standards Rule 2-2(a). This format provides a summary of the appraisal process, subject and market data, and valuation analyses. The level of detail and discussion presented varies with the significance of the information to the appraisal, within the context of the intended use and intended user(s).
<b>Walk-Through Date</b>	March 26, 2022
<b>Effective Date<sup>3</sup></b>	March 26, 2022

<sup>3</sup> The analyses and conclusions of the assignment are based upon the known market conditions as of the date of report and are valid as of that date but may not be representative of market value either before or after this date.

**Report Date** April 21, 2022

## Scope of Work

**Overview** Current USPAP requires the appraiser(s) to develop and report a scope of work that results in credible results that are appropriate for the appraisal problem, intended user(s) and intended use.

**Limitations to Scope of Work** USPAP permits limitations to the scope of work consistent with the appraisal problem, intended user and intended use. The scope of work has been limited by the General Assumptions & Limiting Conditions, Assignment-Specific Extraordinary Assumptions and Limiting Conditions, and Assignment-Specific Hypothetical Conditions discussed throughout this report and Addenda. The Scope of Work has also been limited based on the level of information / documentation available to the appraiser. Please reference the assignment-specific extraordinary assumptions, limiting conditions and hypothetical conditions presented in the prior chapter. There are no other major limitations to the scope of work for this assignment.

**Compliance** The analysis and reporting of this assignment are compliant with the following:

- Uniform Standards of Professional Appraisal Practice (USPAP) as promulgated by the Appraisal Standards Board of the Appraisal Foundation.
- The bylaws of the Appraisal Institute.

**Special Client Instructions** None

**Subject Walk Through** A complete interior and exterior walk-through of the subject has been made, and photographs taken by Mr. Greg Bucklin, MAI, on March 26, 2022. Mr. Wold did not conduct a walk-through of the property for purposes of this appraisal; however, he is familiar with the property and the neighborhood. The scope of this walk-through is presented on the following table.

### SCOPE OF WALK THROUGH

Item	Viewed?
Neighborhood	Yes
Subject Exterior	Yes
Subject Interior	Yes
Subject Restrooms	Partial
Subject Roof	No
Subject Mechanical Rooms	Partial
Subject Crawl Spaces or Attics	No
Subject Ceiling Spaces	No

**Information Provided to Appraiser for Consideration**

Primary data was obtained by the appraiser during the property walk-through. Secondary sources of property data include client, borrower, and public records. The scope of work is specific to the information on the subject provided to the appraiser by the client or property contact. A partial list of items provided follows:

- Building sketch
- Plat map
- Environmental study
- Engineering study
- Demolition costs

The following information was not available to the appraiser:

- Three years of historic operating data
- Tax returns
- Architectural plans
- As built
- Building area study
- Title report
- Preliminary commitment for title insurance
- dy
- Construction costs
- Renovation costs
- Recent capital improvements
- Feasibility study
- Market study
- A prior appraisal
- Purchase and sale agreement
- Listing agreement
- Closing documents / settlement statements

**Market Analysis**

Extensive research on macro and micro economic conditions within the subject's market has been conducted. Extensive research on current market conditions within the subject's sector of the real estate market has been conducted. The Appraisal Institute recognizes two categories of market analysis: inferred and fundamental. Inferred analyses (Level A and B) are basic methods by which future supply and demand conditions are inferred by current and general market conditions (secondary data). In fundamental analyses (Level C and D), general information is supplemented by detailed data to forecast supply and demand, as well as subject-specific absorption and capture (primary data). The market analysis performed in this assignment is based on inferred demand.

**Approaches to Value**

**LAND VALUATION** This approach was developed because it is necessary to develop a credible and reliable estimate of market value for this property type or it has been requested by the client.

**COST APPROACH** This approach was developed because it is not typically utilized by buyers and sellers in this market for this type and age of property.

**SALES COMPARISON APPROACH** This approach was developed because it is necessary to develop a credible and reliable estimate of market value for this property type or it has been requested by the client.

**INCOME CAPITALIZATION APPROACH** This approach was not developed because the subject is not an income producing property and this approach does not reflect typical market behavior for this property type.

**Valuation Process** The valuation process may include research and analysis performed as part of a prior assignment, as well as new research performed specifically for this assignment, and included but was not limited to the following:

1. The problem or nature of assignment was identified.
2. A scope of work was created that lead to credible results that are appropriate for the appraisal problem, intended user and intended use.
3. Information necessary to complete the assignment was requested and obtained from the client / property contact.
4. An area, city and neighborhood analysis has been performed.
5. An analysis of the subject's physical and economic characteristics has been performed.
6. Interviews have been performed with property representatives (owners, property managers or leasing agents), tenants, planners, assessors, brokers, investors, developers and other individuals with useful knowledge and insight on the subject.
7. Knowledgeable market participants have been interviewed on the market conditions for properties like the subject.
8. An examination of current zoning codes affecting the property has been performed.
9. The functional utility of the site and/or improvements has been determined.
10. A detailed examination of the subject's economic characteristics has been made to determine the property's risk profile and economic potential.
11. A highest and best use analysis for the property was performed.



12. Extensive research to identify transactions involving similar properties was performed.
13. An analysis of the subject and available data was performed using commonly accepted valuation techniques and methodologies.
14. The quantity and quality of available data was considered along with the applicability of the methodology used, and a reconciliation was performed to arrive at the final value estimate(s).

### Ownership and Sales Information

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**Current Owner of Record** According to Owner, the appraised interest in the subject is presently owned by City and Borough of Wrangell.

**Three Year Transaction History** Disclosure and analysis of the subject's transaction history (sales, agreements of sale, options, and listings) within the prior three years is required by USPAP and, if applicable, is presented below.

**NO RECENT ACTIVITY** No transactions involving the subject within the prior three years are known or have been disclosed. A search of State of Alaska Department of Natural Resource records indicates that the subject has not changed ownership within the last three years.

### Competency of Appraiser

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The appraisers have previously performed similar assignments and meet the Competency Rule of USPAP. Please refer to the Experience Data presented in the Addendum for further information on the appraiser's background and experience.

# Area Data

## COVID-19

The World Health Organization declared the coronavirus (COVID-19) as a global health emergency on January 30, 2020. The President declared a national emergency on March 13, 2020. The outbreak caused heightened health, economic and financial uncertainty in both local and global markets. International travel restrictions have been implemented by many countries, including the United States. Public events, meetings and assemblage were largely cancelled. Global financial markets were negatively impacted as a result of the response of governments and the public to the virus. In response, the Federal Reserve made an emergency cut to interest rates on March 16, 2020, slashing the federal funds rate by 1 percent to a range of 0-0.25 percent (effectively zero). Through various legislative acts, total COVID-19 stimulus is estimated at \$5.335 trillion dollars.<sup>4</sup> There are now multiple vaccines available that are expected to be fully distributed to the general public by the end of 2021. Most market participants believe that the COVID-19 pandemic has ended. Economic trends, including airline travel, employment data, manufacturing output, retail expenditure, stock market valuations and other data points strongly suggest that most, but not all, of the economic recovery has already occurred. Thus, at this point, the economic data indicates that there was largely a “V” shaped recession and recovery. At this point, the greatest risk is that a new vaccine resistant strain of the virus develops. The COVID-19 Delta and COVID-19 Omicron variants are two such examples, with the first causing additional lockdowns and the second posing a limited health risk without additional lockdowns. That said, the continued expectation is that 2022 will be the year that the economy approaches full recovery.

## Regional Area Data

Although elements of Alaska’s economy are directly affected by certain national and international factors (e.g. interest rates, the value of the U.S. Dollar, etc.), Alaska’s economic cycles do not typically align with the rest of the nation for several reasons. First, is that Alaska is a “resource” state and contains some of the most abundant reserves of oil, natural gas, coal, gold, silver and other precious minerals on the planet. Alaska is also plentiful in renewable natural resources, including fish and timber. In terms of natural resources, it is not an understatement to describe Alaska as being “rich”. Thus, the respective supply of these commodities, including their financial feasibility to bring to market, and prices set by global markets, are the primary influence on the economy. Second, is the relative absence of manufacturing and technology, which in recent history have been the driving factors in U.S. economic cycles. Third is Alaska’s location, which although

<sup>4</sup> Peter G. Peterson Foundation, March 15, 2021, <https://www.pgpf.org/blog/2021/03/heres-everything-congress-has-done-to-respond-to-the-coronavirus-so-far>

central to the industrialized world by air, is remote relative to the rest of the U.S. One dramatic instance of when Alaska's economy diverged from the Nation's was during the Great Recession when employment in Alaska continued to increase, resulting in 21 years of continuous job growth in the state.

Today, the State's economy is more diverse than it ever has been. However, the tripod that continues to support the economy is made up of oil/gas, government spending (with State spending being largely dependent on oil), and the other sectors (other mining/natural resources, hospitality/tourism, manufacturing/fishing, and transportation to name a few). Most of the weight continues to be on oil.

While oil production has significantly decreased from their peak in the late 1980s, the price has been volatile, ranging from above \$100/bbl at the beginning of 2014 to a low of \$10/bbl in 2020 at the start of the COVID-19 pandemic. Currently prices are in the range of \$100/bbl, which is well above the average price for the last several years. On another positive note, reserves have recently been increasing. After a 40-year battle, in 2017, the Republican-controlled House and Senate included in tax legislation a provision that would open the 1002 area of ANWR to oil and gas drilling. Since that time up to 10 billion barrels of additional reserves have been identified at three different fields, which could yield several hundred thousand barrels per day. At the same time, political resistance to oil is increasing. Due to global warming, several lenders have indicated that they will not finance any new oil field development, however, this is viewed as largely a symbolic political position that will not ultimately impact the development of financially feasible fields. President Joe Biden has unilaterally suspended all oil and gas leases in the ANWR, which is being challenged in court.

The decline in the price of oil in recent years resulted in a decline in State revenues and significant budget shortfalls.<sup>5</sup> Thus far, the budget shortfall has been addressed by a combination of tapping into reserve accounts<sup>6</sup> (all years), eliminating 50% of the Permanent Fund dividend paid to Alaska residence (2018) or tapping into the Permanent Fund's Earnings Reserve Account (ERA) (2019). For several reasons, the budget shortfall is largely a political, rather than an economic issue. First, while politically difficult, the State continues to have opportunities to cut spending over historic levels.<sup>7</sup> Second, there are no personal taxes in place at the State level and, while also politically difficult, if necessary, these could be adopted. Finally, the State has over \$82 billion within the Permanent Fund, nearly \$17 billion of which is within the ERA and so can be used to fund the State government by a simple majority vote of the Legislature (as occurred in 2019, for example).

<sup>5</sup> According to Alaska Tax Division Director Colleen Glover, every dollar change in the price of Alaska North Slope crude equates to roughly \$42 million more, or less, to the state treasury.

<sup>6</sup> As of December 31, 2021, the State had \$1.09 billion remaining in the CBRF, roughly 10% of the original balance.

<sup>7</sup> There is consensus among nearly all Alaskan's that additional spending cuts are possible. However, to the extent that the proposed spending cuts result in an actual reduction of services they become a point of vigorous debate.

The question is not therefore whether State can pay its bills, but rather what level of services its citizens desire and how it chooses to pay for those services. The major concern moving forward is the degree to which each of these respective choices would impact the general economy, which has just returned to positive economic growth after a mild three-year recession.

Also buttressing the Alaskan economy is the level of federal spending in the state. For example, in FY 2014, the U.S. government sent a total of \$11.3 billion to Alaska and its residents<sup>8</sup>. This sum made Alaska the third highest recipient of per capita federal dollars for the year (behind Maryland and Virginia). In fact, the level of federal spending in Alaska, per capita, is approximately 50% above the national average. While details have not yet been finalized, Alaska is also expected to see a healthy share of recent federal infrastructure dollars over the next few years.

Job gains in the health care industry have been consistent and strong for most of the last decade. In 2020 the health care industry initially lost 500 jobs during the COVID-19, but this loss was offset in 2021 when 900 jobs were added to aid in combating the outbreak.

Tourism has also been a bright spot with record numbers of cruise ship berthings and visitors. However, as a result of COVID-19, nearly all cruise ship trips to Alaska were cancelled. For the 2022 forecast, major cruise lines such as Holland America Line, Princess Cruises, Royal Caribbean, Celebrity, and Norwegian Cruise Line, have reported that they plan on returning to Alaska with sailings primarily from Whittier, Seward, Vancouver and Seattle. State economists expect that the combination of a strong national economy and new cruise ship entrants to the Alaskan market will have a favorable impact on this industry and Alaska. On a positive note, lodging and car rentals performed at record levels during the pandemic, indicating significant strength in the independent traveler segment of the tourist market.

While seafood harvests, pricing and supply and demand conditions remain relatively stable and healthy for most fisheries, certain segments and regions of the Alaska seafood market are experiencing a surplus of processing capacity. As a result, several processors have discontinued operations, while others have placed their portfolio of Alaska properties on the market for sale. In general, the seafood outlook is for continued health and stability for the market overall, but with certain segments and regions experiencing softness and even potentially contraction, which could impact fishermen, suppliers, and processing employment. In 2021, salmon counts, and pricing were favorable. As the result of more consumers cooking from home to combat the spread of the COVID-19 virus, the industry experienced recovery with rising demand and pricing levels.

Precious metals, including gold, continue to perform well and the mining industry is healthy at this time. Alaska Native Corporations are one of the

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<sup>8</sup> [http://www.pewtrusts.org/~media/assets/2016/03/federal\\_spending\\_in\\_the\\_states\\_20052014.pdf](http://www.pewtrusts.org/~media/assets/2016/03/federal_spending_in_the_states_20052014.pdf), accessed Jan-2017

major bright spots of the Alaska economy and continue to expand their Alaska, national and international businesses.

In summary, the Alaska economy is best described as “mixed” at this time with some lingering softness in the oil industry largely being offset by strength in other areas of the economy.

The most recently available key economic indicators are summarized on the following chart.

### Alaska: Key Economic Indicators

Item	2014	2015	2016	2017	2018	2019	2020	2021
<b>Resources</b>								
Oil Price (Avg. \$/Barrel)	\$97.74	\$52.10	\$43.04	\$54.28	\$71.44	\$65.49	\$41.72	\$70.88
Avg. Daily Oil Production (000s Barrels)	546.6	519.3	531.1	540.5	550.0	547.7	544.8	533.6
Oil Value (Billions)	\$19.5	\$9.9	\$8.3	\$10.7	\$14.3	\$13.1	\$8.3	\$13.8
Gold Price (Avg. \$/Ounce)	\$1,184	\$1,061	\$1,152	\$1,303	\$1,283	\$1,517	\$1,734	\$1,829
GDP: Mining (Millions)*	\$14,046	\$7,637	\$6,351	\$8,496	\$9,302	\$8,424	\$4,648	---
GDP: Agriculture, Forestry & Fishing (Millions)	\$495	\$461	\$405	\$391	\$407	\$409	\$331	---
Salmon & Herring Catch (000s Ibs.)	812,665	1,163,639	639,519	1,102,192	652,434	916,685	538,383	---
Salmon & Herring Exvessel Value (Millions)	\$631	\$502	\$492	\$796	\$592	\$715	\$399	---
<b>Tourism</b>								
Cruise Ship Visitors (000s)	968	1,000	1,026	1,090	1,169	1,332	0	---
Total Visitors (000s)	1,660	2,067	1,858	1,926	2,026	2,437	427	---
<b>Demographics</b>								
Population	742,404	741,123	752,680	744,733	750,876	755,517	760,206	752,044
Avg. Household Income	\$85,010	\$88,585	\$91,524	\$93,039	\$96,273	\$96,534	\$97,941	\$99,657
Per Capita Income	\$31,800	\$33,111	\$34,264	\$34,879	\$35,888	\$35,589	\$36,233	\$37,030
<b>Employment</b>								
Unemployment Rate (%)	6.9%	6.5%	6.9%	7.0%	6.6%	6.3%	8.2%	6.2%
Employment (% Chng.)	0.5%	0.3%	-1.7%	-1.3%	-0.5%	0.5%	-3.9%	2.8%
<b>Alaska Permanent Fund (PF)</b>								
PF Distribution (\$/Person)	\$1,884	\$2,072	\$1,022	\$1,100	\$1,600	\$1,606	\$992	\$1,114
PF Value (Billions)	\$51.2	\$52.8	\$52.8	\$59.8	\$64.9	\$66.3	\$65.3	65.3
<b>State Budget</b>								
State Budget (Millions) [2014=FY14]								
Revenue	\$10,665	\$9,259	\$7,063	\$6,553	\$6,972	\$10,557	\$9,925	\$9,074
Operating	\$8,569	\$11,610	\$8,520	\$8,078	\$8,039	\$8,748	\$8,504	\$8,868
Capital	\$1,972	\$1,943	\$1,478	\$1,551	\$1,414	\$1,447	\$1,276	\$1,167
Total Spending	\$10,540	\$13,553	\$9,998	\$9,629	\$9,453	\$10,195	\$9,780	\$10,035
Fiscal Gap	\$21,205	\$22,812	\$17,061	\$16,182	\$16,425	\$20,752	\$19,705	\$19,109
<b>Other</b>								
Mortgage Foreclosure & Delinquency Rates**	1.0%	0.8%	0.7%	0.7%	0.8%	0.7%	0.6%	0.4%
Alaska Building Permits (Residential 1-5 Units)	2718	2446	2198	2178	1897	1886	1669	160

Employment trends by industry are presented below on the following chart:

## AK DOL Statewide Employment Forecast

	Monthly avg, 2020 <sup>1</sup>	Monthly avg, 2021 <sup>1</sup>	Change, 2020-21	Percent change	JOBS FORECAST		
					Monthly avg, 2022	Change, 2021-22	Percent change
<b>Total Nonfarm Employment<sup>2</sup></b>	<b>302,600</b>	<b>309,700</b>	<b>7,100</b>	<b>2.3%</b>	<b>319,500</b>	<b>9,800</b>	<b>3.2%</b>
Total Private	225,800	232,600	6,800	3.0%	241,700	9,100	3.9%
Mining and Logging	11,300	10,400	-900	-8.0%	11,000	600	5.8%
Oil and Gas	7,800	6,700	-1,100	-14.1%	7,100	400	6.0%
Construction	15,800	16,000	200	1.3%	16,400	400	2.5%
Manufacturing	11,900	12,200	300	2.5%	12,800	600	4.9%
Transportation, Trade, and Utilities	58,900	61,000	2,100	3.6%	63,200	2,200	3.6%
Wholesale Trade	6,200	6,100	-100	-1.6%	6,300	200	3.3%
Retail Trade	33,400	34,400	1,000	3.0%	34,900	500	1.5%
Transportation, Warehousing, and Utilities	19,300	20,500	1,200	6.2%	22,000	1,500	7.3%
Information	4,900	4,800	-100	-2.0%	4,800	0	0%
Financial Activities	10,800	10,800	0	0%	10,900	100	0.9%
Professional and Business Services	26,100	26,300	200	0.8%	26,600	300	1.1%
Educational (private) and Health Services	49,400	50,900	1,500	3.0%	51,500	600	1.2%
Health Care	38,200	39,100	900	2.4%	39,600	500	1.3%
Leisure and Hospitality	26,600	29,700	3,100	11.7%	33,700	4,000	13.5%
Other Services	10,100	10,500	400	4.0%	10,800	300	2.9%
Total Government	76,800	77,100	300	0.4%	77,800	700	0.9%
Federal, except military	15,400	15,100	-300	-1.9%	15,100	0	0%
State, incl. University of Alaska	22,400	22,600	200	0.9%	22,200	-400	-1.8%
Local and tribal, incl. public schools	39,000	39,400	400	1.0%	40,500	1,100	2.8%

<sup>1</sup>Preliminary estimates. <sup>2</sup>Excludes the self-employed, uniformed military, most commercial fishermen, domestic workers, and unpaid family workers.

Note: May not sum because of rounding

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section

Due to COVID-19, unemployment spiked to 13.7% in April 2020. By 2021, this had decreased to 6.2%. AKDOL forecasts Alaska will attain 97% recovery in 2022 and forecasts employment growth of approximately 9,800 jobs, an increase of 2.8%. The January 2022 Alaska Economic Trends report showed an 8.3% loss in jobs in 2020, a 2.3% gain in 2021 and a forecasted gain of 3.2% in 2022 which would bring jobs to 96.8% of pre-pandemic levels. The implication is that Alaska is nearly fully recovered from the pandemic and high oil prices and State budgets in the black, positioned for a return to prevailing pre-pandemic levels, which – with the exception of the 2016-2018 recession – has historically reflected slow, steady growth. One economic concern is inflation and the Federal Reserve tightening monetary policy, which has resulted in mortgage rates increasing to roughly 4.75%. Higher interest rates in turn could have an adverse impact on all segments of the real estate market.

## Wrangell Area Data

### Overview

Wrangell is one of the oldest non-native settlements in Alaska. In 1811, the Russians began fur trading with area Tlingits and built a stockade named Redoubt Saint Dionysius in 1834. The island was named for Ferdinand von Wrangel, manager of the Russian-American Company around 1830. The British of Hudson Bay Company leased the fort in 1840 and named the stockade Fort

Stikine. A large Stikine village, known as Kotzlitzna, was located 13 miles south of the fort. The Tlingits claimed their own ancient trade rights to the Stikine River and protested when the Hudson Bay Company began to use their trade routes, but two epidemics of smallpox, in 1836 and 1840, reduced the Tlingit population by half. The fort was abandoned in 1849 when furs were depleted. The fort remained under the British flag until Alaska's purchase by the United States in 1867. In 1868 a United States military post called Fort Wrangell was established and named for the island.

The community continued to grow as an outfitter for gold prospectors, especially in 1861, 1874-1877, and 1897. Riotous activity filled gambling halls, dance halls, and the streets. Thousands of miners traveled up the Stikine River into the Cassiar District of British Columbia during 1874 and to the Klondike in 1897. Glacier Packing Company began operating in Wrangell in 1889. The Wilson & Sylvester Sawmill provided packing boxes for canneries and lumber for construction.

The city was incorporated in 1903. By 1916, fishing and forest products had become the primary industries – four canneries and a cold storage plant were constructed by the late 1920s. In the 1930s, cold packing of crab and shrimp was occurring. Abundant spruce and hemlock resources have helped to expand the lumber and wood products industry. The Alaska Pulp sawmill, Wrangell's largest employer, closed in 1994, but was reopened on a smaller scale in 1998 by Silver Bay Logging, only to be permanently closed and subsequently dismantled by 2008.

Tourism, as well as growth in the seafood processing and marine services industries have become the economic backbone of the community. The city was dissolved and reincorporated as the City and Borough of Wrangell on June 1, 2008.

Wrangell is primarily a non-native community with a mixture of Tlingit, Russian, British, and American historical influences. Logging and fishing have supported the community.

## Geography and Climate

The City and Borough of Wrangell is located on the northwest tip of Wrangell Island, 155 miles south of Juneau and 89 miles northwest of Ketchikan. It is near the mouth of the Stikine River, a historic trade route to the Canadian Interior.

Wrangell falls within the southeast maritime climate zone, characterized by cool summers, mild winters, and heavy rain throughout the year. Fog is common in Wrangell from September through December.

## Demographics

The most recent census data (2010) shows Wrangell having a population of 2,369. The 2020 US Census population was 2,127. The Alaska Department of Labor population estimate was 2,096 as of July 2021.

The population mix is 67.5% White; 19.2% American Indian or Alaska Native; 9.3% Two or More Races; 3.5% Asian; with the remainder being "other race."

**Transportation**

The city is accessible by air and water. The state-owned, paved, lighted runway allows for jet service. A seaplane base is adjacent to the runway, with another airplane float located in the Inner Harbor. Charter air taxi services are also available. The marine facilities include a breakwater at each of the three harbors with 710 slips for recreational and commercial vessels, deep draft dock which recently completed upgrades and renovations, state ferry terminal, and three boat launches. Freight arrives by barge, ship, ferry, and cargo plane. Front Street was reconstructed as part of a larger downtown revitalization project three years ago. Several new trails have been developed, including a new loop on Volunteer Park Trail and the Paddle Craft Trail, a canoe/kayak portage.

**Education**

Wrangell has one elementary, one middle, and one high school. Many students across the state attend correspondence schools.

**Economy**

The median household income in Wrangell is \$52,986 and the median family income is \$62,188. There are 237 people below the poverty level with 364 being below 125% of the poverty level. The property tax mill rate in Wrangell is 12.75 and the sales tax rate is 7%.

The Alaska Department of Labor shows the current unemployment rate in Wrangell to be 7.7%, which is down slightly from the 8.4% unemployment rate for the year 2020. In 2019, the unemployment rate was 6.7%.

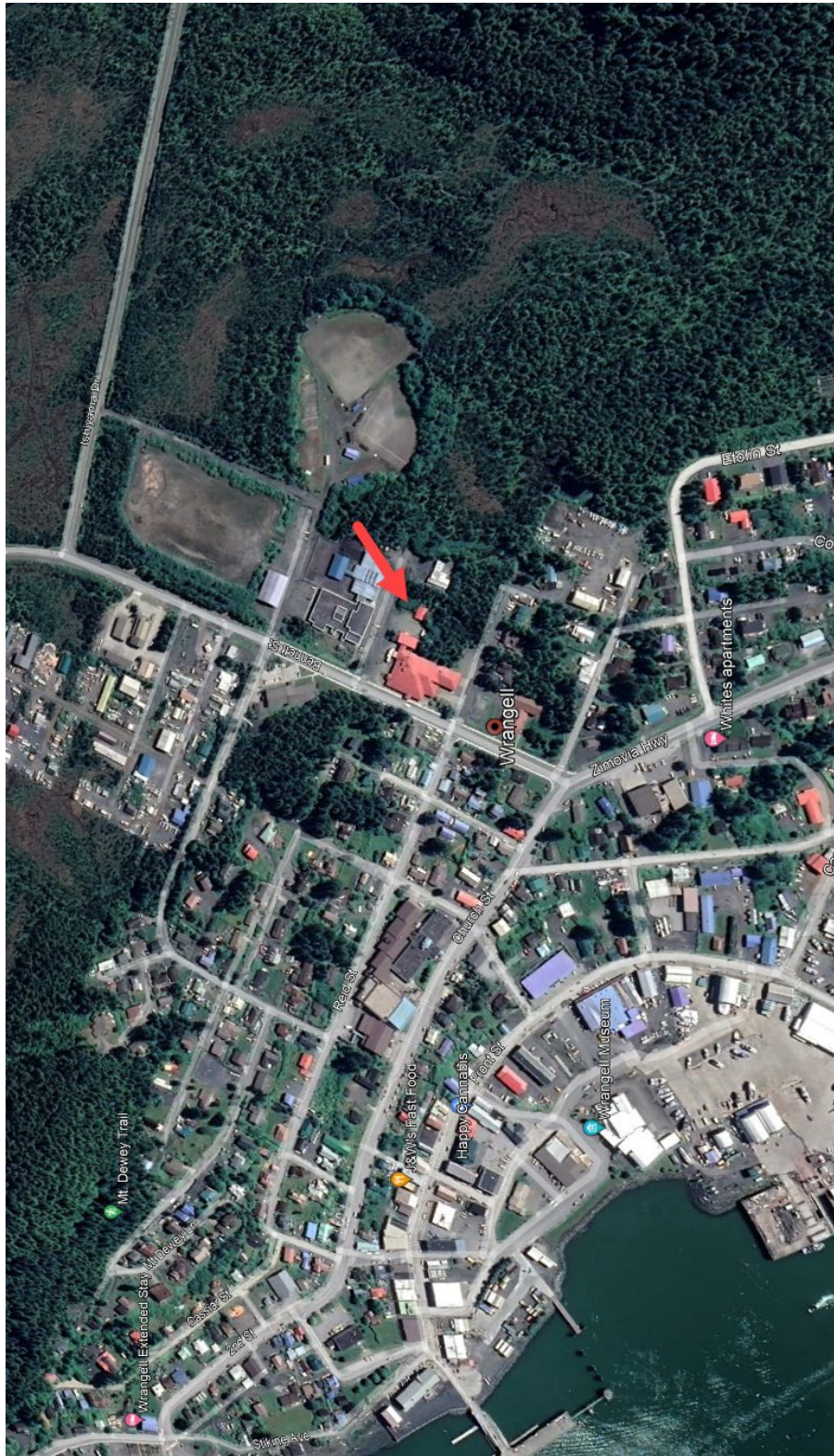
Major industries in Wrangell include fishing, marine services, timber, tourism, and seafood processing. Local government is also a major employer in Wrangell.

**Conclusion**

The COVID-19 virus had a major negative impact on the job market, with historical unemployment numbers being recorded. By year end 2020, employment trends were once again positive. Nonetheless, 2021 forecast employment is well below 2019 levels suggesting that the economic recovery, should it continue, will extend well into 2022 and perhaps beyond. In the meantime, the outlook is for stability as the ongoing structural recovery from COVID-19 progresses.



### Immediate Neighborhood Aerial Photograph



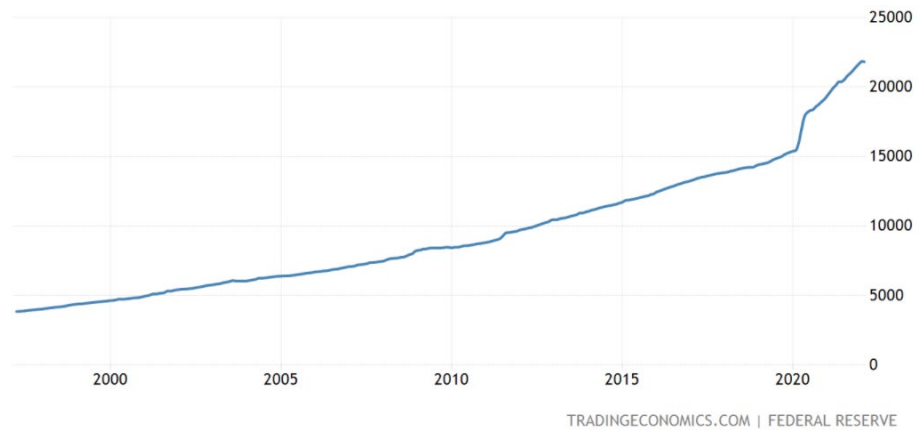
# Market Analysis

## Medical-Related

<b>Classification</b>	Given the subject's suitability for medical-related development, this market analysis considers conditions within the medical office and healthcare market.
<b>Overview of Market Survey</b>	<p>The market analysis has been compiled from a variety of sources including an extensive survey of landlords, tenants, investors, users, property managers, real estate agents, appraisers, city assessor's and other market participants. Other sources of data include property tax records, newspaper articles and the Multiple Listing Service (MLS). The available data has been carefully analyzed on a qualitative and quantitative basis.</p> <p>Wrangell is a small, remote community without a particularly active real estate market. It comes as no surprise that there are no real estate market studies, surveys, inventories, or other published documents on current conditions available for review.</p>
<b>Market Supply</b>	Existing product constitutes the supply in Wrangell. The subject has been replaced by a new facility rendering the existing improvements obsolete.
<b>Market Demand</b>	The health services industry has been the fastest growing and one of the larger sectors of Alaska's economy. It is a billion-dollar plus industry and it employs roughly 47,730 people throughout Alaska as of September 2021. In Southeast specifically, educational (private) and health services employ 4,100 people, of which the large majority is healthcare employment.
<b>Equilibrium Status (Current Conditions)</b>	Vacancy rates are virtually non-existent, as is the case for major communities in Southeast Alaska.
<b>Near Term Market Outlook (Forecast Conditions)</b>	The outlook over the next few years would be low vacancy rates and slowly increasing rental rates and property values.

## Inflationary Trends

Construction cost inflation results from two primary sources: short-term supply chain disruptions due to COVID-19 and mid-to-longer-term inflation resulting from a combination of government spending levels and Federal Reserve monetary policy. Due to COVID-19 a shortage of labor and subcontractors is reported, which has led to increases in sub costs and delays in project delivery. The US M2 Money Supply is critical in understanding and forecasting inflation and interest rates in the U.S. and is shown on the following table.



Since 2004, the money supply has gone up nearly 500%. As shown, however, it sharply increased during COVID-19 and increased from \$15,000 billion to nearly \$22,000 billion in roughly two years. Most market participants, including the Federal Reserve itself, are now anticipating a period of inflation and higher interest rates to combat it.

Regardless of the causes, inflation has had a significant influence on replacement costs and general contractors and subcontractors are carefully factoring in anticipated cost increases into their bids. Due to market inefficiencies, it is not possible to say for certain what recent construction specific inflation trends have been, but it has been reported by market participants that projects have experienced increasing costs ranging from as little as 10% to as much as 50%.

Inflation trends will increase the competitive position of existing product, reduce the feasibility of new construction and, to the extent that they impact interest rates, make borrowing more expensive. Given that much of the private real estate market is leveraged, it may become more difficult to obtain new loans and, given unchanged equity returns, result in downward pressure on asset prices. As to the degree to which interest rates increase and whether other factors will offset their influence remains to be seen but market participants are watching the issue closely.

## COVID-19

### Transaction Data

Below, properties are ranked from least to most affected by COVID-19:

- Medical-Related Facilities
- Distribution Warehouse
- Industrial
- Office
- Multifamily
- Retail
- Public Gathering Places (Universities, Churches, etc.)
- Lodging

- Retail - Restaurant
- Retail - Tourist / Cruise Ship Dependent

Property types least impacted by COVID-19 have continued to transact throughout the pandemic at prices similar to pre-pandemic levels. For those property types that are most impacted, there is limited transaction data available at this time that reflects the impact of the COVID-19. Local market participants report that a relatively small number of sales and new leases were finalized during the worst part of the virus situation in Alaska, but these were generally deals that were initiated prior to the virus taking hold. A number of other deals that were in progress when the state closure began were temporarily put-on hold as participants took a “wait and see” approach, but as the state has reopened most of these deals have begun moving again (or have already completed). The general consensus is that the pricing and terms of these latter deals did not change materially as a result of the virus or temporarily lower oil prices. For example, of a price change, however, a local hotel sale known to have closed this year was adjusted down by approximately 3% in recognition of the COVID situation, although at that point the pandemic had only been going a few months.

On a national level, a recent CoStar article (*Commercial Property Prices Hold Steady Amid Slower Trading*) reported that their U.S. Composite Index, which reflects secondary and smaller markets, was down 1.8% from its April peak. However, the article also acknowledged that transaction volume remains depressed, and it is widely agreed that most sellers are better off waiting for the market to improve rather than selling today – provided they are not in a distressed or unusually motivated situation.

Limited transactional activity – particularly for certain property types and asset classes – is anticipated to continue for the time being, which can complicate the appraisal problem and require the use of a combination of other appraisal techniques and data sources. Speaking broadly, property owners in the softest segments are not selling at this time unless under duress (as they are instead waiting until the market recovers), while those in the stronger segments remain willing to sell but typically not at a discount.

### **Interviews with Market Participants**

The views of market participants are widely divergent, and no broad consensus can be extracted with respect to changes in market value. However, reading between the lines, some more narrow areas of consensus can be established. For leased credit assets, the market participants report that the impacts may range from no impact to a discount of up to 10%, with the most common responses indicating a value discount between 0% and 3-5%. For most type of fee simple assets, while there are widely divergent perspectives on the degree, in the short-term (meaning currently and for the next three to six months) downward pressure on market values are implied followed by a longer-term (meaning within the marketing time) recovery and stabilization. In general, market participants tend to indicate that medical office, multifamily and industrial will be the least impacted and retail (in particular cruise ship dependent retail), restaurant and lodging will be the

most impacted.

### **Influence of Inflation**

While there is disagreement as to the severity, as the result of the significant COVID-19 related stimulus, market participants are anticipating increased inflationary pressures moving forward. At the same time, treasury yields remain very low and do not yet fully reflect inflationary pressures. In combination, this in turn, has increased demand for tangible assets, including real estate. Thus, for certain asset classes, post peak COVID-19 demand for real estate has arguably increased.

## **Subject's Competitive Position**

### **Competitive Strengths / Downward Risk Influences**

- Limited medical facilities in Wrangell
- Interest rates remain near all-time lows.
- Likelihood of new remodeling entitlements
- Building shell
- Utility services
- There are limited other property specific downward influences on risk.

### **Competitive Weaknesses / Upward Risk Influences**

- COVID-19 continues to add uncertainty to the market.
- Limited financially capable buyers in the market
- Absorption uncertainty
- Presence of asbestos containing materials and lead based paint
- There are limited other property specific upward influences on risk.

### **Application to Subject**

The subject is unencumbered by tenants and current market conditions have a direct impact on the property. Overall, current market conditions have a neutral influence on the market value of the subject.

# Description of Site

## Wrangell Medical Center

<b>Name</b>	Wrangell Medical Center
<b>Address</b>	310 Bennett St. Wrangell, AK 99929
<b>Geo Coordinates</b>	Latitude: 56.471796, Longitude: -132.375866
<b>Physical Location</b>	The subject is located on the easterly side of Bennett St, between First Ave and Reid St.
<b>Assessor's Tax Parcel Number(s)<sup>9</sup></b>	02-131-351
<b>Abbreviated Legal Description</b>	<i>Lot A, Block 54, WMC Replat, Plat 2018-6, Wrangell Townsite Survey.</i> (Per Department of Natural Resources Records)

**Gross Site Area**

Summary of Site Area				
Parcel ID	Gross Land Area (Acres)	Gross Land Area (Sq Ft)	Usable Land Area (Acres)	Usable Land Area (Sq Ft)
02-031-351	1.95	84,988	1.95	84,988

**SOURCE** Tax Assessor Records

Upon review of the site's physical and economic characteristics, there do not appear to be any factors that would reduce the usable area. Nonetheless, a survey of the site indicating usable area was not provided to the appraiser. The market value of this report assumes that all of the site's gross land area is usable. In the event that a portion of the site were found to be un-usable, the market value of the subject could be less than the current estimate.

**Excess Land / Surplus Land**

A review of the subject's land-to-building ratio and comparison with typical market parameters suggests the subject does not have excess or surplus land. Therefore, after careful consideration, the subject is concluded to not include any excess land.

**Shape** The subject has a flag-shaped configuration.

**Street Frontage** The subject has approximately 350' of frontage on Bennett St and 243' of

<sup>9</sup> Per Tax Assessor Records.

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	frontage on First Ave and Reid St.
<b>Access</b>	Access to and from the subject is considered good relative to competing properties.
<b>Exposure</b>	Exposure of the subject is considered good relative to competing properties.
<b>Topography</b>	The subject has generally level topography and is at grade with surrounding properties.
<b>Soil Conditions</b>	Soils conditions in the subject's market are not uniform and can vary widely from one site to another. No soils report was provided, however, the subject has been improved with a parking lot and building improvements for a number of years and there are no visible signs of settling. It is an ordinary assumption of this report that the soil conditions are sufficient quality to support the existing improvements including parking lot .
<b>Wetlands</b>	No surface water was noted during the walk-through and the subject does not appear to contain any wetlands.
<b>Drainage / Hydrology</b>	The adequacy of site drainage requires detailed information on rainfall, soil conditions, topography and wetlands and can only be fully ascertained by a professional engineer that specializes on hydrology. A hydrology study was not available to the appraiser. In absence of a formal hydrology study, the adequacy of drainage can only be ascertained by site observation over an extended period of time. For this reason, many drainage issues are not identified until the time of actual development. Drainage issues will also most commonly manifest during peak spring break up, when the combination of new moisture and snow melt maximize runoff. Absence of storm drain systems, low lying locations that are below grade the presence of water bodies and highways increase the risk of drainage issues. Any statement with respect to the adequacy of drainage is based on the perspective of a "typical" market participant and is not a formal conclusion that hydrology issues are not present, rather that they would not be apparent to a typical market participant. No obvious drainage issues were apparent during the site visit and no significant standing bodies of water were present. Given the previously described physical characteristics, a typical market participant with typical levels of market knowledge and expertise would most probably conclude that site drainage is typical of the market and adequate.
<b>Hazardous Conditions</b>	A complete environmental site assessment was not available to the appraiser. There are no known or disclosed environmental issues, or hazardous conditions, impacting the subject. The detection of hazardous materials or conditions is beyond the scope of expertise and competency of an appraiser, however, and it is recommended that any concerns relating to hazardous conditions be addressed by a qualified environmental specialist. Furthermore, it is an assumption of this report that there are no hazardous conditions present at the subject.

**Flood Zone** The Flood Emergency Management Agency or FEMA has prepared flood insurance rate maps for various communities in the State. According to the flood insurance map, community panel number 0200980008B, issued by the Federal Emergency Management Agency and last updated June 15, 1982, the subject is located within zone “C”, described as follows:

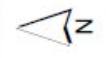
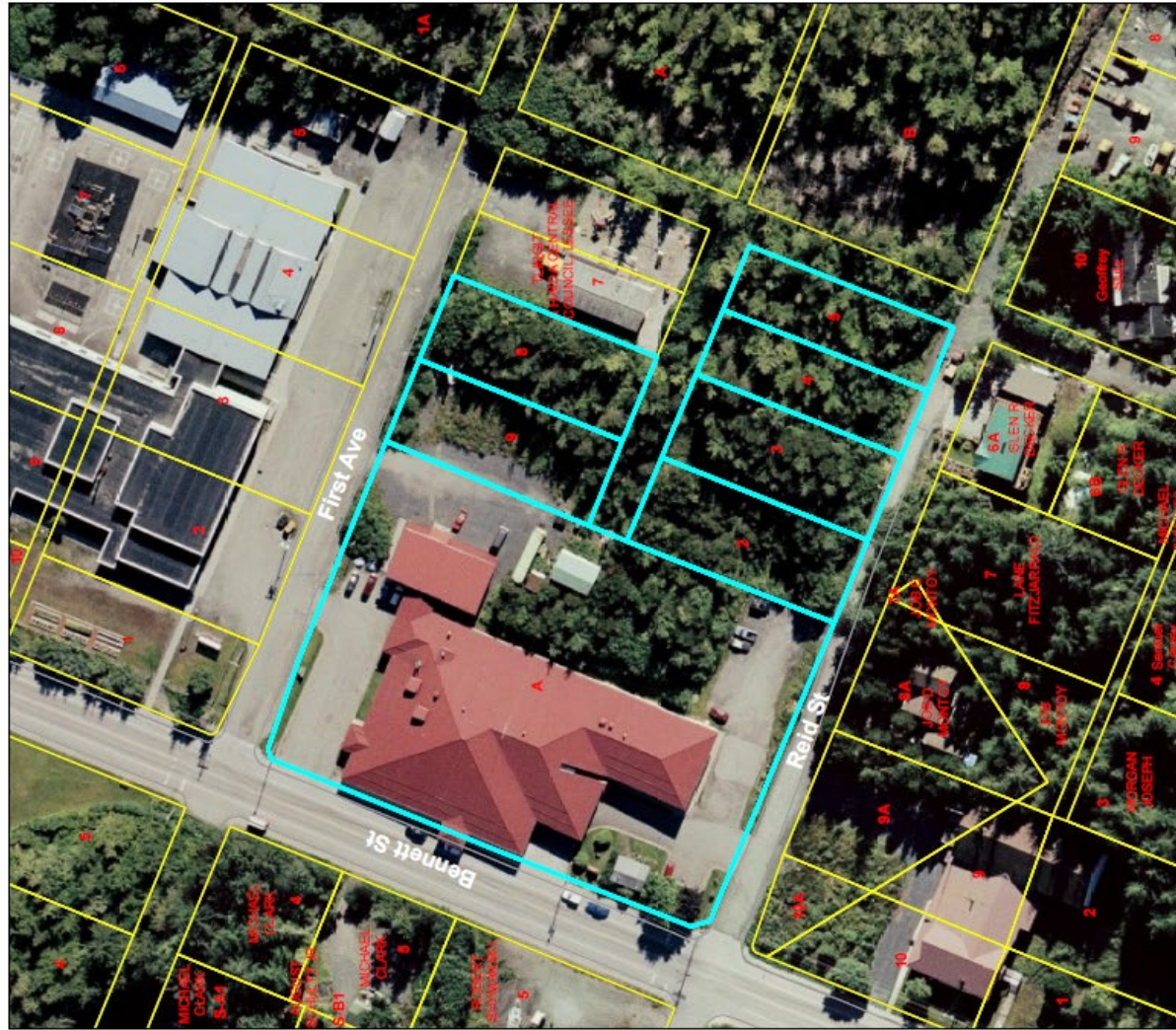
**ZONE C / X (UNSHADED)** Minimal risk areas outside the 1-percent and .2-percent-annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (Zone X (unshaded) is used on new and revised maps in place of Zone C.)

**Utilities** The subject is improved and all available utilities are present at the site.



Aerial Photograph Exhibit

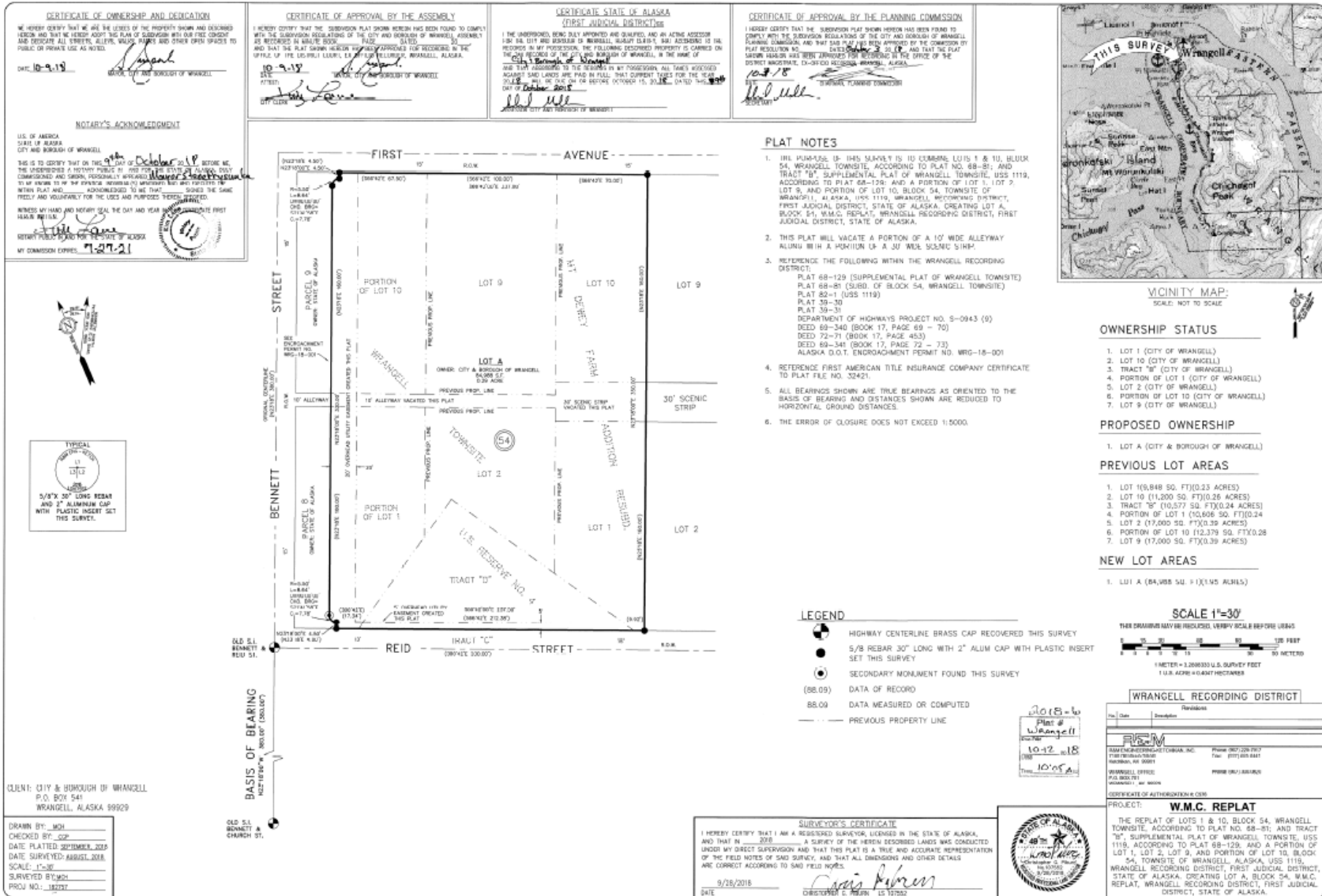
CITY AND BOROUGH OF WRANGELL, ALASKA



Public Map

1 inch = 100 feet  
 Date: 12/7/2021  
**DISCLAIMER: THESE MAPS ARE FOR PLANNING PURPOSES ONLY.  
 PROPERTY LINES ARE APPROXIMATE.**

Plat Map Exhibit



**Zoning**

OS, Open Space/Public

**OPEN  
SPACE/PUBLIC  
WRANGELL**

**Intent:** The open space/public (OS) district is intended to provide for areas containing public facilities, existing and potential public recreation sites, areas subject to natural hazards, public watersheds and areas of critical wildlife habitat. The purpose of this district is to protect public safety, health and welfare, and to maintain the integrity of significant cultural, natural and recreational resources and provide for public uses consistent with the policies of the coastal management program.

**Permitted Uses:** Quarries, mineral extraction and processing; Airport related businesses, restaurants and support services; Aviation-related repair services; Aircraft hangars; Commercial airlines terminals; Air freight storage facilities; Hospital and medical service facilities; Schools; Docks, piers, seawalls and shoreline protection devices; Recreational facilities and sites; Recreational vehicle parks; Warehouses; Uses and structures which are customarily accessory and subordinate to the above uses; Animal establishments; Municipal facilities; Communication infrastructure.

The subject's zoning is not unduly restrictive, permits a wide variety of uses that are consistent with its highest and best use as vacant, and does not appear to materially limit the economic potential or functional utility of the property.

**Easements,  
Covenants,  
Encroachments &  
Restrictions**

A title report was not provided for the appraiser's review. Normal easements along property boundaries for streets or utilities are assumed. It is understood that there are no legal restrictions that would adversely affect use or marketability of the property. Title and land use, however are legal issues and an attorney should be consulted relating to questions on these matters. It is an assumption of this report that there are no restrictions that would adversely affect use or marketability of the property

**Functional Utility**

There are no known physical or economic characteristics that limit the site's development potential and level of functional utility. The subject is generally physically and economically similar to other sites within the market segment that it competes. Overall, the site is concluded to provide good functional utility.

# Description of Improvements

## Introduction

**Building Occupancy/ Use** The property is a 22-bed critical access hospital and long-term care facility that was originally constructed in 1967. There have been subsequent additions and remodeling over the years. The facility is currently closed and will likely remain closed until remodeling or demolition takes place.

**Building Area**

SUMMARY OF AREA STATISTICS	
	(Sq Ft)
Gross Building Area (GBA) (1)	30,596
Finished Interior Space (office, retail)	100%
Site Area	84,988
Site Coverage	18%
Land to Building Ratio	2.78

(1) Source: Condition Survey by Design Southeast, May 1, 2018

No rentable or usable area figures were available to the appraiser, which is not unusual for properties of this type in similar locations. Of note, usable and rentable areas are essentially equal in cases of single-tenant buildings. Moreover, participants in smaller, less sophisticated markets such as this tend to use terms such as gross building area and rentable area somewhat interchangeably. While the definitions of these two terms are technically different, in practice the area figures would be within 5% of one another in most cases.

**FAR (Floor Area Ratio)** 0.36

## Wrangell Medical Center

**Building Overview** This is a 22-bed hospital with acute care and long-term care capability, including an emergency room, physical therapy area, administrative office, and support spaces. Details of the improvements' construction are located in the addenda.

**Condition** Below average condition, based on the *Wrangell Medical Center Building Condition Survey Structural, Building Envelope and Interior Finishes* performed by Design Southeast as of May 1, 2018. This Condition Survey is contained in the report addenda.

**Quality** Good construction quality, based on a review of competitive properties within the subject's market segment.

**Age Characteristics**

<b>YEAR BUILT</b>	1967
<b>YEAR RENOVATED</b>	The building has been renovated at various times over the years.
<b>ACTUAL AGE</b>	55 years
<b>EFFECTIVE AGE</b>	The effective age of a property can be less than or more than its actual age, depending on renovations, upgrades, and the level of capital reinvestment. Based on the appraiser’s walk-through of the subject, construction type, quality, current condition and economic performance, the effective age of the subject is estimated at approximately 50 years.
<b>ECONOMIC LIFE</b>	Marshall Valuation Service indicates properties similar to the subject’s construction type and quality have economic lives between 45 and 50 years. In practice, with ongoing capital expenditures and reinvestment the economic life of a building can be extended well beyond the indicated range. Within the Alaska market, the economic lives of improvements have typically been between 50 and 100 years. After careful consideration, an economic life of 50 years has been estimated.
<b>REMAINING ECONOMIC LIFE</b>	Based on the subject’s estimated effective age and economic life, the remaining economic life is estimated at 0 years.

**Floors / Stories** 2 stories.

**Layout** The main, covered drop-off entrance is located at the southwest corner of the building, while the emergency room entrance is located near the northeast corner. The upper level is divided into a 22-bed hospital (14 acute care and 8 long-term care use) with emergency room area and surgery unit, as well as the requisite support spaces such as administrative/office, exam rooms, sterilization, janitorial, reception, and nursing stations. The lower level has space for medical records, conference, laundry, and additional offices. The design is fairly typical of such uses throughout Alaska. Overall, the subject has an efficient design that provides good functional utility for the intended use.

**Structural Systems** The following is based on the appraiser’s walk-through, information provided by the owner, and information contained within the public record. The appraiser is not an engineer and building plans, an architect or engineer should be consulted for additional detail on structural systems.

<b>FOUNDATION</b>	Poured concrete slab and footings
<b>STRUCTURAL SYSTEM</b>	Wood frame (predominantly)
<b>ROOF / DRAINAGE</b>	Gable roof. Metal covering.

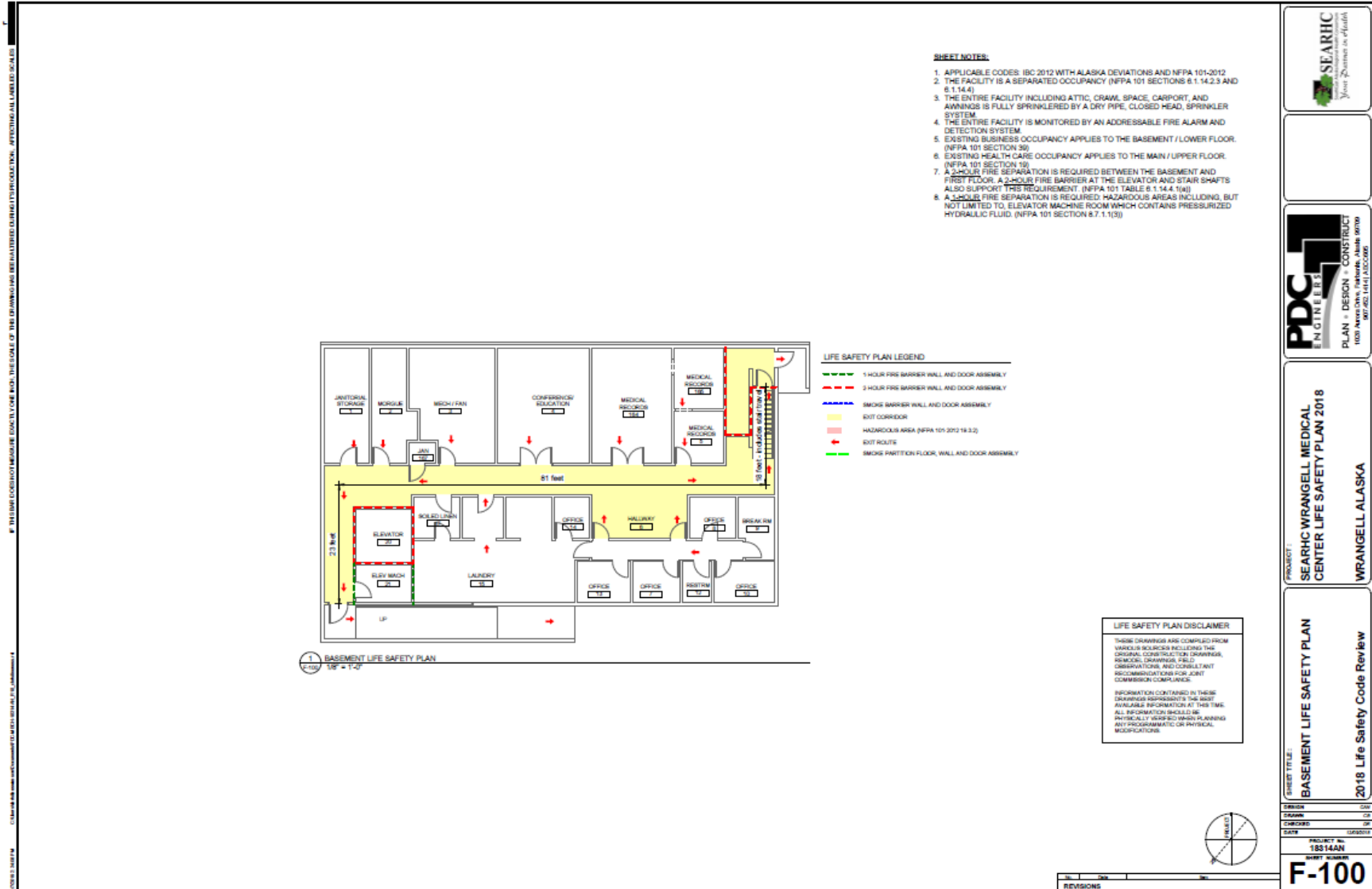
	The roof is reported to be in poor condition.
<b>EXTERIOR FINISH</b>	EIFS
<b>Mechanical Systems</b>	The appraiser is not qualified to make a determination on the condition or functionality of mechanical systems. It is understood that the current mechanical systems are in poor working order.
<b>HEATING</b>	Full HVAC
<b>COOLING</b>	Full HVAC
<b>PLUMBING</b>	There is an appropriate amount of plumbing, commensurate with the building’s intended use. This includes sinks in exam rooms, restrooms, and a break area with kitchen, among other things.
<b>ELECTRICAL &amp; WIRING</b>	Three-phase  Electrical is assumed to be to code and typical for the subject’s property type, age and market classification / segment.
<b>ELEVATORS</b>	1
<b>LIFE / SAFETY SYSTEMS</b>	The building is sprinklered. Fire alarms and extinguishers, as applicable, are assumed to meet current fire safety codes.
<b>Ceiling / Clear Height</b>	Approximately 9’-10’
<b>Interior Finish</b>	The interior finish is typical of competitive properties within the market segment that the subject competes. Overall, the interior finish is good quality in average to worn condition. Please refer to the subject photographs presented in a following section for additional detail on the interior finish.

**General Property Characteristics**

<b>ADA Compliance</b>	A specific survey and analysis of this property to determine whether it is in conformance with the various detailed requirements of the Americans with Disabilities Act (ADA) has not been conducted. The market value estimate assumes the property is in ADA compliance, if applicable.
<b>Deferred Maintenance</b>	The detection of deferred maintenance in structural, roof, electrical, plumbing and other mechanical systems is beyond the scope of expertise of the appraiser.  Please refer to the Condition Survey contained in the report addenda for further information regarding deferred maintenance.

<b>Landscaping, Surface Covering &amp; Lighting</b>	Minimal landscaping along building and site perimeters. Parking surface covering is asphalt. Exterior lighting is typical for a property of this type.
<b>Parking</b>	Overall, the subject appears to have adequate parking to meet any applicable code requirements, and it is considered comparable to other properties within its market segment.
<b>Functional Utility</b>	The roof, mechanical, electrical, and HVAC systems have reached the end of their useful lives. Overall, the improvements are concluded to provide poor functional utility for the intended use.

Building Drawings / Floorplan Exhibit



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**PDC ENGINEERS**  
PLAN + DESIGN + CONSTRUCT  
1005 Arctic Drive, Fairbanks, Alaska 99709  
907.452.1141 | PDC@PDC.COM

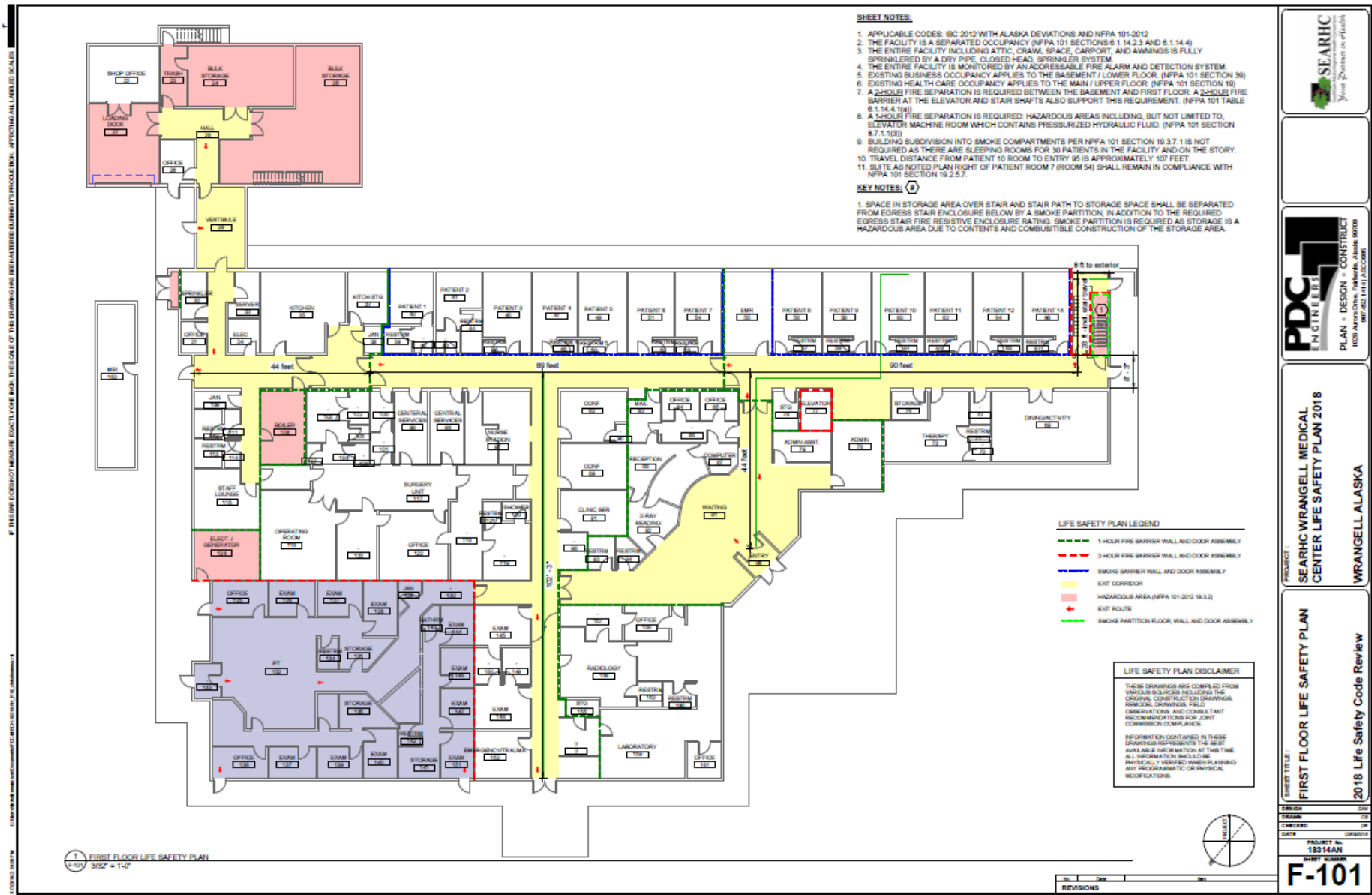
PROJECT:  
SEARHC WRANGELL MEDICAL CENTER LIFE SAFETY PLAN 2018  
WRANGELL, ALASKA

SHEET TITLE:  
BASEMENT LIFE SAFETY PLAN  
2018 Life Safety Code Review

DESIGN: CHJ  
DRAWN: JLD  
CHECKED: JLD  
DATE: 03/05/2018

PROJECT No.: 18S144AN  
SHEET NUMBER:  
**F-100**





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**PDC ENGINEERS**  
PLAN - DESIGN - CONSTRUCT  
1035 Arctic Drive, Fairbanks, Alaska 99709  
907.452.1441, PDC@PDC.COM

**PROJECT:** SEARCHC WRANGELL MEDICAL CENTER LIFE SAFETY PLAN 2018

**WRANGELL ALASKA**

**SHEET TITLE:** FIRST FLOOR LIFE SAFETY PLAN

**2018 Life Safety Code Review**

**DESIGN:** DAY  
**DRAWN:** CR  
**CHECKED:** BP  
**DATE:** 03/20/20

**PROJECT NO.:** 180144AN  
**SHEET NUMBER:** **F-101**

# Property Assessment & Taxes

## Summary of Property Assessment & Taxes

### Real Property

Properties located within the subject’s market are assessed by the assessor every year. By statute, each property must be assessed at 100% of market value. The millage rate (on which property taxes are based) is determined annually based on spending and assessment levels. Millage rates vary constantly and are influenced by state law and services provided in each individual district. The assessed value of all properties located within a district is divided by a particular year’s budget requirements to arrive at a millage rate. Thus, actual spending determines the amount of tax, and assessment allocates the tax among property owners. Therefore, an increase or decrease in total assessment will not, by itself, result in a change in the total property tax collected.

The property’s current assessment and taxes are shown on the table that follows. It should be noted that the property is currently exempt from assessment and taxation as a government-owned facility. When/if the property transfers to private ownership, it is assumed it will be assessed and taxed commensurate with other properties in the City and Borough of Wrangell.

## Property Assessment & Tax Summary Exhibit

### MOST RECENT PROPERTY ASSESSMENT & TAXES

Tax Parcel Number	Assessment			Mill Rate	Taxes
	Land	Improvements	Total		
<b>Year</b>					<b>2021</b>
02-131-351	\$170,000	\$0	\$170,000	1.275%	\$2,168
<i>Type / Source</i>	<i>Actual</i>	<i>Actual</i>	<i>Actual</i>	<i>Calculated</i>	<i>Actual</i>

# Subject Photographs

Subject property viewing east from Bennett Street



Front and side elevations



Rear and side elevations



Rear elevation



Parking area



Entry



Interior view



Interior view



Interior view



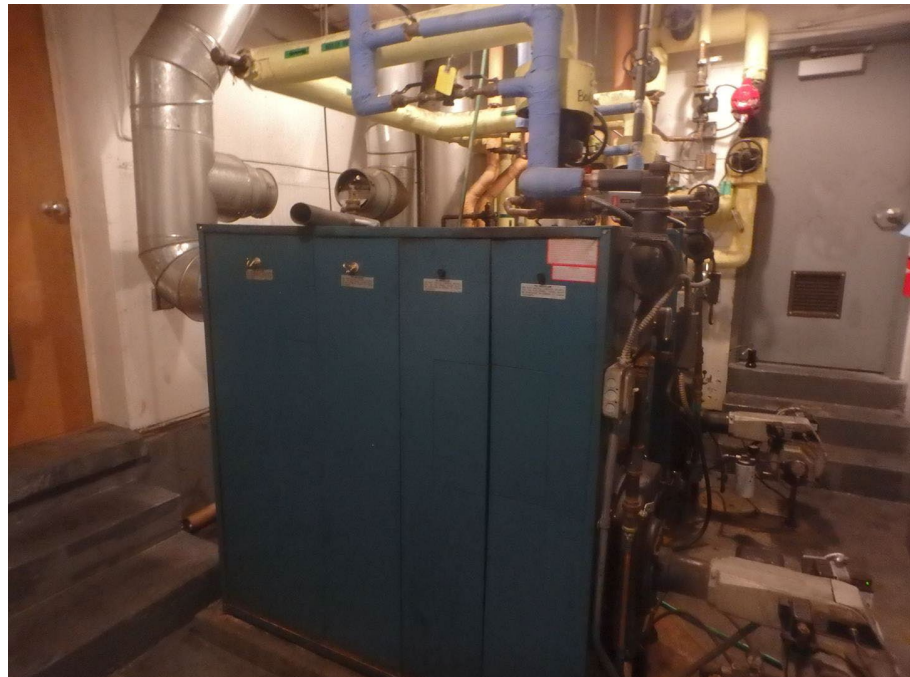
Interior view



Interior view



Boiler room





Storage area



Interior view



Elevator



Generator



Interior view



Bennett St viewing east



Bennett St viewing  
west



# Highest & Best Use

## Definition & Methodology

“Highest & Best Use” is defined as:

*“The reasonably probable use of property that results in the highest value. The four criteria that the highest and best use must meet are legal permissibility, physical possibility, financial feasibility, and maximum productivity.”<sup>10</sup>*

### Scope of Highest & Best Use

A specific determination of highest and best use would require specific cost estimates, which were not available to the appraiser, and is beyond the scope of this assignment. Unless otherwise indicated, the highest and best use as vacant analysis should not be construed as a feasibility study, which is beyond the scope of the current assignment. Rather, the analysis is meant to provide a general indication of highest and best use based on a qualitative review of the available evidence. Furthermore, unless otherwise indicated, the assignment is not a feasibility study of potential conversion or renovation of the property and continued use “as is” or “as proposed” is implicit in the current value estimate.

## As Vacant

### Legally Permissible

Private restrictions, zoning, building codes, historic district controls and environmental regulations determine those uses legally permissible on a site. No private restrictions or historical district controls encumber the subject site. In addition, there are no known environmental regulations that inhibit development of the site.

### Physically Possible

Size, shape, area, terrain, accessibility and availability of utilities affect the uses under which a property can be developed.

### Financially Feasible

Feasibility is indicated by construction trends in the vicinity and current market conditions. All uses that are expected to produce a positive return are regarded as financially feasible.

### Maximally Productive

When development options are available, a determination must be made as to which feasible use is the maximally profitable use.

Within this market, the presence of developer’s margin is highly specific to the individual project. That said, there are no obvious, identified uses that would attain a market developer’s margin at this time. There has been very limited new construction in the local market in recent years. The new construction that has occurred sporadically has been undertaken by owner-users whose needs were not met by the existing inventory and who were thus

<sup>10</sup> Source: The Dictionary of Real Estate Appraisal, 7<sup>th</sup> Edition. Chicago: Appraisal Institute, 2022.

forced to build, irrespective of financial feasibility. Based on a review of the subject's zoning, land use trends, neighborhood characteristics and trends, shape, size, functional utility as well as market vacancy rates, rental rates and other factors, the subject's highest and best use as vacant may include holding for future development or immediate development as medical-office, healthcare facility, or other unidentified use that provides the highest return to the underlying land once feasibility has been ascertained.

### As Improved

---

<b>Demolition</b>	For older improvements near the end of their economic life, demolition and replacement of the existing improvements with an alternative use may be the highest and best use of a site as improved.
<b>Conversion</b>	Conversion involves a change from one use to another.
<b>Renovation</b>	Renovation involves a continuation of the existing use with upgrades or changes to exterior and interior finishes or improvements to functional utility.
<b>Addition</b>	If sufficient land area and parking is available, addition is a possible alternative for an improved property.
<b>As Is</b>	Continued use of a property in its current "as is" condition, without major changes, is a possible alternative for an improved property.
<b>Maximally Productive</b>	The existing improvements provide poor functional utility. After careful consideration, the maximally productive use of the subject as improved is remodeling of the existing improvements to permit medical related use.

### Probable Buyer

---

The subject is currently owner-occupied and would be available for owner-occupancy by a theoretical buyer. Similar properties within the subject's market are typically owner-occupied and it is likely that an owner-user would pay the highest price for the subject. Therefore, the most probable buyer is an owner-user.

# Land Valuation

## Introduction

### Methodology

Land is customarily valued as though unimproved and available for development to the use, which would justify the highest price and the greatest net return. Sales of unimproved land most similar to the subject are investigated and the most appropriate transactions are analyzed. The land value estimate traditionally reflects the fee simple value of raw land with good soils, available access, available utilities, minimal site work completed, generally level and at grade, with no site improvements (paving, landscaping, lighting, fencing, etc.).

### Units of Comparison

Units of comparison, components into which properties may be divided for purposes of comparison, are derived from comparable sales data. Brokers, developers and other market participants indicated a common unit of comparison for properties in this market is the price per land unit.

## Comparable Data

### Sources of Data

The following transactions were obtained from various sources including web sites (Alaska Multiple Listing Service, Loopnet and Craigslist), brokers, assessors, appraisers, other individuals and most notably the Reliant, LLC internal database.

### Availability of Data

The availability of comparable data is a function of the subject's location, property type, property size, market size and market activity. There are a limited number of properties with similar physical and economic characteristics to the subject, and these are traded infrequently. Therefore, market research identified limited transactions involving properties that are directly similar to the subject, and all of the comparables required substantial upward or downward adjustment. Nonetheless, the comparable transactions bracket the subject physically and economically, and after adjustment (indicating the lower and upper value indications) provide a reasonable basis for estimating market value.

### Presentation of Data

The most relevant data for these transactions is presented on the following summary table. The following map highlights the location of the comparables relative to the subject. Photographs and relevant discussion on each comparable are also presented. Detailed sheets containing additional documentation on the physical and economic characteristics of the transactions are presented in the Addenda.

Summary of Comparable Land Sales Exhibit

No.	Name	Usable Land SF	Utilities	Current Use	Access / Exposure	Shape	Date	Actual Price	Price
	Legal Description	Acres	Zoning			Topography	Transaction Type		
L-1	Trident Land - 9107 Lot 4BB-2, WSI Subdivision II, Plat 2003-9	17,258 0.40	All Utilities	Industrial	Average	Irregular Level	Jun-17 Closed Sale	\$138,000	\$138,000 \$8.00/SF
L-2	Breuger St Land - 9106 0	2,867 0.07	All Utilities	Vacant	Average	Irregular Level	Dec-17 Closed Sale	\$27,500	\$27,500 \$9.59/SF
L-3	NWC 3rd Ave & Bennett - 3812 Lot 5, Block 59B, Industrial Subd Plat 85-8, Wrangell	7,222 0.17	Electric, Public Water, Sewer	Vacant / Carwash	Average / Good	Rectangular Generally Level	Jul-20 Closed Sale	\$85,000	\$50,000 \$6.92/SF
L-4	Lot 5, Industrial Subd - 10772 Lot 5, Block 59-D, Industrial Subdivision, Plat 85-8	7,222 0.17	All Utilities	Vacant	Good	Rectangular Level	Jul-20 Closed Sale	\$70,000	\$37,300 \$5.16/SF
L-5	Lot 8A, Massin/Industrial Replat - 10773 Lot 8A, Block 59B, Plat 2018-5	18,345 0.42	All Utilities	Industrial	Average	Irregular Level	Apr-21 Closed Sale	\$195,000	\$86,800 \$4.73/SF
L-6	Lot 4A, Massin/Industrial Subd - 10774 Lot 4A, Block 59B, Massin/Industrial Subdivision, Plat	5,273 0.12	All Utilities	Industrial	Average	Rectangular Level	Sep-21 Closed Sale	\$56,500	\$23,800 \$4.51/SF
Subj.	Wrangell Medical Center Lot A, Block 54, WMC Replat, Plat 2018-6, Wrangell	84,988 1.95	All Utilities	Commercial	Good / Good	Flag Shaped Level	Appraisal	- - -	\$470,000 \$5.53/SF

(1) "Price" shown for analysis purposes may reflect adjustments for conditions of sale, soil conditions, utility extensions or other items. Please refer to the individual comparable's comments.



Map of Comparable Land Sales Exhibit



**Description of Data**

**Sale No. L-1**



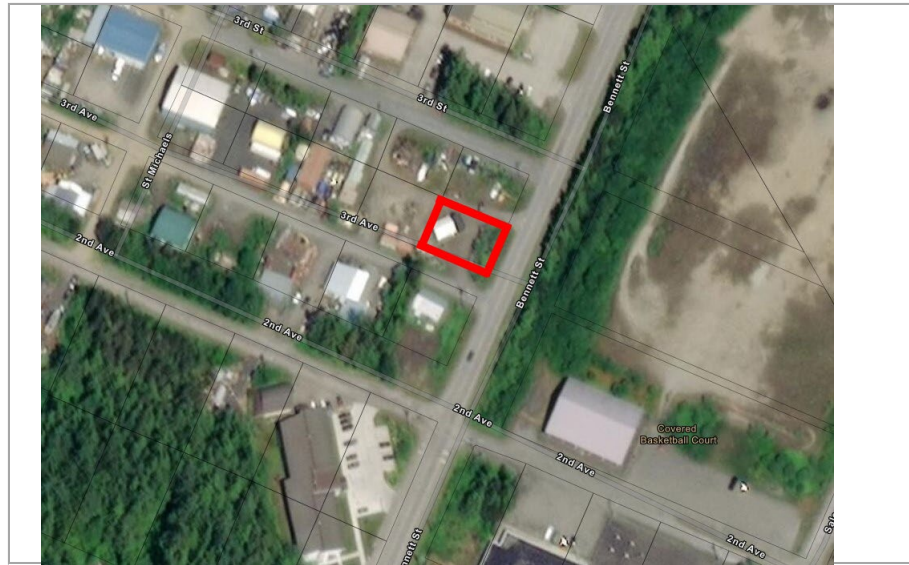
This property was purchased by the lessee from the City of Wrangell. The site is improved with a belt freezer plant and the gross sales price was \$950,000. The allocation to the land was \$138,000. The property is located a half block off Shakes Street and is accessed via an easement. The site has some frontage on Wrangell Harbor.

**Sale No. L-2**



This is a lease of a commercial site that was valued at \$27,500 by appraisal. The site is a corner lot located one block off Front Street.

**Sale No. L-3**



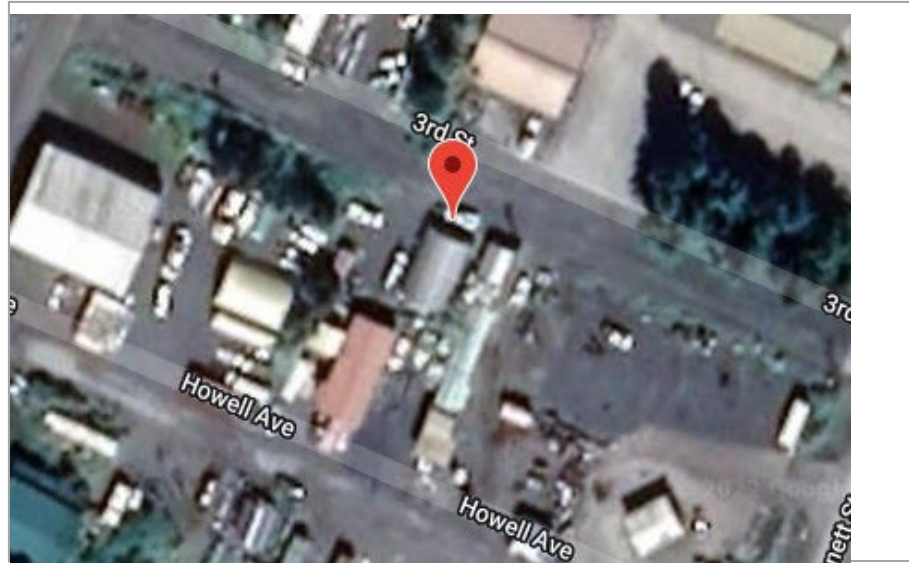
This is the sale of a small industrial/commercial lot along Bennett St, on the way to the airport. The lot has good soils and all public utilities. Although improved with older asphalt and a non-operational 720 sq ft car wash structure, the parcel was marketed as vacant land, listed in March 2019. The buyer thought the carwash could be reused - either as a conversion to a coffee shop or as a carwash with a coffee shop drive through kiosk elsewhere on the site. The structure and asphalt paving improvements have been allocated \$35,000 of the \$85,000 sale price.

**Sale No. L-4**



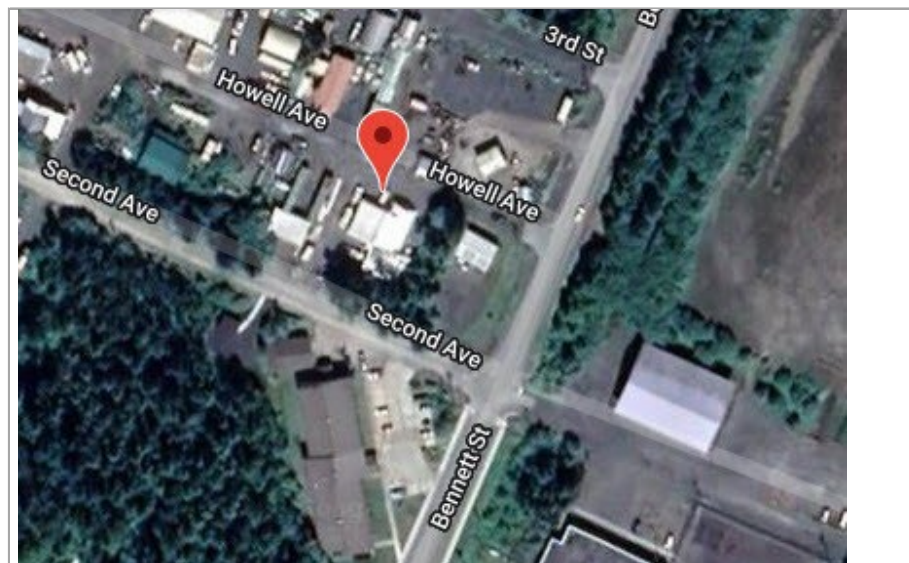
This is an industrial lot located between downtown Wrangell and the airport. The lot has asphalt surfacing. The sales price was adjusted downward by \$32,700 to account for the contribution value of the improvements.

**Sale No. L-5**



This is an industrial lot located between downtown Wrangell and the airport. The site is located on a spur road. Improvements on the site consist of a quonset hut, modular office building, and nine storage units.

**Sale No. L-6**



This is an industrial lot located between downtown Wrangell and the airport. The site is located on a secondary street. The site is improved with an industrial building that contributed \$32,700.

**Overview of Adjustments**

**Nature of Adjustments**

Adjustments to the comparables are necessary to reflect advantages and disadvantages relative to the subject. Ideally, quantitative adjustments are determined through paired sale analysis or other definitive data. However, when quantitative adjustments cannot be reliably ascertained - as is typically

the case in Alaskan markets due to data limitations – qualitative adjustments may be applied through a weighted analysis of each comparable based on its relative merits. These adjustments may be supported by available market data, discussions with local market participants, and/or supplementary information contained within the appraiser’s files.

Note that qualitative adjustments – based on the above as well as on appraiser judgment - are applied on a numeric (percentage) basis in this appraisal. Ultimately, the adjustment grid presented further in this chapter is not intended to imply that all of the adjustments were performed on a strictly quantitative basis. Rather, the adjustment grid is presented to more precisely communicate the appraiser’s opinion on the direction and degree of adjustment required to a given comparable. Moreover, it should be recognized that the elements of comparison shown in the adjustment grid are those considered most significant and relevant. While they help explain the appraiser’s reasoning and support for the reconciled value estimate, they are not the only elements of comparison considered. Other differences where adjustments have not been made explicitly are not deemed material and are therefore implicitly considered in the appraiser’s analysis of the comparables and the reconciled value estimate. Finally, certain adjustments to the transaction prices may have already been made and reflected in the initial “Analysis Prices” shown in the table, as described in the preceding comments for the individual comparables.

**Usable Land Area**

Non-usable areas due to topography, wetlands, overhead utilities or other issues are subtracted from gross site area.

**Property Rights Conveyed**

When real property rights are sold, the contract may include rights that are less than or more than all the real property rights. Examples include the inclusion of another property, personal property, or the sale of a property subject to a below market or above market lease. Therefore, the sale price of the comparable property must be adjusted to reflect the property rights that are similar to those being appraised. In this analysis, the comparables are adjusted to reflect the fee simple sale price of the real property. Adjustments to the comparables are required in cases where the property interest sold was less than or greater than the fee simple value.

**Financing Terms**

Seller-provided financing can play an important role in the sale of a project. Low down payments and terms that are significantly less stringent than those available in the market at the time of sale contribute to sale prices in excess of that obtainable by an all-cash or typically financed (by a disinterested third party) buyer. In order to analyze all properties on a comparable basis, those sales with financing not typically available for the property at the time of sale must be converted to typical terms and cash equivalency.

**Conditions of Sale**

Adjustments for conditions of sale are intended to reflect the motivations of the buyer and the seller. Conditions of sale that are outside the definition of market value must be adjusted to reflect a fully marketed property with adequate exposure and an arms-length transaction where neither the buyer nor the seller is unduly motivated. Adjustments may be required to

properties where one party was unusually motivated, foreclosure sales, properties that were not fully exposed to the market, and active listings that have not closed.

<b>Market Conditions</b>	In the process of completing this assignment, or as part of previously completed assignments for similar properties in this segment, consideration was given to available paired sales, rent trends, assessment trends, MLS trends, economic studies, published articles and discussions with market participants. Based on the available data, market values have generally been increasing in recent years as the available supply of substitute properties has decreased and the number of buyers actively seeking properties has increased. A 3.0% annual adjustment is made through March 26, 2022.
<b>Location</b>	Location is a broad term that includes non-property specific factors such as neighborhood and surrounding demographics and property specific factors such as surrounding streets, street frontage, access, exposure, number of corners, traffic counts, adjacent properties and other factors. Where appropriate adjustments for certain components of location may be performed individually.
<b>Size</b>	<p>If an adequate supply of larger sites exists then generally smaller parcels tend to sell for higher prices per sq ft. If supply of larger parcels is limited then they occasionally sell for a premium.</p> <p>A review of data indicates that within the subject's market smaller parcels tend to sell for higher prices per sq ft than larger parcels. Larger parcels than the subject are adjusted upward while smaller parcels are adjusted downward.</p>
<b>Use / Zoning</b>	Differences in the current use or the highest and best use of a potential comparable and the subject must be analyzed. Site development potential depends heavily on zoning requirements. Zoning determines how large a structure and for what type of use a site can be developed. Adjustments are required to comparables with zoning designations that provide a lower or higher level of overall functional utility relative to the subject's zoning.
<b>Soil Conditions</b>	Soil conditions in the subject's market are not uniform and can vary widely from one site to another – or even on the same site. Soils can have a substantial influence on the functional utility and thus value of a given site. In some cases, unsuitable soils can be corrected or replaced (often at substantial cost), while in others they dictate that a non-traditional foundation system (such as driven or screw type pilings) must be used for vertical construction. Adjustment is required for comparables that differ materially from the subject.
<b>Topography</b>	Topography refers to whether a site is level or sloping and at, above, or below the grade of surrounding streets. Adjustment is required to those comparables that have dissimilar topography relative to the subject. In certain cases, the slope of the topography is so severe that the impacted area is not usable and is therefore excluded from usable site area. In other cases,

the sloping area is still usable but is not desirable because it increases development costs and requires mitigation prior to development.

**Other**

The adjustments listed above are not inclusive of all the adjustments considered by the appraiser. Physical and economic differences where adjustments have not been explicitly made are implicitly considered in the appraiser's analysis of the comparable and value estimate.

Adjustment Grid Exhibit

Land Analysis Grid		L-1	L-2	L-3	L-4	L-5	L-6
Name	Wrangell Medical Center	Trident Land - 9107	Breuger St Land - 9106	NWC 3rd Ave &	Lot 5, Industrial Subd -	Lot 8A,	Lot 4A,
City	Wrangell	Wrangell	Wrangell	Wrangell	Wrangell	Wrangell	Wrangell
Date	3/26/2022	6/21/2017	12/31/2017	7/30/2020	7/30/2020	4/12/2021	9/13/2021
Price	Appraisal	\$138,000	\$27,500	\$50,000	\$37,300	\$86,800	\$23,800
Usable Land SF	84,988	17,258	2,867	7,222	7,222	18,345	5,273
\$/Sq Ft	---	\$8.00	\$9.59	\$6.92	\$5.16	\$4.73	\$4.51
<b>Transaction Adjustments</b>							
Property Rights	Fee Simple	Fee Simple	0.0% Leasehold	0.0% Fee Simple	0.0% Fee Simple	0.0% Fee Simple	0.0% Fee Simple
Financing	Conventional	Cash	0.0% Cash	0.0% Conventional	0.0% Cash	0.0% Cash	0.0% Cash
Conditions of Sale	Arms Length	Arms Length	0.0% Arms Length	0.0% Arm's Length	0.0% Arm's Length	0.0% Arm's Length	0.0% Arm's Length
<b>Adjusted Usable Land SF Unit Price</b>		<b>\$8.00</b>	<b>\$9.59</b>	<b>\$6.92</b>	<b>\$5.16</b>	<b>\$4.73</b>	<b>\$4.51</b>
Market Cond. Thru	3/26/22	3.0%	15.1%	13.3%	5.0%	5.0%	2.9%
<b>Adjusted Usable Land SF Unit Price</b>		<b>\$9.21</b>	<b>\$10.87</b>	<b>\$7.27</b>	<b>\$5.42</b>	<b>\$4.87</b>	<b>\$4.59</b>
Location	Good	Excellent	Excellent	Good	Good	Average	Average
% Adjustment		-30%	-30%	0%	0%	30%	30%
\$ Adjustment		-\$2.76	-\$3.26	\$0.00	\$0.00	\$1.46	\$1.38
Usable Land SF (Size)	84,988	17,258	2,867	7,222	7,222	18,345	5,273
% Adjustment		-4%	-29%	-11%	-11%	-4%	-15%
\$ Adjustment		-\$0.36	-\$3.11	-\$0.78	-\$0.58	-\$0.18	-\$0.69
Topography	Level	Level	Level	Generally Level	Level	Level	Level
% Adjustment		0%	0%	0%	0%	0%	0%
\$ Adjustment		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Shape	Flag Shaped	Irregular	Irregular	Rectangular	Rectangular	Irregular	Rectangular
% Adjustment		0%	0%	0%	0%	0%	0%
\$ Adjustment		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Utilities	All utilities	All Utilities	All Utilities	Electric, Public Water,	All Utilities	All Utilities	All Utilities
% Adjustment		0%	0%	0%	0%	0%	0%
\$ Adjustment		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Zoning	OS, Open Space/Public	I	C	I, Industrial	I	I	I
% Adjustment		0%	0%	0%	0%	0%	0%
\$ Adjustment		\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
<b>Adjusted Usable Land SF Unit Price</b>		<b>\$6.08</b>	<b>\$4.50</b>	<b>\$6.49</b>	<b>\$4.84</b>	<b>\$6.15</b>	<b>\$5.27</b>
<b>Net Adjustments</b>		-23.9%	-53.1%	-6.3%	-6.3%	30.0%	16.7%
<b>Gross Adjustments</b>		54.2%	79.8%	16.3%	16.3%	37.5%	47.4%



**Discussion & Analysis After Adjustment**

The comparables bracket the physical and economic characteristics of the subject. They bracket the market value of the subject on an unadjusted basis, and inferior comparables were adjusted upward while superior comparables were adjusted downward. Prior to adjustments, the sale prices fall within a wide range. After adjustments this range is narrowed substantially, supporting the overall reasonableness of the adjustments made. A review of the gross adjustments made to the comparables indicates large physical differences between many of the comparables and the subject. Comparables requiring a lower degree of gross adjustment are generally the most reliable indicators of value. Comparables requiring higher degrees of gross adjustment are generally less reliable indicators of value, but may still be meaningful and given weight if the adjustments made were strongly supported.

Prior to adjustment, the comparables range from \$4.51 to \$9.59/sq ft, with an average of \$6.49/sq ft. After adjustment, they range from \$4.50 to \$6.49/sq ft, with an average of \$5.55/sq ft. Thus, the range before adjustment is \$5.08/sq ft, and this decreases to \$1.99/sq ft after adjustment.

Considering the degree of gross adjustments, the most meaningful data overall (L-1, L-4, L-5, L-6) range from \$4.84 to \$6.15/sq ft with an average of \$5.58/sq ft. The remaining transactions are considered supportive.

After careful consideration, based on analysis of the data presented previously as well as data contained within the appraiser’s work file the market value of the subject is estimated at \$5.50/sq ft.

**Land Value Calculation**

LAND VALUE CALCULATION		
Usable Land Area		84988 Sq Ft
Land Value / Sq Ft	x	\$5.50
Estimated Land Value		\$467,434
<b>Rounded</b>		<b>\$470,000</b>

# Cost Approach

## Introduction

### Methodology

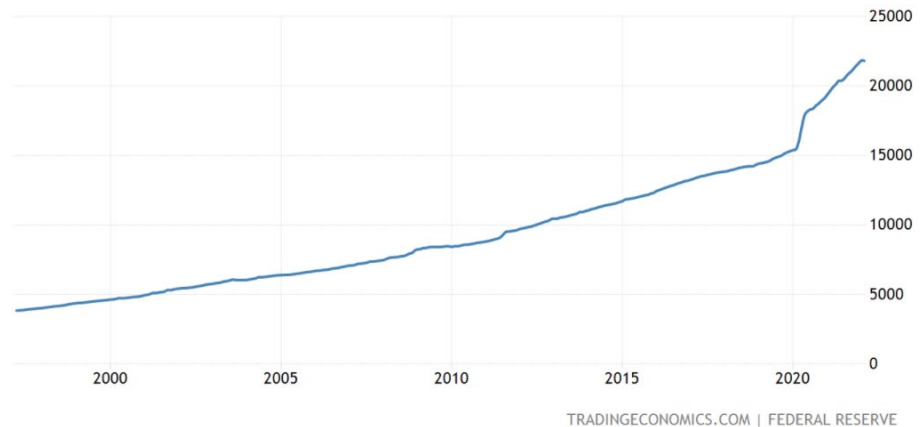
The Cost Approach is an appraisal method of arriving at a value indication for the subject by estimating the cost to replace the improvements with current materials and labor, less accrued depreciation from all causes. The estimated land value, as detailed in the previous section, is then added to the depreciated value of the improvements to reflect a total value by the cost approach.

This approach is based on the assumption that replacement costs provide a reasonable estimate of value, providing the improvements represent the highest and best use of the land, and depreciation from all causes is appropriately accounted for. Valuing the improvements separately from the land thus serves to satisfy the principle of substitution; that is, a buyer will tend to not pay more for the property than it would cost to replace.

## Replacement Cost - Marshall Valuation Service

### Inflationary Trends

Construction cost inflation results from two primary sources: short-term supply chain disruptions due to COVID-19 and mid-to-longer-term inflation resulting from a combination of government spending levels and Federal Reserve monetary policy. Due to COVID-19 a shortage of labor and subcontractors is reported, which has led to increases in sub costs and delays in project delivery. The US M2 Money Supply is critical in understanding and forecasting money supply, inflation, and interest rates in the U.S. and is shown on the following table.



Since 2004, the money supply has gone up nearly 500%. As shown, however, it sharply increased during COVID-19 and increased from \$15,000 billion to nearly \$22,000 billion in roughly two years. Most market participants, including the Federal Reserve itself, are now anticipating a

period of inflation and higher interest rates to combat it.

Regardless of the causes, inflation has had a significant influence on replacement costs and general contractors and subcontractors are carefully factoring in anticipated cost increases into their bids. Due to market inefficiencies, it is not possible to say for certain what recent construction specific inflation trends have been, but it has been reported by market participants that projects have experienced increasing costs ranging from as little as 10% to as much as 50%.

Inflation trends will increase the competitive position of existing product, reduce the feasibility of new construction and, to the extent that they impact interest rates, make borrowing more expensive. Given that much of the private real estate market is leveraged, it may become more difficult to obtain new loans and, given unchanged equity returns, result in downward pressure on asset prices. As to the degree to which interest rates increase and whether other factors will offset their influence remains to be seen but market participants are watching the issue closely.

### **Overview of Marshall Valuation Service**

The following cost estimate is based on a cost per sq ft method. This method estimates the replacement cost of the improvements, including contractor's profit and overhead, and indirect cost. The price per sq ft costs for the subject were obtained from the cost estimating service of Marshall Valuation Service (MVS) Commercial Estimator software, an appraiser's guide to current construction costs. The program automatically makes appropriate adjustments to reflect the current local costs for the area, building occupancy (type of building), class (type of construction), quality of construction, perimeter/shape, story height, mechanical equipment, elevators, and other factors. The adjusted base cost has been applied to the building area.

The MVS replacement cost estimates include architectural and engineering fees (including plans, plan check, building permits and survey to establish building lines and grades), normal interest on only the actual building funds during period of construction (including processing fee and service charges), local, state and federal sales taxes, GST taxes on material and labor costs, normal site preparation (including finish, grading and excavation for foundation and backfill for the structure only), utilities from the structure to the lot line for a typical setback, and contractors overhead and profit, workmen's compensation, fire and liability insurance, unemployment insurance, equipment, temporary facilities and security.

The MVS replacement cost estimates exclude developer's margin or profit, cost premiums for pilings or hillside foundations, costs associated with land development and planning, real estate taxes and other holding costs during construction, discounts or bonuses paid for financing, yard improvements (including signs, landscaping, paving, walls and yard lighting), offsite costs (including roads, utilities, parking fees, jurisdictional hookup, tap-in, impact or entitlement fees, etc.), furnishings and fixtures (usually not found in the general contract) and absorption costs (including rent loss, marketing, tenant

improvements, leasing commissions, and other costs to bring the property to a stabilized condition).

The MVS Summary sheet(s) follow this analysis.

**MARSHALL  
VALUATION  
SERVICE  
LOCATION  
MULTIPLIERS**

Marshall Valuation Service (MVS) reports cost multipliers by building class in Section 99 of its cost manual. The multipliers represent the cost adjustment relative to the average of all nationwide cost data. MVS cost multipliers for Alaska and various Alaska communities are presented below.

CLASS	A	B	C	D	S
<b>ALASKA</b>	1.24	1.27	1.27	1.25	1.29
Anchorage	1.18	1.19	1.19	1.19	1.21
Fairbanks	1.18	1.19	1.20	1.20	1.21
Juneau	1.24	1.30	1.33	1.27	1.30
Kenai Peninsula	1.17	1.18	1.18	1.18	1.19
Ketchikan	1.26	1.31	1.29	1.25	1.31
Kodiak	1.32	1.34	1.31	1.28	1.34
Mat-Su Valley	1.13	1.15	1.15	1.13	1.16
Sitka	1.28	1.31	1.30	1.28	1.35

The MVS program automatically incorporates the applicable cost multiplier for Alaska, Anchorage, Fairbanks, Juneau, Kenai Peninsula, Ketchikan, Kodiak, Mat-Su Valley and Sitka. If the subject is not located in one of these communities, the default multiplier would be one the software would determine is the closest city for where the materials would come from. MVS has indicated to us that “If the city is not listed in the book you should use the nearest city where materials would come from to use as guides to interpolate the multiplier to use. It will be up to users to determine the between figure and multiplier. Our software will do this interpolation automatically but the book does not.” Based on our review of prevailing construction costs, a factor of 1.30 is used for Wrangell.

**Occupancy Type**

Based on the subject’s configuration and type of improvements the following MVS occupancies have been selected.

**331 HOSPITAL**

Designed as complete health care facilities, hospitals typically include a number of different health services within one building or groups of buildings. Typical areas found include diagnostic, surgery, patient care, delivery, nursery, emergency, administration, service areas, and pharmacies. The amount of actual area associated with all or some of these specific areas varies with the size of the building and the number of people served by the hospital. The types of facilities available in the hospital generally are commensurate with the overall quality of the structure. Lower quality hospitals have large ward area while higher quality ones have a large amount of private rooms. These quality variations result in the amount of area per bed ranging between 625 and 1,700 square feet. Exterior finishes vary with decorative marble, granite, concrete, and metal and glass panels in the better qualities, and brick, block, and masonry veneers with very little ornamentation at the lower quality. Plaster or drywall is found on the interiors with suspended acoustic tile ceilings. Floor finishes are commonly ceramic, vinyl, or some other type of resilient floor cover. Signal systems,

special oxygen piping and pneumatic conveyors are commonly found. They conform to the overall quality and design of the structure. Most hospitals have complete heating, ventilating, and air conditioning systems and emergency power equipment. The costs include Group I equipment that is installed in or attached to the building as a part of the general contract. Since hospitals have higher requirements for heating, cooling and ventilation, use component 617 (complete HVAC) for HVAC costs. The following are not included in the costs: Canopies and balconies, Group II equipment that may be installed and becomes a part of the real property, but is typically not a part of the general contract (such as autoclaves, permanent surgical lights and other equipment) and Group III equipment that is movable personal property (such as furniture, fixtures, instruments, etc.)

**Building Class** Based on the subject's construction type, the following MVS building class has been selected for the subject.

**CLASS D:  
WOOD- OR  
STEEL-FRAMED  
EXTERIOR  
WALLS** Class D buildings are characterized by combustible construction. The exterior walls may be made up of closely spaced wood or steel studs as in the case of a typical frame house. Exterior covers may be wood siding, shingles, stucco, brick or stone veneer or some other type of material. Floors and roofs are supported on wood or steel joists or trusses. The floor may be a concrete slab on the ground. Construction Type V (wood-frame) of the Uniform, Type IV Basic and Type VI Standard Building Code are included in this class, as are ISO Class 1 buildings. This class is also referred to as Unprotected-protected One-hour Construction.

**Quality Rank** The cost rank, or quality of construction, determines the level of the calculated costs. MVS rank system considers exterior walls, interior finish, mechanicals and HVAC systems. A cost rank is estimated for each occupancy and can range from 0.5 up to 5.0. The four basic cost ranks are:

**LOW (RANK 1)** These tend to be very plain buildings that conform to minimum building code requirements. Interiors are plain with little attention given to detail or finish. Typically, there are minimum mechanical and low-cost finishes throughout.

**AVERAGE (RANK 2)** These buildings are the most commonly found and meet building code requirements. There is some ornamentation on the exterior with interiors having some trim items. Lighting and plumbing are adequate to service the occupants of the building.

**GOOD (RANK 3)** These are generally well-designed buildings. Exterior walls usually have a mix of ornamental finishes. Interior walls are nicely finished and there are good quality floor covers. Lighting and plumbing include better quality fixtures.

**EXCELLENT (RANK 4 TO 5)** Usually, these buildings are specially designed, have high-cost materials and exhibit excellent workmanship. Both exteriors and interiors have custom and ornamental features. Lighting and plumbing include high-cost fixtures.

**ADJUSTMENT TO QUALITY RANKING ALASKA** The quality ranking is an important input for MVS. Unfortunately, MVS does not receive large amounts of cost data directly from the Alaska market. A comparison of MVS estimated cost and actual cost indicates that MVS typically understates construction costs within Alaska by varying degrees depending on location and property type. For urban markets with road access an upward adjustment of “1” quality ranking is typically required to result in realistic cost estimates. For rural markets without road access, an upward adjustment of “2” to “3” ranks is needed.

**Story Height** The story height is the average story height for each occupancy. In a one-story building, story height is measured from the floor surface to the roof eave. Parapets (extensions of the wall above the roof line) are not included in story height. For building with multiple stories, the average story height can be computed by dividing the total building height by the number of stories or by entering the story heights in separately for each floor.

**Perimeter / Shape** The shape of a building also impacts its cost of construction and is best measured by the perimeter of the building. Perimeter is the total linear feet of wall that encloses the floor area, based on exterior dimensions. Where perimeter measurements are not available, the shape of the building can be indicated by a numerical reference where:

- 1=Square
- 2=Rectangular or Slightly Irregular
- 3=Irregular
- 4=Very Irregular

**Base Cost** Based on the inputs into MVS, the cost comparisons contained in its database, and adjustment to the subject’s specifications, the base costs for the subject improvements are indicated.

**Other Costs** Unless otherwise indicated, other costs are also provided by MVS.

**SITE IMPROVEMENTS** Normal site preparation under the building improvements (including finish, grading and excavation for foundation and backfill for the structure only) is included in MVS. Non building improvement related site improvements include grading, filling and soils work, sub base gravel, paving, lighting, fencing, gates and landscaping or other improvements to the site that are real property. Depending on a property’s size, shape, type, amount of parking versus landscaping and other factors, site improvements are typically \$1.50/sq ft up to \$7.00/sq ft of total usable site area less the building footprint. Generally, site improvements for larger areas with gravel parking that require minimal landscaping are towards the low end of the range (an industrial building with a high land-to-building ratio for example), while site improvements for smaller areas with paved parking that require extensive landscaping are towards the high end of the range (a stand-alone bank, restaurant or other retail use with a low land-to-building ratio for example).

No contribution value for site improvements has been estimated due to the potential for future remodeling or demolition rendering them valueless.

MVS Summary Report Exhibit

4/10/22, 12:37 PM

CoreLogic | Commercial Estimator - Report

**CoreLogic - SwiftEstimator  
Commercial Estimator - Summary Report**

**General Information**

<b>Estimate ID:</b>	22-0325 Wrangell Medical Center	<b>Date Created:</b>	4-10-2022
<b>Property Owner:</b>	City and Borough of Wrangell	<b>Date Updated:</b>	
<b>Property Address:</b>	310 Bennett St Wrangell, AK 99929	<b>Date Calculated:</b>	04-10-2022
<b>Local Multiplier:</b>	1.3	<b>Cost Data As Of:</b>	04-2022
<b>Architects Fee:</b>		<b>Report Date:</b>	using default

**Section 1**

<b>Area</b>	30596	<b>Overall Depreciation %</b>	
<b>Stories in Section</b>	2	<b>Physical Depreciation %</b>	
<b>Stories in Building</b>	2	<b>Functional Depreciation %</b>	
<b>Shape</b>	irregular	<b>External Depreciation %</b>	
<b>Perimeter</b>	(auto-calc)		
<b>Effective Age</b>			

**Occupancy Details**

Occupancy	%	Class	Height	Quality
331 Hospital	100	D	12	4.0
<b>Occupancy Total Percentage</b>	<b>100</b>			

**System : Elevators**

	%/Units	Quality	Depr %	Other
651 Elevators : Passenger #	1	Occ.		2

**System : HVAC (Heating)**

	%/Units	Quality	Depr %	Other
604 HVAC (Heating) : Hot Water	100	Occ.		2
609 HVAC (Heating) : Ventilation	100	Occ.		2
<b>Total Percent for HVAC (Heating):</b>	<b>200</b>			

**System : Sprinklers**

	%/Units	Quality	Depr %	Other
681 Sprinklers : Sprinklers	100	Occ.		
<b>Total Percent for Sprinklers:</b>	<b>100</b>			

**Calculation Information (All Sections)**

	Units	Unit Cost	Total Cost New	Less Depreciation	Total Cost Depreciated
<b>Basic Structure</b>					
Base Cost	30,596	\$448.82	\$13,732,097		\$13,732,097
Exterior Walls	30,596	\$61.26	\$1,874,311		\$1,874,311
Heating & Cooling	61,192	\$11.43	\$899,730		\$899,730
Elevators	1	\$158,275.00	\$158,275		\$158,275
Sprinklers	30,596	\$8.50	\$260,066		\$260,066
<b>Basic Structure Cost</b>	<b>30,596</b>	<b>\$546.62</b>	<b>\$16,724,479</b>	<b>\$0</b>	<b>\$16,724,479</b>

Cost data by CoreLogic, Inc.

\*\*\*Except for items and costs listed under ♦Addition Details,♦ this SwiftEstimator report has been produced utilizing current cost data and is in compliance with the Marshall & Swift Licensed User Certificate. This report authenticates the user as a current Marshall & Swift user.\*\*\*

## Developer's Margin

<b>Market Properties</b>	For properties with numerous potential users developer's margin can be obtained through either speculative or build-to-suit construction. For investors a developer's margin must be achievable for construction to be financially feasible. While a developer's margin may be attained by users, its presence is not necessary for construction to occur since even though it is not financially feasible from a real estate perspective it may be financially feasible from a business perspective. The presence of developer's margin is highly specific to an individual property. For market properties similar to the subject developer's margins currently range from a low of 5% up to a high of 25%.
<b>Limited Market or Special Purpose Properties<sup>11</sup></b>	Special purpose properties generally have limited conversion potential and are constructed expressly for a particular user with a designated special use in mind. They are developed to fulfill a business need, not to attain a profit on the real estate and when profit is present it accrues to the business rather than the real estate.
<b>Conclusion</b>	Under its existing use as is, the subject has physical and economic characteristics consistent with a special purpose property. Therefore, we have not included a developer's profit margin.

## Depreciation

<b>Introduction</b>	Depreciation is a loss in value from the reproduction (or replacement) cost of improvements due to any cause as of the date of appraisal. The value difference may emanate from physical deterioration, functional depreciation, external depreciation, or any combination of these sources. A description of the various sources of depreciation follows.
<b>PHYSICAL DEPRECIATION</b>	Physical deterioration is evidenced by wear and tear, decay, cracks, incrustations, or structural defects. Physical deterioration can be either curable or incurable. Incurable physical deterioration applies to both short-lived items (roof, plumbing, HVAC, etc.) and long-lived items (structural).
<b>FUNCTIONAL DEPRECIATION</b>	Functional depreciation can be either curable or incurable and is caused by a flaw in or a deficiency or super-adequacy in the structure, material or design.
<b>EXTERNAL DEPRECIATION</b>	External depreciation is incurable and caused by negative influences in property values outside of the owners control such as market conditions, property uses, zoning, financing, or legal influences.
<b>Effective Age</b>	Effective age is estimated by the appraiser by weighing the actual age of a property against its current condition. In certain cases, the effective age is equal to the actual age, while in other cases it may be more or less than the actual age. The concept of effective age acknowledges that properties rarely depreciate on a linear basis. Construction type and quality play important

<sup>11</sup> Source: The Appraisal of Real Estate, Fourteenth Edition, Chicago: Appraisal Institute, 2013.



roles, as does ongoing maintenance and capital infusion. The subject's effective age was estimated in the Description of Improvements chapter.

**Economic Life**

As discussed in the Description of Improvements chapter, economic life is estimated using MVS information based on actual economic lives for properties of similar construction type, occupancy and quality.

**Effective Age /  
Economic Life  
Method**

The effective age and economic life expectancy of a structure are the primary concepts used by an appraiser in measuring depreciation with age-life relationships. Under this method, total depreciation is estimated by calculating the ratio of the effective age of a property to its economic life expectancy and applying this ratio to the property's total cost new. Note that this method does not typically reflect abnormal, property specific depreciation or external depreciation.

**Marshall Valuation  
Service  
Depreciation Tables**

The MVS Cost Estimator software provides depreciation calculations to account for physical and functional depreciation. Depreciation is estimated based on a statistical compilation of actual depreciation present at similar properties of similar effective ages and economic lives. Economic life is determined by the software based on building class and quality. The software recognizes that depreciation does not typically occur on a linear basis but rather on a logarithmic basis. As a result, this method is fairly accurate for both older and newer properties. Note that this method does not typically reflect abnormal, property specific depreciation or external depreciation.

**Property Specific  
Depreciation**

The analysis presented above assumes that the subject exhibits normal depreciation typical of similar properties in the market. Any property specific depreciation not typical of the market must be separately considered.

**External  
Depreciation**

The preceding methods do not fully account for external depreciation. External obsolescence was present due to potential demolition and remediation costs. The contribution value of the improvements can be viewed either as a cold shell available for remodeling or salvage value if demolished.

**Reconciled  
Depreciation  
Estimate**

The methods for estimating depreciation fall within a fairly narrow range. After careful consideration all methods of measuring depreciation are concluded to be reliable and given equal weight.

## Summary of Cost Approach Exhibit

Valuation Component		Wrangell Medical Center Hospital
Gross Building Area		30,596
Pro Rata Share		100%
<b>REPLACEMENT COST NEW</b>		
MVS Commercial Estimator		
Base Cost		\$16,724,479
Site Improvements		\$0
Reconciled Replacement Cost (Excl. Profit)		\$16,724,479
Plus: Developer's Margin	0%	\$0
Replacement Cost New (Incl. Profit)		\$16,724,479
Per Sq Ft		\$547 /SF
<b>LESS: DEPRECIATION</b>		
Effective Age / Economic Life Method		
Year Built		1967
Actual Age		55 Yrs.
Effective Age / Actual Age Ratio		90.9%
Effective Age		50 Yrs.
Economic Life		50 Yrs.
Percent Depreciated (Eff. Age / Economic Life)		100.0%
Reconciled Physical & Functional Depreciation		90.0%
Property Specific Depreciation		0.0%
External Depreciation		7.5%
Total Percent Depreciation		97.5%
Total Depreciation		(\$16,306,367)
<b>DEPRECIATED BUILDING VALUE</b>		<b>\$418,112</b>
<b>PLUS: LAND VALUE</b>		<b>\$470,000</b>
<b>MARKET VALUE ESTIMATE (ROUNDED)</b>		<b>\$890,000</b>

# Sales Comparison Approach

## Introduction

<b>Methodology</b>	The Sales Comparison Approach is based on the premise that market value of the property is directly related to recent sale prices of competitive properties and the availability of substitute properties with similar utility and desirability. The most similar sales of properties are investigated and compared to the subject in this analysis.
<b>Unit of Comparison</b>	Units of comparison, components into which properties may be divided for purposes of comparison, are derived from comparable sales data. Brokers, developers and other market participants indicated that price per sq ft of gross building area (GBA), rentable area and usable area are all accepted units of comparison within this market. The BOMA definitions of rentable and usable building area have changed over time and the reported building area therefore is dependent on when a property owner last performed a building area study. Furthermore, usable building area can change based on type of occupancy and configuration. In the subject's market segment, the most common and reliable unit of comparison is the price per sq ft of GBA, and so this is the unit utilized in the Sales Comparison Approach.

## Physical Comparison

<b>Overview</b>	This method explicitly considers physical dissimilarities between the comparables and the subject. Data are examined to establish the prices, real property rights conveyed, transaction dates, financing terms, motivations, locations, physical and functional conditions. Adjustments to the comparables are necessary to reflect advantages and disadvantages relative to the subject.
<b>Sources of Data</b>	The following transactions were obtained from various sources including web sites (Alaska Multiple Listing Service, Costar), brokers, assessors, appraisers, other individuals and most notably the Reliant, LLC internal database.
<b>Availability of Data</b>	The availability of comparable data is a function of the subject's location, property type, property size, market size and market activity. There are a limited number of properties with similar physical and economic characteristics to the subject, and these are traded infrequently. Therefore, the sales search was expanded to include other areas of Alaska. Market research identified limited transactions involving properties that are directly similar to the subject, and all of the comparables required fairly large upward or downward adjustment. Nonetheless, the comparable transactions bracket the subject physically and economically, and after adjustment (indicating the lower and upper value indications) provide a reasonable basis for estimating market value.

**Presentation of Data**

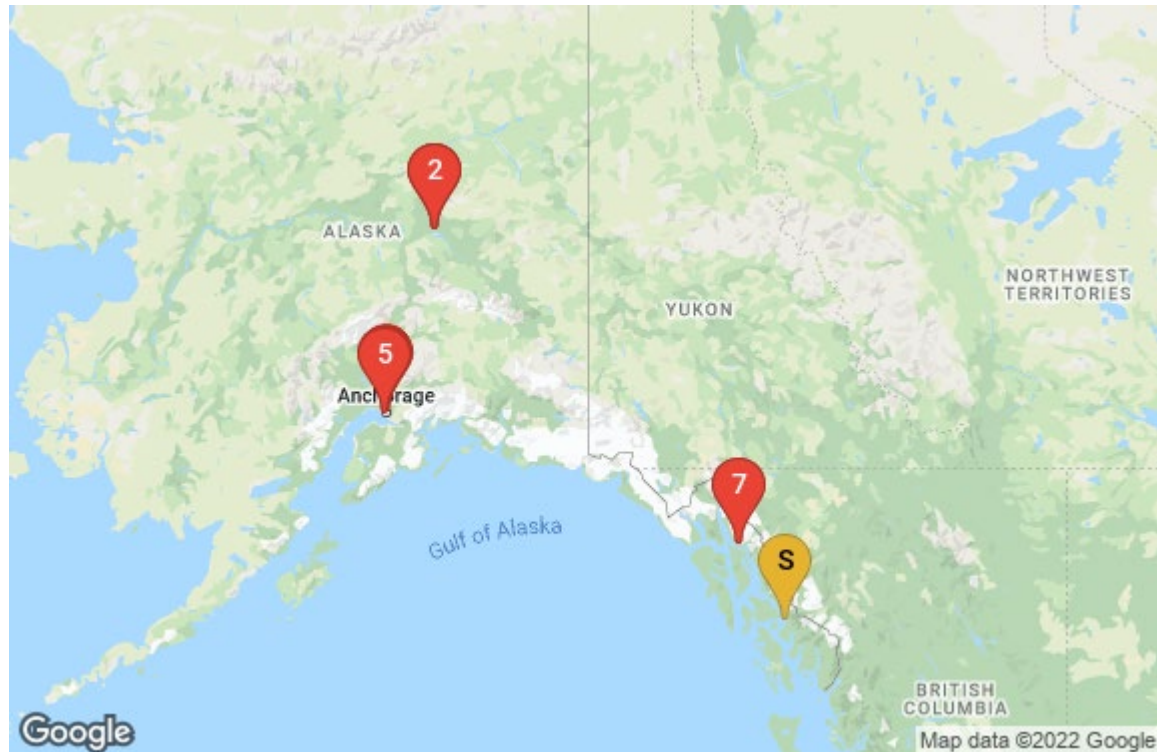
The most relevant data for these transactions is presented on the following summary table. The following map highlights the location of the comparables relative to the subject. Photographs and relevant discussion on each comparable are also presented. Additional documentation on the physical and economic characteristics of these transactions are presented on the detail sheets in the Addenda.

### Summary of Improved Sale Comparable Exhibit

No.	Name	GBA	Date	Actual Price	Price Less Land
No.	Address		Transaction Type	Property Rights	\$ / GBA
I-1	Marriott Springhill Suites Site - 970 553, 555 First Ave. & , 550, 552 Second	36,400	May-99 Closed Sale	\$550,000 Fee Simple	-\$99,773 -\$2.74
I-2	ACS Globe Bldg. - 1073 645 Fifth Ave.	19,286	Dec-07 Closed Sale	\$410,000 Fee Simple	\$198,704 \$10.30
I-3	Matanuska Maid Dairy Bldg. - 650 814 W. Northern Lights Blvd.	54,445	Sep-08 Closed Sale	\$1,525,000 Fee Simple	-\$25,800 -\$0.47
I-4	Lathrop Bldg. - 1075 519 1st Avenue	37,412	Mar-11 Listing	\$575,000 Leased Fee	\$322,500 \$8.62
I-5	TDX Aviation Park Facility - 1813 4902 Spenard Road	29,700	Oct-12 Closed Sale	\$4,500,000 Fee Simple	-\$268,283 -\$9.03
I-6	Elks/Rockwell Building - 7724 109 Franklin Street	15,924	Dec-12 Closed Sale	\$1,150,000 Fee Simple	-\$131,940 -\$8.29
I-7	First National Bank Building - 7716 238 Front Street	12,580	Mar-16 Closed Sale	\$600,000 Fee Simple	\$5,700 \$0.45
I-8	707 A Street - 3691 707 A Street	20,424	Jan-18 Closed Sale	\$1,075,000 Fee Simple	\$214,000 \$10.48
<b>Subj.</b>	Wrangell Medical Center	30,596	Appraisal	---	\$10
<b>Subj.</b>	310 Bennett St.	#N/A			

(1) elements. Estimated land value is then deducted for analysis purposes.

Map of Improved Sale Comparables Exhibit



Description of Data

Sale No. I-1



This is the sale of land for the development of a Marriott Springhill Suites in downtown. The site was formerly known as the old bar block' and new development at the site required demolition of all the old improvements. In the late1990s the city requested proposals for new development of the site, requiring that the entire block remain intact as one parcel. The city selected Town Square Properties' proposal. Demolition included minor asbestos removal and tipping fees at the landfill totaling approximately \$100,000. This cost was roughly offset by a total of \$100,000 in rebates the developers received for meeting specific development deadlines. Due to the city's motivation and the development process, this sale may be regarded as below market value.'

Sale No. I-2



This is the City of Fairbanks' sale of the Globe Building to Alaska Communications Systems (ACS). The building was marketed beginning in the fall of 2004 when the Fairbanks City Council determined the building

was no longer required for municipal purposes and should be sold off. The building was advertised at the assessed value of \$766,000 to multiple potential buyers, during which time the city received three offers: \$300,000, \$250,000, and \$410,000. The city rejected the offers due to price, contingency, and liability concerns. The building's marketability was impeded for a couple of reasons. First, on-site parking is minimal. Second, a portion of the building was subject to a below market lease to ACS in which ACS pays a portion of utility and maintenance costs only. Lastly, the building had a multitude of maintenance issues as well as asbestos. The city received an offer from ACS for \$410,000 which it accepted. Overall, this was an arms-length transaction with typical financing, and was representative of market conditions at the time of sale.

### Sale No. I-3



This is the former Matanuska Maid building in Midtown Anchorage located between Northern Lights and Benson in a very high traffic, high exposure location. Mat Maid sold the property in 2008 via a sealed bid auction that was widely publicized. The improvements were configured as a dairy and were in poor condition and some asbestos contamination. The winning bid was \$1,525,000. Costs to convert the improvements from dairy to pure distribution warehouse use and remove asbestos were \$1 million. Deferred maintenance was estimated at \$250,000. Due to poor truck access, maneuvering room and configuration the improvements provided limited functional utility and were not suitable for continued use as distribution warehouse. Post sale the buyer converted the property to mini storage space at substantial expense. This is an excellent example of the impact that poor truck access has on value. Overall, this is a arms length market transaction representative of a distribution warehouse property offering limited functional utility.



**Sale No. I-4**



This older building was foreclosed on by Wells Fargo in 2009. The listing was originally priced at \$1,200,000 but has been reduced to \$575,000. As an older building, the improvements are compromised with contained asbestos, estimates to cure range from \$106.92/sq ft. to \$160.38/sq ft.

**Sale No. I-5**



This is the sale of the former National Guard Armory located at the northwest corner of Spenard Road and West International Airport Road. The site is influenced by both the midtown and airport markets, and is just across Aviation Avenue from Spenard Lake. The site was improved with a 28,433 sq ft concrete block building originally built in 1962. The property was auctioned off by the MOA and the successful bid was \$4,500,000. There was prior known contamination on the property, however, a no further action letter had been issued and no impact on the sale was noted. Post sale expenditures include demolition of the existing building, which includes small amounts of asbestos, at an estimated cost of \$269,000 (based on the accepted bid). The property was sold with deed restrictions requiring an aviation theme, meeting space and gift shop that negatively impacted the sale

price. The buyer put a \$900,000 bond in place, which is payable to the seller, if the terms of the deed restrictions are not met. On the other hand, the buyer is the adjacent hotel owner, that wanted to secure ownership of the site to prevent development of a competing hotel.

**Sale No. I-6**



This building was originally the Elks Lodge until 2006 when it was converted to a restaurant/bar and event space. The 7,694 sq ft ground floor has the restaurant/bar and three restrooms. The second floor is 7,182 sq ft, mostly open ballroom with another commercial kitchen, bar and storage. The 1,048 sq ft third level is a 2-bedroom apartment. At sale the shell of the building was structurally fit, but the interior required significant renovation. Since the 2012 sale the first floor electric and plumbing was completely updated to code. As of spring 2020 the property is listed for sale for \$1.56 million, or \$97.97 per sq ft of GBA.

**Sale No. I-7**



Downtown Juneau historic building with frontage on both Front Street and N Franklin Street. The purchaser planned to renovate the building with new

retail storefronts and apartments above. The top floor was formerly used as a theater and requires repurposing. Since the sale the Franklin Street space has been renovated and leased to Devils Club Brewing.

### Sale No. I-8



This was the arm's length sale of a downtown property that required significant updating and some deferred maintenance. The purchase price was \$1,075,000 however after upgrades, based on numbers provided by the broker, the analysis price is \$1,650,000. The property was purchased by several local investors and is currently being renovated including removal of asbestos, a new HVAC, upgraded elevator and remodeling of all restrooms.

## Overview of Adjustments

### Nature Adjustments & Adjustment Grid

Adjustments to the comparables are necessary to reflect advantages and disadvantages relative to the subject. Ideally, quantitative adjustments are determined through paired sale analysis or other definitive data. However, when quantitative adjustments cannot be reliably ascertained - as is typically the case in Alaskan markets due to data limitations - qualitative adjustments may be applied through a weighted analysis of each comparable based on its relative merits. These adjustments may be supported by available market data, discussions with local market participants, and/or supplemental information contained within the appraiser's files.

Note that qualitative adjustments - based on the above as well as on appraiser judgment - are applied on a numeric (percentage) basis in this appraisal. Ultimately, the adjustment grid presented further in this chapter is not intended to imply that all of the adjustments were performed on a quantitative basis. Rather, the adjustment grid is presented to more precisely communicate the appraiser's opinion on the direction and degree of adjustment required to a given comparable. Moreover, it should be recognized that the elements of comparison shown in the adjustment grid are those considered most significant and relevant. While they help explain the appraiser's reasoning and support for the reconciled value estimate, they are

not the only elements of comparison considered. Other differences where adjustments have not been made explicitly are not deemed material and are therefore implicitly considered in the appraiser's analysis of the comparables and the reconciled value estimate. Finally, certain adjustments to the transaction prices may have already been made and reflected in the initial "Analysis Prices" shown in the table, as described in the preceding comments for the individual comparables.

The comparables reflect sales of improvements that are at or near the end of their economic lives, as is the subject.

**Property Rights Conveyed**

When real estate is sold, the contract may include rights that are less than or more than the market-typical "bundle of sticks" (property rights) for the real estate itself. Examples include the inclusion of another property, personal property, or the sale of a property subject to a below market or above market lease. Therefore, the sale price of the comparable property must be adjusted to reflect the property rights that are similar to those being appraised. In this analysis, the comparables are adjusted to reflect the fee simple sale price of the real property only.

**Financing Terms**

Seller-provided financing can play an important role in the sale of a project. Low down payments and terms that are significantly less stringent than those available in the market at the time of sale contribute to sale prices in excess of that obtainable by an all-cash or typically financed (by a disinterested third party) buyer. In order to analyze all properties on a comparable basis, those sales with financing not typically available for the property at the time of sale must be converted to typical terms and cash equivalency.

**Conditions of Sale**

Adjustments for conditions of sale are intended to reflect the motivations of the buyer and the seller. Conditions of sale that are outside the definition of market value must be adjusted to reflect a fully marketed property with adequate exposure and an arms-length transaction where neither the buyer nor the seller is unduly motivated. Adjustments may be required to properties where one party was unusually motivated, foreclosure sales, properties that were not fully exposed to the market, and active listings that have not closed.

**Market Conditions**

In the process of completing this assignment, or as part of previously completed assignments for similar properties in this segment, consideration was given to available paired sales, rent trends, assessment trends, MLS trends, economic studies, published articles and discussions with market participants.

Based on the available data, market values have generally been stable in recent years as demand and competitive supply are in equilibrium, with neither a seller's nor buyer's market, resulting in stable asset values. Therefore, no market conditions adjustment is required. Any appreciation occurring over the years is considered to be offset by increases in remodeling and demolition costs.

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<b>Location</b>	<p>Location is a broad term that includes non-property specific factors such as neighborhood and surrounding demographics and property specific factors such as surrounding streets, street frontage, access, exposure, number of corners, traffic counts, adjacent properties and other factors. The degree of adjustment is based on an analysis of underlying land values as indicated by comparable transactions and assessed valuation, market trends, discussions with market participants, a comparison of income levels, and other factors. Depending on the quality of the data, the resulting adjustment can be either quantitative or qualitative, but in either case involves a certain amount of subjectivity.</p> <p>The comparables have been analyzed based on their price per sq ft excluding land. The contributory value of the underlying land has been subtracted from each comparables total sale price resulting in an indication of building value only. This adjustment explicitly accounts for differences in location and no additional adjustments are required.</p> <p>It is important to note that any land value assigned to a comparable or the subject (unless a complete land valuation has been performed) does not constitute an appraisal (of the comparable or subject site), as the amount of adjustment is ultimately determined by the percentage difference between the subject and comparables and not the land allocations themselves.</p>
<b>Year Built / Renovated</b>	<p>While there is a correlation between age and a property's condition, it is not always direct. Renovations, remodels and aggressive upkeep can result in an "effective" age that is much less than actual age. Improvements with effective ages less than the subject will exhibit less depreciation and require a downward adjustment. Conversely, improvements with effective ages greater than the subject will exhibit more depreciation and require an upward adjustment. Note that this adjustment category allows for not only physical age, but also condition in the form of effective age.</p>
<b>Quality</b>	<p>The quality of the improvements has a direct influence on market value. The overall quality of a property is a function of exterior appeal, interior build-out, quality of mechanical systems and a variety of other factors.</p>
<b>Construction Type</b>	<p>The construction type of the structure may have a direct influence on market value. Properties with superior construction have increased economic lives and decreased operating costs.</p>
<b>Size</b>	<p>If an adequate supply of larger properties exists, then generally smaller properties tend to sell for higher prices per sq ft. If supply of larger properties is limited then they occasionally sell for a premium.</p> <p>A review of data indicates that, within the subject's market, sale prices are fairly uniform for smaller and larger properties. No adjustment for size is required.</p>

**Other**

No adjustments have been made to the comparables because they reflect depreciation to such a high degree that any adjustment would be disregarded by market participants.

Summary of Adjustments Exhibit

Sales Analysis Grid		I-1	I-2	I-3	I-4	I-5	I-6	I-7	I-8								
Address	310 Bennett St.	553, 555 First Ave. & , 550, 552 Second Ave.	645 Fifth Ave.	814 W. Northern Lights Blvd.	519 1st Avenue	4902 Spenard Road	109 Franklin Street	238 Front Street	707 A Street								
City	Wrangell	Fairbanks	Fairbanks	Anchorage	Fairbanks	Anchorage	Juneau	Juneau	Anchorage								
Date	3/26/2022	5/26/1999	12/28/2007	9/11/2008	3/11/2011	10/29/2012	12/31/2012	3/30/2016	1/17/2018								
Price	Appraisal	\$550,000	\$410,000	\$1,525,000	\$575,000	\$4,500,000	\$751,900	\$600,000	\$1,075,000								
Less: Land	---	\$649,773	\$211,296	\$1,550,800	\$252,500	\$4,768,283	\$883,840	\$594,300	\$861,000								
Improvements Only	---	-\$99,773	\$198,704	-\$25,800	\$322,500	-\$268,283	-\$131,940	\$5,700	\$214,000								
GBA	30,596	36,400	19,286	54,445	37,412	29,700	15,924	12,580	20,424								
\$/SF GBA	---	-\$2.74	\$10.30	-\$0.47	\$8.62	-\$9.03	-\$8.29	\$0.45	\$10.48								
<b>Transaction Adjustments</b>																	
Property Rights	Fee Simple	Fee Simple	0.0%	Fee Simple	0.0%	Fee Simple	0.0%	Leased Fee	0.0%	Fee Simple	0.0%	Fee Simple	0.0%	Fee Simple	0.0%	Fee Simple	0.0%
Financing	Conventional	Conventional	0.0%	Conventional	0.0%	Conventional	0.0%	Conventional	0.0%	Conventional	0.0%	Conventional	0.0%	Conventional	0.0%	Cash	0.0%
Conditions of Sale	Arms Length	Motivated Seller	0.0%	Arms Length	0.0%	Arms Length	0.0%	Asking	0.0%	Arms Length	0.0%	Arms Length	0.0%	Arms Length	0.0%	Arms Length	0.0%
<b>Adjusted GBA Unit Price</b>		<b>-\$2.74</b>	<b>\$10.30</b>	<b>-\$0.47</b>	<b>\$8.62</b>	<b>-\$9.03</b>	<b>-\$8.29</b>	<b>\$0.45</b>	<b>\$10.48</b>								
Market Cond. Thru	3/26/22	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%								
<b>Adjusted GBA Unit Price</b>		<b>-\$2.74</b>	<b>\$10.30</b>	<b>-\$0.47</b>	<b>\$8.62</b>	<b>-\$9.03</b>	<b>-\$8.29</b>	<b>\$0.45</b>	<b>\$10.48</b>								
Overall Comparison		Inferior	Similar	Similar	Similar	Inferior	Similar	Similar	Similar								
<b>Adjusted GBA Unit Price</b>		<b>-\$2.74</b>	<b>\$10.30</b>	<b>-\$0.47</b>	<b>\$8.62</b>	<b>-\$9.03</b>	<b>-\$8.29</b>	<b>\$0.45</b>	<b>\$10.48</b>								
<b>Net Adjustments</b>		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%								
<b>Gross Adjustments</b>		0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%								

## Discussion & Analysis - After Adjustment

The comparables bracket the physical and economic characteristics of the subject. They bracket the market value of the subject on an unadjusted basis, and inferior comparables were adjusted upward while superior comparables were adjusted downward. Prior to adjustments, the sale prices fall within a wide range.

After adjustment, the comparables range from -\$9.03 to \$10.48/ sq. ft. Weight is given to Sales I-2, I-4, I-7, and I-8, as they were remodeled and repurposed.

After careful consideration, based on analysis of the data presented previously as well as data contained within the appraiser's work file, the market value of the subject is estimated at \$10.00/sq ft.

## Value Calculation

### As Is

### Physical Comparison Methodology

PHYSICAL COMPARISON VALUE					
	GBA		GBA Unit Price		Total
Wrangell Medical Center	30,596	x	\$10	=	\$305,960
Improvements Value (Round)					\$305,960
<b>Add: Land Value</b>					<b>\$470,000</b>
Stabilized Market Value Estimate					\$775,960
<b>Rounded</b>					<b>\$775,000</b>



# Reconciliation & Final Value Estimate

## Summary of Value Estimates

The approaches to value utilized in this report have indicated the following values for the subject:

<b>VALUATION SUMMARY</b>	
<b>Wrangell Medical Center</b>	
<b>Property Rights</b>	<b>Fee Simple</b>
<b>Condition</b>	<b>As Is</b>
<b>Effective Date of Appraisal</b>	<b>March 26, 2022</b>
Land Valuation	\$470,000
Cost Approach	\$890,000
Sales Comparison Approach	\$775,000
Income Capitalization Approach	Not Developed
<b>Final Market Value Estimate</b>	<b>\$830,000</b>

## Reconciliation

### Overview

Reconciliation is the final phase in the assignment and is where two or more value indications derived from market data are resolved into a final value estimate. USPAP requires that the appraiser reconcile the quality and quantity of data available and analyzed within the approaches used. Furthermore, the applicability and relevance of the approaches, methods and techniques must also be reconciled. A discussion of the applicability of the various approaches is presented below.

### Cost Approach

This approach is normally a strong indicator of value when there is reliable data from which to estimate replacement cost and accrued depreciation. This approach is highly applicable for special purpose properties, new construction and when there are limited sales or rental activity (resulting in less reliable value indications by sales comparison and income capitalization). It is less applicable for older properties that exhibit significant amounts of depreciation. For non-special purpose properties, this approach is often considered by market participants but not given primary weight. Investors primarily use this approach to determine the feasibility of a proposed development. Owner-users often consider this approach when making decisions on whether to buy an existing building or pursue new construction.

### Sales Comparison Approach

This approach is normally a strong indicator of value when adequate current sales data are available. Like the Income Capitalization Approach, this approach responds quickly to changes in the marketplace. In user markets, the Sales Comparison Approach is given primary weight. Investors use this approach primarily as an indicator of current rates of return and subsequently give this approach secondary weight.

**Income Capitalization Approach**

The Income Capitalization Approach is generally considered a strong indicator of value for income-producing properties. The primary strength of the Income Capitalization Approach is income and operating levels respond quickly, if not immediately, to conditions in the market and changes in the property. This approach is given primary weight by investors and secondary weight by owner-users. Direct capitalization is the most common method of income capitalization used within the market and is highly applicable when a property is physically or economically stabilized. Discounted cash flow analysis is used by market participants for investment grade properties and is highly applicable when there are changing market conditions, a property is not physically or economically stabilized, the timing of cash flows is irregular, or the income pattern is different than what is typical of the market.

**EXCLUSION** The Income Capitalization Approach was not performed for the following reasons.

- The subject is an owner-occupied property and exists within a primarily owner-user market. While certain buyers may consider the income capitalization approach, it is not given significant weight by the vast majority of owner-users.
- There has been limited leasing activity within the subject’s market that is directly comparable to the subject.
- There is inadequate market data available in this case to credibly conclude an appropriate capitalization rate for the subject.
- Performance of the income capitalization approach does not increase the reliability of the current value estimate.
- The other approach(es) resulted in a reliable value estimate for the subject.

**Final Value Estimate**

The probable buyer of the subject is an owner-user. The value indications from the approaches performed have fallen within a narrow range suggesting adequate market data and reliable analysis of the data. All of the approaches provided reliable value indications and are highly applicable. In the end, the approaches performed are given equal weight. After careful consideration, the final value estimate(s) for the subject is/are as follows:

<b>FINAL MARKET VALUE ESTIMATE</b>	
<b>Wrangell Medical Center</b>	
<b>Property Rights</b>	<b>Fee Simple</b>
<b>Condition</b>	<b>As Is</b>
<b>Effective Date of Appraisal</b>	<b>March 26, 2022</b>
<b>Final Market Value Estimate</b>	<b>\$830,000</b>

## Exposure Period / Time

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**DEFINITION<sup>12</sup>** *1. The time a property remains on the market. 2. An opinion, based on supporting market data, of the length of time that the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal. (USPAP, 2020-2021 ed.)*

Investor surveys indicate exposure periods for properties within the subject's market classification ranging from 3 to 12 months and averaging 7 months. Pre COVID-19, local sales comparable data indicated exposure periods ranging from 3 to 12 months, assuming appropriate pricing and marketing efforts. In particular, smaller, single-tenant properties have tended to sell more quickly in the face of strong demand and limited availability. At the reconciled market value, an exposure period of 12 months is concluded.

## Marketing Time

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**DEFINITION<sup>13</sup>** *An opinion of the amount of time to sell a property interest at the concluded market value or at a benchmark price during the period immediately after the effective date of an appraisal. Marketing time differs from exposure time, which precedes the effective date of an appraisal. (Advisory Opinion 7 and Advisory Opinion 35 of the Appraisal Standards Board of The Appraisal Foundation address the determination of reasonable exposure and marketing time.)*

Implicit within the concept of market value is that the property is fully exposed to the market. Within the Alaska market this includes retaining a knowledgeable and qualified commercial broker that prepares a marketing package, lists the property on Alaska Multiple Listing Service as well as other local and national web sites used to market real estate. In the event that a knowledgeable and qualified broker is not retained, the property is not receiving full exposure to the market and the price that a seller will be able to attain may be impacted.

Based on the market analysis performed and the subject being fully exposed to the market, the anticipated marketing time is based on the following relationships:

Pre-COVID-19 Exposure Period + (COVID-19 Shutdown + COVID-19 Recovery) = Marketing Time

While the precise impact on valuations is uncertain, based on the current prevailing consensus by experts that the virus will largely be managed (but not necessarily eliminated) in as little as two months but in less than six months. An economic recovery period between six months and twelve months is anticipated. Therefore, based upon prevailing exposure periods,

<sup>12</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>13</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

marketing times are anticipated to increase to eighteen months for most property types. This projected increase in marketing times is consistent with historical evidence, including the 2000 dot.com bubble, September 11, 2001 terrorist attacks and 2008 financial crisis. In all of these prior periods of economic crisis, short term values were negatively impacted immediately followed by a dramatic decrease transaction volume, followed by a strong recovery and return to prior prevailing valuations and transaction volumes. While there are divergent opinions, the general consensus is that the COVID-19 will follow a similar pattern.

Therefore, for a property of this type and size, in this neighborhood, and given expected market conditions, the most probable marketing time would be up to 12 months. Note that it may be inappropriate for the Client to assume value remains stable during the estimated marketing period and that the marketing period may change over time.

# General Assumptions & Limiting Conditions

1. **Applicable to All Assignments:** Unless explicitly stated to the contrary, the following General Assumptions & Limiting Conditions apply to all assignments:
2. **Acceptance of Report/Limit of Liability:** Any use of or reliance on the appraisal by any party, regardless of whether the use or reliance is authorized or known by Appraiser, constitutes acceptance of, and is subject to, all appraisal statements, limiting conditions and assumptions stated in the appraisal report. The client is responsible to become familiar with these statements, assumptions and limiting conditions.
3. **Responsibility of Client/Intended User to Accurately Communicate Appraisal Results:** If placed in the possession of anyone other than the client or intended user, they shall make such party aware of these assumptions and limiting conditions. The appraiser(s) assume no liability for the client or third party's lack of familiarization and comprehension of the same. The appraiser(s) has no responsibility or liability to correct any deficiencies of any type in the property, or any costs incurred to correct such deficiencies whether legal, physical, or financial.
4. **Post Appraisal Services:** The contract for appraisal, consultation, or other service is fulfilled upon completion of the assignment. The appraiser(s) or others assisting in this report will not be required to provide testimony in court or other hearing and will not participate in post appraisal services other than routine questions with the client or third parties so designated by the client without a separate engagement and for an additional fee. If testimony or deposition is required due to subpoena, the client shall become responsible for the incursion of fees and charges for any additional time, regardless of the party.
5. **Duplication and Dissemination of Report or Report Contents:** This appraisal has been completed for the client's specific use as well as any other intended user(s) specifically identified in the report. The appraiser(s) has no liability, accountability, or obligation to any other third party. The appraiser(s) retain ownership and copyright of the data, discussions, and conclusions contained herein. Possession of this report does not constitute the right of publication or dissemination either in whole or in part. The client may only disseminate complete final copies to third parties engaged in the course of underwriting and loan securitization, as well as to any other intended user(s) identified in the report, or in the case of litigation or negotiations, the other party, their counsel and any court, including master or arbitrator. Duplication and dissemination of selected sections of this report to third parties without express written consent of the signatories of the report are prohibited and may be misleading. This report in whole or in part may not be distributed to the general public by use of advertising media, public relations, new outlets, etc. without the written consent of the signatories. Exemptions from this restriction include duplication for the client's internal use, dissemination to accountants, attorneys, or advisors of the client. The exemption also extends to any court, governmental authority, or regulatory agency that has jurisdiction or subpoena power over the individuals or parties for whom the appraisal has been prepared or for ethics enforcement, provided that the report will not be published in whole or in part in any public document or medium. This report shall not be advertised to the public to make a "sale" or any "security" as defined by the Securities Act of 1933.
6. **Appraisal Institute Use Restrictions:** Disclosure of the contents of this appraisal report is governed by the By-Laws & Regulations of the Appraisal Institute. Neither all nor any part of the contents of this report (especially any conclusions as to value, the identity of the appraisers or the

firm with which they are connected, or any reference to the Appraisal Institute or to the MAI designation) shall be disseminated to the public through advertising media, public relations media, news media, sales media or any other public means of communication without the prior written consent and approval of the undersigned. No part of this report or any of the conclusions may be included in any offering statement, memorandum, prospectus or registration without the prior written consent of the appraisers.

7. **Unauthorized User:** The report has been prepared for the client and any other intended user(s) specifically identified in the report, for the stated intended use only. The appraiser(s) has no liability to any other third party. Any authorized user of this document who provides a copy of this document to, or permits reliance thereon by, any person or entity not authorized by Reliant, LLC in writing to use or rely thereon, hereby agrees to indemnify and hold Reliant, LLC, its affiliates and their respective shareholders, directors, officers, and employee's harmless from and against all damages, expenses, claims and costs, including attorney's fees, incurred in investigating and defending any claim arising from or in any way connected to the use of, or reliance upon, the document by any such unauthorized person or entity. Such unauthorized distributor accepts all liability to the unauthorized user whom they distribute a copy of the report to. Any unauthorized distributor of this report is cautioned that they may incur liabilities to the unauthorized user that they are providing a copy of the report to as well as to Reliant LLC.
8. **Reliability of Information Used:** Through the course of this assignment the appraiser(s) collected data from numerous sources deemed reliable, but not guaranteed. No liability is assumed for the inaccuracies of data supplied by the various sources either public or private. Data relied upon in this report has been confirmed with primary or secondary sources considered reliable and/or reasonable, and appropriate for inclusion in the analysis. Although there were no reasons to doubt the general accuracy of such data, unimpeachable verification or affidavits of all data is an impractical and an uneconomic expenditure of time and resources and/or may involve legal or confidentiality issues.
9. **Right to Amend Report:** The appraiser(s) reserves the right to amend, modify, alter, or correct any and all statements, analyses, and conclusions of the value indications in the event that incorrect data was supplied, withheld, altered, or that any other pertinent data unknown, not disclosed, or revealed to the appraiser(s), whether intentionally or unintentionally, during the course of this assignment subsequently becomes available. Examples of such data that could impact the opinions of market value include but are not limited to: street addresses, Assessor's Parcel Numbers, site area, site dimensions, gross building area, net rentable area, usable area, common area, number of units, number of rooms, rent rolls, historical operating statements and budgets, sales data, etc.
10. **Purchase and Sale Agreement:** In the event of a pending sale, as of the report date, any purchase and sale agreement (PSA, EMA, etc.) provided has been represented as being the final agreed upon document reflecting the final price and terms negotiated between the parties. This information reflects the perspective of a buyer and seller, and so may have been given significant weight in the final conclusion of market value. In the event that the sale information provided subsequently turns out not to represent the final agreed upon price and/or terms, or in the event that the price and/or terms are amended post-delivery of this report, the market value estimate contained herein may be invalidated. The intended user(s) of this report is advised not to rely upon it in this situation until the appraiser is provided the final/amended sale information for their full consideration and possible amendment to the opinions and conclusions originally stated in this report.
11. **Obligation of User to Report Errors:** Any authorized intended user is required immediately contact the appraiser(s) and report errors, discrepancies, or alterations to determine the impact on the

opinion(s) of market value.

12. **Integrated Analysis.** The individual components of the analysis contained herein are highly interrelated and subject and assignment-specific. As such, individual items such as rent, vacancy allowance, expenses, and rate of return cannot be viewed individually without the context of the whole analysis. Moreover, conclusions or individual components from this specific analysis cannot and should not be extracted for application to other properties and/or situations.
13. **Market Dynamic and Valuation Fluctuations:** The opinions of market value expressed within the report are subject to change over time as a result of market dynamics. Market values are highly susceptible to both macro and micro economic forces that influence the property. Such forces include but are not limited to: exposure on the market, length of time, marketing efforts, motivations and preferences of market participants, productivity of the property, the property's market appeal, changes in investor requirements regarding income and yields, etc. The opinions of market value are made as of the report date and subject to fluctuations over time as a result of natural market forces.
14. **Date of Value, Dollar Values, and Purchasing Power:** The date of the report and the effective date of the market value opinions are stated in the letter of transmittal or with the appropriate sections of the report. All dollar amounts are based on the purchasing power of the United States Dollar (USD). The analyses and conclusions of the assignment are based upon the known market conditions as of the date of report and are valid as of that date but may not be representative of market value either before or after this date. Changes in market conditions or purchasing power may warrant a new appraisal assignment. The appraiser(s) is available for consultations regarding changes in the economic conditions.
15. **Fixtures, Furniture, and Equipment (FF&E) and Business Concerns:** Personal property, FF&E, intangibles, going concerns, etc., unless specifically stated as a component of the real estate, are excluded from the market value estimates.
16. **Walk Through May Not Include Non-Relevant Space(s):** In the case where a "complete" walk through has been performed, a physical observation has been performed to assist in identifying relevant property characteristics in a valuation service to identify features that may affect a property's value or marketability such as legal, economic or physical characteristics. The physical observation will be of all relevant space(s) required to arrive at a reliable and credible opinion of market value, but may not include certain space(s) that are not deemed relevant or material to the appraisal problem. If the lack of physical observation of certain space(s) does not impact the reliability or credibility of the appraisal, it may not be disclosed within the report. In the event that the lack of physical observation of certain space(s) may have an impact on the reliability or credibility of the opinion of market value it will be disclosed within the report.
17. **Non-Viewed Units/Spaces:** In certain instances, due to current occupancy or lack of access, portions of the subject's units/spaces are not available to be viewed during the walk through. Unless otherwise stated in the report, in these cases the person accompanying the appraiser on the walk through has represented that the condition and quality of these units/spaces are similar to that of the property (viewed areas) as a whole. It is a general assumption of this assignment that the units/spaces that were not viewed are commensurate condition and quality with those viewed by the appraiser during the walk through.
18. **Proposed Improvements, Renovations, and Repairs:** For the purposes of this analysis, the proposed improvements, renovations, and/or repairs are assumed to be completed in a workman-like

manner, and according to the detail, plans, and specifications supplied to the appraiser(s). The market value opinions for such construction, renovations, and repairs are subject to an onsite walk-through of the improvements to determine completion as per plans and specifications.

19. **Date of Completion Value:** The actual delivery date of proposed product may vary widely from the anticipated date of delivery due to weather and other variables. If proposed or under construction, it is an ordinary assumption of this assignment that the subject is completed as of the at completion date, which has been developed based on discussions with ownership, contractors, architects and typical market derived construction deliveries.
20. **Limitations of Competency:** The appraiser is competent in the valuation of real estate, which is a subset of the field of economics. The appraiser is not competent in the fields of law, engineering, construction, architecture, surveying or other areas of expertise. Clients bear the responsibility of consulting and retaining experts outside the appraisal profession as required by the situation.
21. **Lease Verification / Validation:** Where applicable, the scope of lease verification was generally limited to their economic characteristics and legal aspects of the leases were not reviewed or analyzed. It is assumed that all of the leases are valid, legally binding documents.
22. **Divisions or Fractional Interests:** The opinions of market value apply to the entire property unless specifically identified and established within the conclusions and analyses of the report. Division of fractional interests by the client or third party will render this report invalid.
23. **Component Values:** The distribution of total valuation between the land and the building improvements in this report are applicable only under the existing program or utilization of the property. The component values between land and building are not intended, nor are they to be used in conjunction with any other appraisal assignment, and are rendered invalid if used.
24. **Survey:** Site plans, sketches, or other illustrations are not surveys unless specifically identified as an exhibit from a licensed survey. Surveys of the site boundaries were not completed, nor do the appraiser(s) claim such expertise. Dimensions and areas of the site were obtained from sources deemed reliable but not guaranteed. Additionally, it is further assumed that no encroachments exist.
25. **Exhibits:** Maps, plats, sketches, photographs, and other exhibits are intended for illustration, visualization, and assistance in describing and analyzing the property in full context. Such exhibits may not be removed, reproduced, or separately used beyond this report.
26. **Building Area:** Reliant, LLC makes no warranty or certification relating to building area. In instances when building area is not provided and is either partially or entirely unknown the appraiser may be required to measure the property to provide an indication of building area. Measurements by the appraiser may be made onsite or be made from property drawings, sketches, or actual architectural plans. The user(s) of this assignment are cautioned not to view the appraisers building area estimate as having the same degree of accuracy as a building area study performed by an appropriately qualified/certified individual such as an architect or engineer and are recommended to engage such individuals for this type of information.
27. **Clear Title:** It is specifically assumed, unless otherwise indicated, that the title to the property is clear and marketable, that there are no recorded, unrecorded, or potential liens, defaults, encumbrances, etc. that would adversely affect the marketability and transfer of ownership. Unless otherwise stated, all applicable property taxes are assumed to be paid current. The appraiser(s) does not imply expertise in determining defects in the title, nor has the appraiser(s) been informed of such



adversities. Specific questions regarding the title, including title insurance should be directed to a well qualified real estate title company. The legal description provided by title report, surveyor, government records, etc. is assumed to be correct.

28. **Subsurface Rights, Avigation Easements, and Transferable Development Rights (TDR's):** The market value opinion(s) specifically assume that there are no mineral deposit rights or other subsurface rights, avigation easements, or transferable development rights associated with the property unless explicitly stated within the report.
29. **Private Deed Restrictions:** The appraiser(s) makes the explicit assumption that there are no private deed restrictions that in any way limit the use of the subject property.
30. **Extent of Title Search:** Unless otherwise stated, the scope of work does not include a search of Department of Natural Resource recorded documents. Such a search should be performed by a qualified title specialist, such as a title insurance agency. It is the responsibility of the Client(s) and Intended User(s) to provide any documents or information related to title to Reliant LLC for consideration.
31. **Americans with Disabilities Act (ADA):** The ADA became effective on January 26, 1992. The appraiser(s) does not imply expertise in the interpretation of the ADA, nor has a compliance survey been completed. The potential exists that if a compliance survey is completed combined with a detailed analysis of the ADA requirements, deficiencies may be revealed that could adversely impact the market value conclusion(s). No specific information regarding any non-compliance issues have been provided to the appraiser(s) and the possibility of non-compliance was not considered in the developing the opinions of value contained herein. Specific compliance questions should be directed to the appropriate governing jurisdictional agency.
32. **Zoning Ordinances:** It is assumed that no changes to the current zoning code/ordinances or other regulations regarding the use of the property, density of development, construction components and/or quality of components, etc. are imminent or under consideration by the jurisdictional governing body, unless otherwise noted in the report. The property is appraised under the assumption that the improvements are approved, that certificates of occupancy or permits have been or will be issued, and that all other applicable national, state, local, or other administrative requirements have successfully been, or will be obtained or renewed for any use considered in the opinion(s) of market value.
33. **Adverse Governmental Controls:** Unless otherwise stated, the appraiser(s) is unaware of any governmental controls on the property, public initiative issues, rent or price controls, or any other adverse governmental or public controls contemplated regarding the legal use of the property.
34. **Property Compliance:** The appraiser(s) expresses no opinions or warranties that may require legal expertise or specialized investigations beyond the methods and investigations typically employed by real estate appraisers. Market value opinion(s) and conclusions contained within the report assume that the property is compliant with all environmental and government regulations such as building permits, fire department approvals, occupancy permits, building codes, licenses, etc. If the appraiser(s) has not been supplied with expert reports or documentation on inadequacies or non-compliance, no responsibility or representation is assumed for identification or costs to cure. The appraiser(s) assumes no responsibility for costs incurred to obtain flood hazard determination, flood hazard insurance, or consequences arising for failure to obtain flood hazard insurance. Although the appraiser(s) has searched publicly available FEMA maps, a flood certification should be obtained

from a qualified agent for the Federal Flood Insurance Program.

35. **Structural Integrity and System Components:** No advice or warranty of any kind are expressed or implied regarding the condition or adequacy of the mechanical systems, structural integrity of the improvements, soils, settlements, drainage, or other factors regarding the integrity and adequacy of the component systems of the improvements. The appraiser(s) is not a qualified engineer, nor is expertise implied with respect to engineering matters. Client may desire to retain the services of a qualified licensed contractor, civil engineer, structural engineer, architect, or other expert in determining the quality, condition, and adequacy of the improvements prior to the disbursement of funds. It is assumed that the existing improvements are structurally sound and constructed to the applicable federal, state, and local building codes and ordinances. That assumption includes, but is not limited to: the superstructure, roofing, electrical, plumbing, mechanical, HVAC, elevator, etc. The opinion(s) of market value are based upon no hidden or unapparent adverse conditions of the improvements, the site, or the subsoil, which would cause a loss in value. No responsibility or liability is assumed for any adverse conditions or for the expertise and retention of experts in discovery, detection, and cost to cure. In the event that professional consultations or reports reveal negative factors that would create a loss in value, the appraiser(s) reserves the right to amend the opinion(s) of market value and other conclusions contained herein.
36. **Environmental Hazards:** Unless specifically stated, the appraiser(s) has no knowledge regarding the presence or absence of toxic materials including but not limited to: asbestos, urea-formaldehyde insulation, leaking underground storage tanks, contaminated groundwater, or other potentially hazardous materials and substances that would adversely affect the market value and marketability of the property. The appraiser(s) does not imply expertise and no liability is assumed for the detection or remediation of such materials or substances, whether above or below the ground surface. Although a perfunctory observation was made during the walk-through, the client is referred to an environmental expert for further details, if so desired. If environmental hazards are discovered, the market value opinion(s) may be negatively affected, requiring a re-appraisal of the property for an additional fee.
37. **Environmental Compliance:** Unless otherwise noted, the appraiser(s) makes the assumption that the property is in compliance with all applicable national, state, or local environmental regulations.
38. **Competent Property Management:** It is assumed that the subject property analyzed currently is, or will be under efficient and competent management and that said management is not, or will not be, inefficient or super-efficient.
39. **Ongoing Operations.** In the event that the subject is a special purpose property or going concern, ongoing business operations are assumed unless otherwise stated in the body of the report.
40. **Financial Documentation:** Historic income and expenses may have been provided by ownership, a lender, property manager, real estate agent or other third party. The financial information is assumed to reflect actual income and expenses at the subject using Generally Accepted Accounting Principles (GAAP). This information is assumed to be accurate and it has not been audited in any way.
41. **Cash Flow Projections:** The cash flow projections presented in this report are forecasts of future performance characteristics based upon the macro and micro economic data detailed in the analysis. The income, vacancy, expenses, and general economic conditions presented are not to be construed as predictions of the future, but rather reasonable expectations of future performance based on market modeling practices. Unless otherwise stated, the cash flow modeling is intended to reflect the

opinions and practices of market participants and is not the analyst's forecast of what will actually occur. Actual results will vary, and are affected by fluctuating economic conditions and efficiency of management. The appraiser makes no warranty, express or implied, that the forecasts will occur as outlined. Additionally, future economic projections may be adversely affected by unforeseen circumstances and economic repercussions beyond the realm of knowledge or control, such as the events of September 11, 2001.

42. **Asset Recommendations and Consultations:** No statements contained within the report shall constitute recommendations with regard to any decision by the client(s) or intended user(s) with respect to prospective underwriting, financing, acquisition, disposition, holding of the asset, or any other subsequent event, at the stated market value indication(s) or otherwise. If the client requests a recommendation with respect to such a decision, it should be requested in writing, be explicitly listed in the scope of work and explicitly addressed in the appraisal report. Such decisions warrant significant research and strategy, with specific investment questions requiring additional consultations and financial analysis. Any client or intended user should consider this document as only one factor together with its independent investment considerations and underwriting criteria, in its overall investment decision. The assignment is not intended to be either a positive or a negative indication, nor endorsement, of the soundness of an investment or underwriting decision.
43. **Agreement to Mediation and Binding Arbitration:** If a dispute arises out of or relates to this assignment and if the dispute cannot be settled through negotiation, the parties agree first to try in good faith to settle the dispute by mediation administered by the American Arbitration Association under its applicable procedures. Any controversy or claim arising out of or relating to this assignment that cannot be resolved through said mediation shall be settled by binding arbitration administered by the American Arbitration Association under its applicable rules and binding judgment on the award rendered by the arbitrator(s) may be entered in any court having jurisdiction thereof.
44. **Property Specific Assumptions, Limiting Conditions and Hypothetical Conditions:** The user is directed to the Assignment Overview section of this report for a listing of Extraordinary Assumptions and Hypothetical Conditions specific to this assignment. The user is specifically cautioned to understand each of the items listed and their impact on the property and scope of this assignment.
45. **Dissemination to Assessor:** The user(s) of this report may not provide a copy of this appraisal to any assessment office or agency without the prior written consent of Reliant LLC, as redaction of certain market and/or property level information may be required prior to submission for confidentiality reasons.
46. **No Guarantee of Adoption by Taxing Agency:** In the event that Client utilizes or submits the report in connection with a tax return or other tax matter, Client understands and agrees that Reliant LLC, the assignment signatories and its employees, provide no warranty, representation or prediction as to the outcome of the tax matter. Client understands and acknowledges that the taxing authority (whether it is the Internal Revenue Service or any state or local tax authority) may disagree with or reject the appraisal(s) or otherwise disagree with Client's tax position, and further understands and acknowledges that the taxing authority may seek to collect from Client additional taxes, interest, penalties or fees. Client agrees that Reliant LLC, the assignment signatories and its employees shall have no responsibility or liability to Client or any other party for any such taxes, interest, penalties or fees, and Client will not seek damages or other compensation from Reliant LLC, the assignment signatories and its employees relating to any taxes, interest, penalties or fees imposed on Client or

for any attorneys' fees, costs or other expenses relating to Client's tax matter. These limitations of liability and damages restrictions shall be in addition to any other limitations and restrictions stated in this Agreement. Reliant LLC assignment signatories, appraiser's and employees are intended third-party beneficiaries of this section.

47. **No Guarantee of Adoption by Court or Jury:** In the event that Client utilizes or submits the report to any Local, State or Federal Court in connection with a litigation matter, Client understands and agrees that Reliant LLC, the assignment signatories and its employees, provide no warranty, representation or prediction as to the outcome. Client understands and acknowledges that the Courts (whether Local, State or Federal) and/or Jury may disagree with or reject the appraisal(s) or otherwise disagree with Client's legal positions. Client agrees that Reliant LLC, the assignment signatories and its employees shall have no responsibility or liability to Client or any other party for any Judgement or legal outcome. Client will not seek damages or other compensation from Reliant LLC, the assignment signatories and its employees relating to any Judgement imposed on Client for any value, taking, attorneys' fees, costs or other expenses relating to Client's litigation matter. These limitations of liability and damages restrictions shall be in addition to any other limitations and restrictions stated in this Agreement. Reliant LLC assignment signatories, appraiser's and employees are intended third-party beneficiaries of this section.
48. **Advanced Notification Required of Regulatory or Statutory Requirements:** In the event that the report is relied upon by a third party, such as the Internal Revenue Service, Assessor, Courts or anyone else other than the Client, it is the responsibility of the Client to advise Reliant LLC in writing and in advance of engagement as to any regulatory or statutory requirements imposed on the scope of assignment and scope of work by that third party. Client agrees that Reliant LLC, the assignment signatories and its employees shall have no responsibility or liability to Client or any other party for non-disclosed scope of work and scope of assignment requirements of the third party.
49. **Maximum Time Frame for Legal Action:** Unless the time frame is shorter under applicable law, any legal action or claim relating to the assignment or services performed shall be filed in court (or in the applicable arbitration tribunal, as applicable and noted above under Agreement to Mediation and Binding Arbitration) within two (2) years from the date of delivery to Client of the appraisal report to which the claims or causes of action relate or, in the case of acts or conduct after delivery of the report, two (2) years from the date of the alleged acts or conduct. The time frame stated in this section shall not be extended by any delay in the discovery or accrual of the underlying claims, causes of action or damages. The time frame stated in this section shall apply to all non-criminal claims or causes of action of any type.
50. **Duration (Term) of Assignment Reliance:** The period of time that an assignment remains applicable and appropriate for the Client and Intended User(s) intended use, including the factual conditions that form the premise of the assignment, the research, data, analysis and conclusions, are dependent on a variety of factors including the intended users, intended use, changes in market conditions, legal/regulatory/statutory requirements, property specific conditions and other factors. While the time period that an assignment may remain applicable and appropriate to the intended use may be significantly less than thirty-six (36) months, this assignment shall not be relied upon by the Client or intended user(s) after thirty-six (36) months from the earlier date of either A) assignment delivery, which is most commonly the date of report, or B) an invoice is submitted to the Client.
51. **No Assignment of Claims:** Legal claims or causes of action relating to the appraisal are not transferable or assignable to a third party, except: (i) as the result of a merger, consolidation, sale or purchase of a legal entity, (ii) with regard to the collection of a bona fide existing debt for services

but then only to the extent of the total compensation for the appraisal plus reasonable interest, or (iii) in the case of an appraisal performed in connection with the origination of a mortgage loan, as part of the transfer or sale of the mortgage before an event of default on the mortgage or note or its legal equivalent.

52. **Resolution of Violations & Deficiencies:** Any violations or deficiencies resolved under the terms of this agreement shall remain confidential between Reliant LLC and the Client, intended user(s) and reviewers. Except as provided under this agreement, the Client, Intended User(s) or reviewers agree not to submit the assignment to any applicable private or governmental body with jurisdiction over the matter. If any aspect of the assignment is determined by the Client, intended user(s) or their reviewers, to not meet the minimum standards of any applicable Local, State or Federal laws, including the Uniform Standards of Professional Appraisal Practice (USPAP) the Client or intended user(s) agree to not submit the assignment or individuals performing the assignment to any governing Local, State or Federal authorities or any private entity with jurisdiction without first 1) notifying Reliant LLC of the violations and 2) providing Reliant LLC an opportunity to correct and address any deficiencies that may exist. In the event that Reliant LLC fully addresses any deficiencies to the satisfaction of the Client, intended user(s) or their reviewers, these Parties agree that no further action shall be taken. If, however, the Client, intended user(s) or their reviewers do not believe that the issues have been fully resolved, Reliant LLC shall engage a third party expert of their choice to perform a professional review of the assignment. If that third party reviewer determines that the alleged issues have been resolved, the Client, intended user(s) or reviewers shall be responsible for the fee to that third party reviewer. If, however, the third party reviewer determines that the alleged issues have not been resolved, Reliant LLC shall have the opportunity to correct and address any deficiencies that may exist and is responsible for the fee to the third party reviewer. If, however, such issues are not fully addressed by Reliant LLC to the satisfaction of the third party reviewer, the Client, intended user(s) or their reviewers are released from the confidentiality requirement of this agreement and may submit the assignment to any applicable private or governmental body with jurisdiction over the matter.
53. **Unauthorized Third Party Liability to Reliant LLC for False Accusation:** The assignment is a private contract between Reliant LLC and the Client and intended user(s). Subject to the terms of this agreement, only the Client or intended user are permitted to submit this document to any applicable private or governmental body with jurisdiction over the matter without incurring any liability to Reliant LLC and the signatories of the assignment for false accusation, misrepresentation, slander or libel. In the event that the signatories of this assignment are found not to be in violation of any applicable governing regulations, any unauthorized third party that makes false accusations or submits this assignment to any applicable private or governmental body with jurisdiction over the matter accepts liability to Reliant LLC for attorney's fees incurred in their defense, lost income, damages to reputation of the signatories and firm and any and all other sources of economic damage that may result directly or indirectly from their said actions.
54. **Data Utilization:** The market and comparable data developed by the appraiser and presented in this report is being provided to the Client and Intended User(s) only within the context of this specific assignment. The Client and Intended User(s) are prohibited from distributing, disseminating, selling or otherwise profiting from this data outside the context of this assignment. The Client and Intended User(s) are, however, permitted to utilize this data strictly for their own internal purposes.
55. **Government Use:** This report contains sensitive information that may potentially cause harm to Reliant LLC if disseminated beyond the client(s) and intended user(s) described in the engagement documents and report. Therefore, subject to applicable law, any client(s) or intended user(s) that are

local, state or federal government entities agree to use their good faith efforts to maintain the confidentiality of the comparable data presented within the report. Notwithstanding other provisions of the engagement documents and report to the contrary, any client(s) or intended user(s) that are local, state or federal government entities may distribute this report as required or compelled to by law, but prior to release agree to redact all text, exhibits, photographs, maps or any other reference that identifies any comparable data used in the report where a party to the transaction (grantor, grantee, lessor or lessee) is not a government entity. The client(s) or intended user(s) and their agents are authorized to perform this redaction without consulting with, or obtaining any additional direction from Reliant LLC. The client(s) or intended user(s) may seek a written release from the above redaction requirement from Reliant LLC, who may provide such written release at its discretion. Furthermore, unless the client(s) or intended user(s) is expressly identified within the engagement documents and report as an assessment or taxation agency, and the intended use is to assist said agency in assessment or taxation matters, then unless otherwise required or compelled by law or court order to the contrary, any client(s) or intended user(s) that are local, state or federal government entities are not permitted to disseminate any contents of this report to any internal or affiliated assessment or taxation agency of the client(s) or intended user(s). If dissemination to such an assessment or taxation agency is required or compelled by law or court order, then the client(s) or intended user(s) agrees to perform the aforementioned redaction prior to distribution. Any internal or affiliated assessment or taxation agency that does obtain a copy of this report may not rely upon the report or disclose its contents. Release of this report to a local, state or federal government entity is not authorization to use the report or its contents for assessment or taxation purposes.

56. **Signatory Opinions Only:** The opinions and conclusions contained herein are developed and reported by the signatory(ies) and are exclusively those of the signatory(ies) only. This report does not necessarily reflect the opinions of Reliant LLC as a firm, or of any other Managing Members or employees.

## Terms & Definitions

<b>As Is Market Value<sup>14</sup></b>	<i>The estimate of the market value of real property in its current physical condition, use, and zoning as of the appraisal date. (Interagency Appraisal and Evaluation Guidelines) Note that the use of the “as is” phrase is specific to appraisal regulations pursuant to FIRREA applying to appraisals prepared for regulated lenders in the United States. The concept of an “as is” value is not included in the Standards of Valuation Practice of the Appraisal Institute, Uniform Standards of Professional Appraisal Practice, or International Valuation Standards.</i>
<b>Prospective Opinion of Value<sup>15</sup></b>	<i>A value opinion effective as of a specified future date. The term does not define a type of value. Instead, it identifies a value opinion as being effective at some specific future date. An opinion of value as of a prospective date is frequently sought in connection with projects that are proposed, under construction, or under conversion to a new use, or those that have not yet achieved sellout or a stabilized level of long-term occupancy.</i>
<b>Retrospective Value Opinion<sup>16</sup></b>	<i>A value opinion effective as of a specified historical date. The term retrospective does not define a type of value. Instead, it identifies a value opinion as being effective at some specific prior date. Value as of a historical date is frequently sought in connection with property tax appeals, damage models, lease renegotiation, deficiency judgments, estate tax, and condemnation. Inclusion of the type of value with this term is appropriate, e.g., “retrospective market value opinion.”</i>
<b>At Completion Value<sup>17</sup></b>	<i>The market value at the effective date construction is completed or the certificate of occupancy is issued.</i>
<b>At Stabilization Value<sup>18</sup></b>	<i>The concept of value at stabilization is based on stabilized occupancy. Stabilized occupancy is defined as occupancy at that point in time when abnormalities in supply and demand or any additional transitory conditions cease to exist and the existing conditions are those expected to continue over the economic life of the property.</i>
<b>Aggregate of Retail Values / Sum of Retail Values<sup>19</sup></b>	<i>The sum of the separate and distinct market value opinions for each of the units in a condominium, subdivision development, or portfolio of properties, as of the date of valuation. The aggregate of retail values does not represent the value of all the units as though sold together in a single transaction; it is simply the total of the individual market value conclusions. An appraisal has an effective date, but summing the sale prices of multiple units over an extended period of time will not be the value on that one day unless the</i>

<sup>14</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>15</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>16</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>17</sup> Source: The Appraisal of Real Estate, Fourteenth Edition, Chicago: Appraisal Institute, 2013.

<sup>18</sup> Source: The Appraisal of Real Estate, Fourteenth Edition, Chicago: Appraisal Institute, 2013.

<sup>19</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

*prices are discounted to make the value equivalent to what another developer or investor would pay for the bulk purchase of the units. Also called the aggregate of the retail values or aggregate retail selling price.*

**Value in Use (Use Value)<sup>20</sup>**

*The value of a specific property for a specific use.*

**Use Value<sup>21</sup>**

*The value of a property based on a specific use, which may or may not be the property's highest and best use. If the specified use is the property's highest and best use, use value will be equivalent to market value. If the specified use is not the property's highest and best use, use value will be equivalent to the property's market value based on the hypothetical condition that the only possible use is the specified use.*

**Business Value<sup>22</sup>**

*The market value of a going concern, including real estate, personal property, and the intangible assets of the business.*

**Market Value of the Going Concern<sup>23</sup>**

*The market value of an established and operating business including the real property, personal property, financial assets, and the intangible assets of the business.*

**Client<sup>24</sup>**

*The party or parties (i.e. individual, group or entity) who engage an appraiser by employment or contract in a specific assignment, whether directly or through an agent.*

**Intended Use<sup>25</sup>**

*The use(s) of an appraiser's reported appraisal or appraisal review assignment results, as identified by the appraiser based on communication with the client at the time of the assignment.*

**Intended User<sup>26</sup>**

*The client and any other party as identified, by name or type, as users of the appraisal or appraisal review report by the appraiser, based on communication with the client at the time of the assignment.*

**Fee Simple Estate<sup>27</sup>**

*Absolute ownership unencumbered by any other interest or estate, subject only to the limitations imposed by the governmental powers of taxation, eminent domain, police power, and escheat.*

**Leased Fee Interest<sup>28</sup>**

*The ownership interest held by the lessor, which includes the right to receive the contract rent specified in the lease plus the reversionary right when the lease expires.*

<sup>20</sup> Source: Office of the Comptroller of the Currency under 12 CFR, Part 34, Subpart C-Appraisals, 34.42 Definitions [f].

<sup>21</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>22</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>23</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>24</sup> Source: Uniform Standards of Professional Appraisal Practice 2020-2021 Edition, The Appraisal Foundation.

<sup>25</sup> Source: Uniform Standards of Professional Appraisal Practice 2020-2021 Edition, The Appraisal Foundation.

<sup>26</sup> Source: Uniform Standards of Professional Appraisal Practice 2020-2021 Edition, The Appraisal Foundation.

<sup>27</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>28</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.



<b>Leasehold Interest (or Estate)<sup>29</sup></b>	<i>The right held by the lessee to use and occupy real estate for a stated term and under the conditions specified in the lease.</i>
<b>Real Estate<sup>30</sup></b>	<i>real estate. An identified parcel or tract of land, including improvements, if any. (USPAP, 2020-2021 ed.) See also real property.</i>
<b>Real Property<sup>31</sup></b>	<i>1. An interest or interests in real estate. 2. The interests, benefits, and rights inherent in the ownership of real estate. (USPAP, 2020-2021 ed.)</i>
<b>FF&amp;E<sup>32</sup></b>	<i>Business trade fixtures and personal property, exclusive of inventory.</i>
<b>Personal Property<sup>33</sup></b>	<i>1. Tangible or intangible objects that are considered personal, as opposed to real property. Examples of tangible personal property include furniture, vehicles, jewelry, collectibles, machinery and equipment, and computer hardware. Examples of intangible personal property include contracts, patents, licenses, computer software, and intellectual property. See also trade fixtures. 2. Any tangible or intangible article that is subject to ownership and classified as real property, including identifiable tangible objects that are considered by the general public as being “personal,” such as furnishings, artwork, antiques, gems and jewelry, collectibles, machinery and equipment, and intangible property that is created and stored electronically such as plans for installation art, choreography, emails, or designs for digital tokens. (USPAP, 2020-2021 ed.)</i>
<b>Fixture<sup>34</sup></b>	<i>An article that was once personal property but has since been installed or attached to the land or building in a rather permanent manner so that it is regarded in law as part of the real estate.</i>
<b>Trade Fixtures<sup>35</sup></b>	<i>Articles placed in or attached to rented buildings by a tenant to help carry out the trade or business of the tenant are generally regarded as trade fixtures. For example, a tenant’s shelves used to display merchandise are trade fixtures and retain the character of personal property, as opposed to all other fixtures that were, but are no longer, personal property when they are attached to and become part of the real estate. Despite the consensus on the concept of trade fixtures in general, applicable law and custom govern when a specific item is a trade fixture in a particular assignment. Also called chattel fixture.</i>
<b>Intangible Property<sup>36</sup></b>	<i>Nonphysical assets, including but not limited to franchises, trademarks, patents, copyrights, goodwill, equities, securities, and contracts as distinguished from physical assets such as facilities and equipment. (USPAP,</i>

<sup>29</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>30</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>31</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>32</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>33</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>34</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>35</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>36</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

2020-2021 ed.)

<b>Extraordinary Assumption</b> <sup>37</sup>	<i>An assignment-specific assumption as of the effective date regarding uncertain information used in an analysis which, if found to be false, could alter the appraiser's opinions or conclusions.</i>
<b>Hypothetical Condition</b> <sup>38</sup>	<i>A condition, directly related to a specific assignment, which is contrary to what is known by the appraiser to exist on the effective date of the assignment results, but is used for the purpose of analysis.</i>
<b>Gross Building Area (GBA)</b> <sup>39</sup>	<i>1. Total floor area of a building, excluding unenclosed areas, measured from the exterior of the walls of the above grade area. This includes mezzanines and basements if and when typically included in the market area of the type of property involved. 2. Gross leasable area plus all common areas. 3. For residential space, the total area of all floor levels measured from the exterior of the walls and including the superstructure and substructure basement; typically does not include garage space.</i>
<b>Rentable Area</b> <sup>40</sup>	<i>For office or retail buildings, the tenant's pro rata portion of the entire office floor, excluding elements of the building that penetrate through the floor to the areas below. The rentable area of a floor is computed by measuring to the inside finished surface of the dominant portion of the permanent building walls, excluding any major vertical penetrations of the floor. Alternatively, the amount of space on which the rent is based; calculated according to local practice.</i>
<b>Usable Area</b> <sup>41</sup>	<i>1. For office buildings, the actual occupiable area of a floor or an office space; computed by measuring from the finished surface of the office side of the corridor and other permanent walls, to the center of partitions that separate the office from adjoining usable areas, and to the inside finished surface of the dominant portion of the permanent outer building walls. Sometimes called net building area or net floor area. See also floor area. 2. The area that is actually used by the tenants measured from the inside of the exterior walls to the inside of walls separating the space from hallways and common areas.</i>
<b>Gross Leasable Area</b> <sup>42</sup>	<i>Total floor area designed for the occupancy and exclusive use of tenants, including basements and mezzanines; measured from the center of joint partitioning to the outside wall surfaces.</i>
<b>Tidelands</b>	<i>Lands that lie below the mean high watermark. These include lands that are awash by normal tidal flows and submerged lands below the mean low</i>

<sup>37</sup> Source: Uniform Standards of Professional Appraisal Practice 2020-2021 Edition, The Appraisal Foundation.

<sup>38</sup> Source: Uniform Standards of Professional Appraisal Practice 2020-2021 Edition, The Appraisal Foundation.

<sup>39</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>40</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>41</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>42</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

watermark.

<b>Upland</b> <sup>43</sup>	<i>A piece of land that abuts a parcel with riparian rights; describes an owner once removed from a water right by a riparian owner.</i>
<b>Special Purpose Property</b> <sup>44</sup>	<i>An improved property with a unique physical design, special construction materials, or a layout that particularly adapts its utility to the use for which it was built and may be costly to modify to another use; also called a special-design property.</i>
<b>Excess Land</b> <sup>45</sup>	<i>Land that is not needed to serve or support the existing use. The highest and best use of the excess land may or may not be the same as the highest and best use of the improved parcel. Excess land has the potential to be sold separately and is valued separately.</i>
<b>Surplus Land</b> <sup>46</sup>	<i>Land that is not currently needed to support the existing use but cannot be separated from the property and sold off for another use. Surplus land does not have an independent highest and best use and may or may not contribute value to the improved parcel.</i>
<b>Depreciation</b> <sup>47</sup>	<i>1. In appraisal, a loss in the value of improvements from any cause; the difference between the cost of an improvement on the effective date of the appraisal and the value of the improvement on the same date. See also external obsolescence; functional obsolescence; physical deterioration. 2. In accounting, an allocation of the original cost of an asset, amortizing the cost over the asset's life; calculated using a variety of standard techniques.</i>
<b>Entrepreneurial Profit (Developer's Margin)</b> <sup>48</sup>	<i>1. A market-derived figure that represents the amount an entrepreneur received for his or her contribution to a past project to compensate for his or her time, effort, knowledge, and risk; the difference between the total cost of a property (cost of development) and its market value (property value after completion), which represents the entrepreneur's compensation for the risk and expertise associated with development. An entrepreneur is motivated by the prospect of future value enhancement (i.e., the entrepreneurial incentive). An entrepreneur who successfully creates value through new development, expansion, renovation, or an innovative change of use is rewarded by entrepreneurial profit. Entrepreneurs may also fail and suffer losses. 2. In economics, the actual return on successful management practices, often identified as coordination, the fourth factor of production following land, labor, and capital; also called entrepreneurial return or entrepreneurial reward.</i>

<sup>43</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>44</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>45</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>46</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>47</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>48</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

**Market Rent<sup>49</sup>**

*The most probable rent that a property should bring in a competitive and open market under all conditions requisite to a fair lease transaction, the lessee and lessor each acting prudently and knowledgeably, and assuming the rent is not affected by undue stimulus. Implicit in this definition is the execution of a lease as of a specified date under conditions whereby • Lessee and lessor are typically motivated;*

- *Both parties are well informed or well advised, and acting in what they consider their best interests;*

- *Payment is made in terms of cash or in terms of financial arrangements comparable thereto; and*

- *The rent reflects specified terms and conditions typically found in that market, such as permitted uses, use restrictions, expense obligations, duration, concessions, rental adjustments and revaluations, renewal and purchase options, frequency of payments (annual, monthly, etc.), and tenant improvements (TIs).*

**Exposure Time<sup>50</sup>**

*1. The time a property remains on the market. 2. An opinion, based on supporting market data, of the length of time that the property interest being appraised would have been offered on the market prior to the hypothetical consummation of a sale at market value on the effective date of the appraisal. (USPAP, 2020-2021 ed.)*

**Marketing Time<sup>51</sup>**

*An opinion of the amount of time to sell a property interest at the concluded market value or at a benchmark price during the period immediately after the effective date of an appraisal. Marketing time differs from exposure time, which precedes the effective date of an appraisal. (Advisory Opinion 7 and Advisory Opinion 35 of the Appraisal Standards Board of The Appraisal Foundation address the determination of reasonable exposure and marketing time.)*

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<sup>49</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>50</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

<sup>51</sup> Source: The Dictionary of Real Estate Appraisal, 7th Edition, Chicago: Appraisal Institute, 2022.

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# Addendum: Letter of Engagement

Addendum: Letter of Engagement

**CITY AND BOROUGH OF WRANGELL, ALASKA**

**AGREEMENT FOR PROFESSIONAL APPRAISAL SERVICES**

THIS AGREEMENT is between the CITY AND BOROUGH OF WRANGELL, ALASKA, ("CBW") and RELIANT LLC ("Contractor"), effective on the 4<sup>th</sup> of March 2022.

THIS AGREEMENT is for professional appraisal services for the City and Borough of Wrangell.

**ARTICLE 1. SUMMARY OF SERVICES**

- 1.1 The scope of work to be performed hereunder is more completely described in Appendix A which is incorporated herein by reference.

**ARTICLE 2. COMPENSATION**

- 2.1. CBW shall pay Contractor \$22,500 for its services as described in their response for a quote for services which is incorporated herein by reference as Appendix B. Payment shall be made to Contractor upon presentation of an appropriate invoice and final report.

**ARTICLE 3. PERIOD OF PERFORMANCE**

- 3.1 The Contractor agrees to commence work under this agreement only as authorized by and in accordance with written notice to proceed and to complete the work in accordance with Scope of Work (Appendix A) by April 29, 2022.
- 3.2 This contract may be extended with the agreement of both parties.

**ARTICLE 4. SUBCONTRACTORS**

- 4.1 The Contractor shall perform all services required under this agreement except as may be performed by its subcontractors. Subcontractors may be retained only upon written consent from the City.

ARTICLE 5. INSURANCE

5.1 The following minimum limits of insurance coverage are required:

Limits of Liability

<u>Type Insurance:</u>	<u>Each Occurrence</u>	<u>Aggregate</u>
Workmen's Compensation	\$1,000,000	\$1,000,000
Employers General Liability	\$1,000,000	\$3,000,000
Comprehensive General Liability	\$1,000,000	\$3,000,000
Comprehensive Automobile Liability	\$1,000,000	\$3,000,000

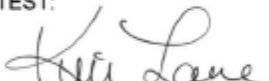
ARTICLE 6. APPENDICES

6.1 The following appendices are attached to this agreement and incorporated herein:

- Appendix A Scope of Work
- Appendix B Quote for service

WHEREFORE the parties have entered into this agreement the date and year first above written.

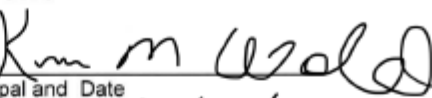
ATTEST:

  
 Kim Lane, CMC, Borough Clerk  
*mlc*

OWNER:  
City and Borough of Wrangell

By:   
 Jeff Good, Borough Manager

CONTRACTOR:  
Reliant LLC

By:   
 Principal and Date  
 3/5/22

# Addendum: Land Sale Comparables

Addendum: Land Sale Comparables



**LAND COMPARABLE L-1** **RELIANT COMP ID: 9107**

**Trident Land - 9107**  
**641 Shakes St**  
**Wrangell**

**Location Description**

**Tax ID**

**Legal Description**  
 Lot 4BB-2, WSI Subdivision II, Plat  
 2003-9



**Sale Information**

<b>Actual Price</b>	\$138,000	<b>Date</b>	6/21/2017
<b>Price</b>	\$138,000	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$8.00	<b>Property Rights</b>	Fee Simple
<b>Price Per Usable Land SF</b>	\$8.00	<b>Financing</b>	Cash
<b>Price Per Acre</b>	\$348,317.73	<b>Conditions of Sale</b>	Arms Length
<b>Grantor</b>	City of Wrangell	<b>Sale Verification Source</b>	Carol Rushmore
<b>Grantee</b>	Trident Seafoods Corporation		

**Site**

<b>Acres</b>	0.40	<b>Zoning</b>	I
<b>Land SF</b>	17,258	<b>Topography</b>	Level
<b>Shape</b>	Irregular		
<b>Utilities</b>	All utilities		

**Sale Comments**

This property was purchased by the lessee from the City of Wrangell. The site is improved with a belt freezer plant and the gross sales price was \$950,000. The allocation to the land was \$138,000. The property is located a half block off Shakes Street and is accessed via an easement. The site has some frontage on Wrangell Harbor.

**LAND COMPARABLE L-2** **RELIANT COMP ID: 9106**

**Breuger St Land - 9106**  
**200 Breuger St**  
**Wrangell**

**Location Description**

**Tax ID**

**Legal Description**



**Transaction**

<b>Actual Price</b>	\$27,500	<b>Date</b>	12/31/2017
<b>Price</b>	\$27,500	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$9.59	<b>Property Rights</b>	Leasehold
<b>Price Per Usable Land SF</b>	\$9.59	<b>Financing</b>	Cash
<b>Price Per Acre</b>	\$417,806.14	<b>Conditions of Sale</b>	Arms Length
<b>Grantor</b>	City of Wrangell	<b>Sale Verification Source</b>	Mike Renfrow
<b>Grantee</b>	First Bank		

**Site**

<b>Acres</b>	0.07	<b>Zoning</b>	C
<b>Land SF</b>	2,867	<b>Topography</b>	Level
<b>Shape</b>	irregular		
<b>Utilities</b>	All utilities		

**Sale Comments**

This is a lease of a commercial site that was valued at \$27,500 by appraisal. The site is a corner lot located one block off Front Street.

**LAND COMPARABLE L-3** **RELIANT COMP ID: 3812**

**NWC 3rd Ave & Bennett -  
NWC 3rd Ave & Bennett  
Wrangell**

**Location Description**

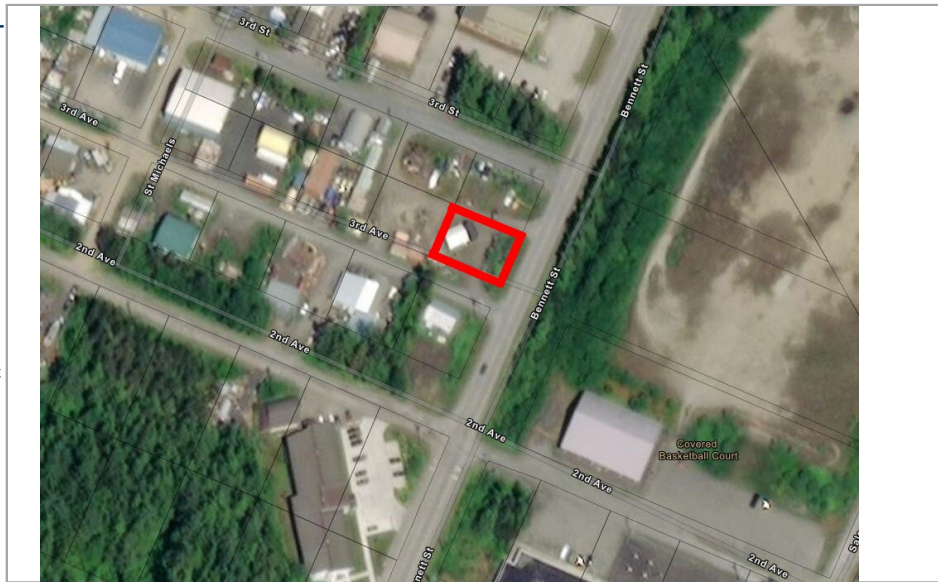
NWC 3rd Ave (Howell) & Bennett

**Tax ID**

02-029-208

**Legal Description**

Lot 5, Block 59B, Industrial Subd Plat 85-8, Wrangell RD, State of Alaska



**Transaction**

<b>Actual Price</b>	\$85,000	<b>Date</b>	7/30/2020
<b>Price</b>	\$50,000	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$6.92	<b>Property Rights</b>	Fee Simple
<b>Price Per Usable Land SF</b>	\$6.92	<b>Financing</b>	Conventional
<b>Price Per Acre</b>	\$294,117.65	<b>Conditions of Sale</b>	Arm's Length
<b>Grantor</b>	Bernard Massin	<b>Days on Market</b>	365
<b>Grantee</b>	Sara Gadd	<b>Sale Verification Source</b>	Broker/Agent, Terri Wenger, 907-3/11/20
		<b>Sale Verification Date</b>	3/11/20

**Site**

<b>Acres</b>	0.17	<b>Zoning</b>	I, Industrial
<b>Land SF</b>	7,222	<b>Topography</b>	Generally Level
<b>Road Frontage</b>	75	<b>Soil Conditions</b>	Average
<b>Shape</b>	Rectangular	<b>Encumbrance or Easement</b>	None
<b>Utilities</b>	Electric, Public Water, Sewer	<b>Environmental Issues</b>	None Noted

**Sale Comments**

This is the sale of a small industrial/commercial lot along Bennett St, on the way to the airport. The lot has good soils and all public utilities. Although improved with older asphalt and a non-operational 720 sq ft car wash structure, the parcel was marketed as vacant land, listed in March 2019. The buyer thought the carwash could be reused - either as a conversion to a coffee shop or as a carwash with a coffee shop drive through kiosk elsewhere on the site. The structure and asphalt paving improvements have been allocated \$35,000 of the \$85,000 sale price.

**LAND COMPARABLE L-4** **RELIANT COMP ID: 10772**

**Lot 5, Industrial Subd -  
NHN Airport Rd  
Wrangell**

**Location Description**

**Tax ID**  
02-029-208

**Legal Description**  
Lot 5, Block 59-D, Industrial  
Subdivision, Plat 85-8



Transaction			
<b>Actual Price</b>	\$70,000	<b>Date</b>	7/30/2020
<b>Price</b>	\$37,300	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$5.16	<b>Property Rights</b>	Fee Simple
<b>Price Per Usable Land SF</b>	\$5.16	<b>Financing</b>	Cash
<b>Price Per Acre</b>	\$224,983.41	<b>Conditions of Sale</b>	Arm's Length
<b>Grantor</b>	Bernard Massin	<b>Sale Verification Source</b>	Mike Renfrow
<b>Grantee</b>	Sara Gadd		

Site			
<b>Acres</b>	0.17	<b>Zoning</b>	I
<b>Land SF</b>	7,222	<b>Topography</b>	Level
<b>Shape</b>	Rectangular	<b>Encumbrance or Easement</b>	Typical
<b>Utilities</b>	All utilities	<b>Environmental Issues</b>	None

**Sale Comments**

This is an industrial lot located between downtown Wrangell and the airport. The lot has asphalt surfacing. The sales price was adjusted downward by \$32,700 to account for the contribution value of the improvements.

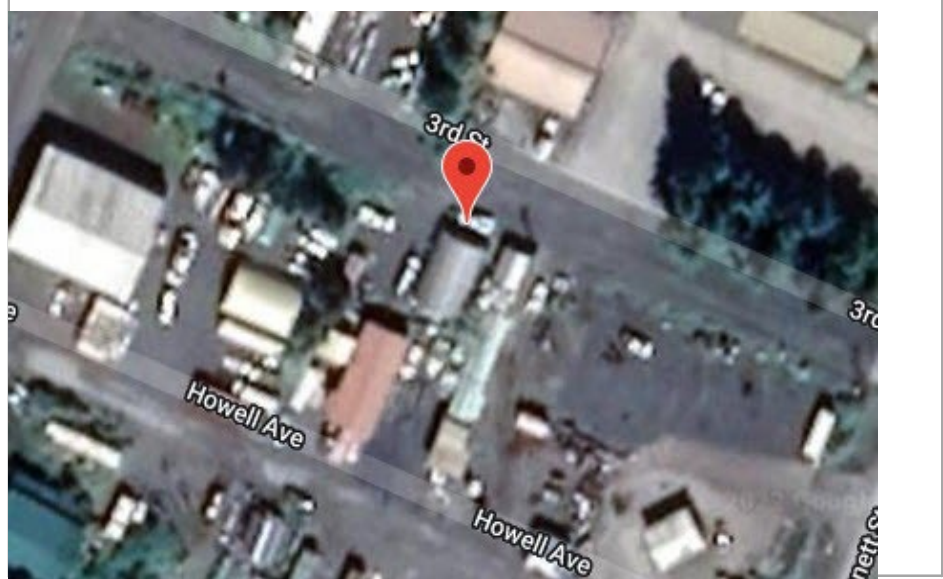
**LAND COMPARABLE L-5** **RELIANT COMP ID: 10773**

**Lot 8A, Massin/Industrial  
NHN Third St  
Wrangell**

**Location Description**

**Tax ID**  
02-029-204

**Legal Description**  
Lot 8A, Block 59B, Plat 2018-5



**Transaction**

<b>Actual Price</b>	\$195,000	<b>Date</b>	4/12/2021
<b>Price</b>	\$86,800	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$4.73	<b>Property Rights</b>	Fee Simple
<b>Price Per Usable Land SF</b>	\$4.73	<b>Financing</b>	Cash
<b>Price Per Acre</b>	\$206,107.23	<b>Conditions of Sale</b>	Arm's Length
<b>Grantor</b>	Bernard Massin	<b>Sale Verification Source</b>	Mike Renfrow
<b>Grantee</b>	John & Brenda Schwartz-Yeager		

**Site**

<b>Acres</b>	0.42	<b>Zoning</b>	I
<b>Land SF</b>	18,345	<b>Topography</b>	Level
<b>Shape</b>	Irregular	<b>Encumbrance or Easement</b>	Typical
<b>Utilities</b>	All utilities	<b>Environmental Issues</b>	None

**Sale Comments**

This is an industrial lot located between downtown Wrangell and the airport. The site is located on a spur road. Improvements on the site consist of a quonset hut, modular office building, and nine storage units.

**LAND COMPARABLE L-6** **RELIANT COMP ID: 10774**

**Lot 4A, Massin/Industrial  
NHN Howell Ave  
Wrangell**

**Location Description**

**Tax ID**  
02-029-208

**Legal Description**  
Lot 4A, Block 59B, Massin/Industrial  
Subdivision, Plat 2018-5.



**Transaction**

<b>Actual Price</b>	\$56,500	<b>Date</b>	9/13/2021
<b>Price</b>	\$23,800	<b>Transaction Type</b>	Closed Sale
<b>Price Per Land SF</b>	\$4.51	<b>Property Rights</b>	Fee Simple
<b>Price Per Usable Land SF</b>	\$4.51	<b>Financing</b>	Cash
<b>Price Per Acre</b>	\$196,612.97	<b>Conditions of Sale</b>	Arm's Length
<b>Grantor</b>	Bernard Massin	<b>Sale Verification Source</b>	Mike Renfrow
<b>Grantee</b>	John & Brenda Schwartz-Yeager		

**Site**

<b>Acres</b>	0.12	<b>Zoning</b>	I
<b>Land SF</b>	5,273	<b>Topography</b>	Level
<b>Shape</b>	Rectangular	<b>Encumbrance or Easement</b>	Typical
<b>Utilities</b>	All utilities	<b>Environmental Issues</b>	None

**Sale Comments**

This is an industrial lot located between downtown Wrangell and the airport. The site is located on a secondary street. The site is improved with an industrial building that contributed \$32,700.

# Addendum: Improved Sale Comparables

Addendum: Improved Sale Comparables

**IMPROVED COMPARABLE I-1**

RELIANT COMP ID: 970

**Marriott Springhill Suites  
Site - 970  
553, 555 First Ave. & ,  
550, 552 Second Ave.  
Fairbanks, AK**

**Location Description**  
SEC Cushman St. & First Ave.

**Tax ID**  
447021

**Legal Description**  
Lot 1-A-1, Block 13, Fairbanks  
Townsite



**Sale Information**

<b>Actual Price</b>	\$550,000	<b>Date</b>	5/26/1999
<b>Price</b>	\$550,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	City of Fairbanks	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	Town Square Properties	<b>Financing</b>	Conventional
		<b>Conditions of Sale</b>	Motivated Seller
<b>Book/Page or Reference Doc</b>	1999-013462-0		

**Site Description**

<b>Acres</b>	1.3	<b>Zoning</b>	CBD, Central Business District
<b>Land SF</b>	55,159	<b>Topography</b>	Generally Level
		<b>Waterfront Access</b>	No
<b>Access</b>	Excellent / Excellent		

**Improvements Description**

<b>GBA</b>	36,400		
<b>Percent Office Efficiency Ratio</b>		<b>Land to Building Ratio</b>	1.515357143
		<b>Yard Storage</b>	

**Sale Indices**

**NOISF of Rentable**

**TOS Occupancy**  
**Vacancy Stabilized**

**Sale Comments**

This is the sale of land for the development of a Marriott Springhill Suites in downtown. The site was formerly known as the old bar block" and new development at the site required demolition of all the old improvements. In the late1990s the city requested proposals for new development of the site, requiring that the entire block remain intact as one parcel. The city selected Town Square Properties' proposal. Demolition included minor asbestos removal and tipping fees at the landfill totaling approximately \$100,000. This cost was roughly offset by a total of \$100,000 in rebates the developers received for meeting specific development deadlines. Due to the city's motivation and the development process, this sale may be regarded as below market value."



**IMPROVED COMPARABLE I-2** **RELIANT COMP ID: 1073**

**ACS Globe Bldg. - 1073**

**645 Fifth Ave.**

**Fairbanks, AK**

**Location Description**  
SS Fifth Ave.; E of Barnette St.

**Tax ID**  
37214

**Legal Description**  
Lot 5, Block 86A, Fairbanks  
Townsite



**Transaction**

<b>Actual Price</b>	\$410,000	<b>Date</b>	12/28/2007
<b>Price</b>	\$410,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	City of Fairbanks	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	ACS of Fairbanks, Inc.	<b>Financing</b>	Conventional
<b>Buyer Type</b>	Owner-User	<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2007-029683-0		

**Site Description**

<b>Acres</b>	0.4	<b>Zoning</b>	CBD, Central Business District
<b>Land SF</b>	17,608	<b>Topography</b>	Generally Level
<b>Access</b>	Good / Good		

**Improvements Description**

<b>GBA</b>	19,286	<b>Quality</b>	Average
<b>Percent Office</b>	25%	<b>Land to Building Ratio</b>	0.912993882
<b>Tenancy Type</b>	Single-Tenant		
<b>Year Built</b>	1950 / 1950		
<b>Construction</b>	Concrete		

**Sale Indices**

<b>TOS Occupancy</b>	<b>NOISF of Rentable</b>	
<b>Vacancy Stabilized</b>	<b>Risk Profile</b>	Average Risk

**Sale Comments**

This is the City of Fairbanks' sale of the Globe Building to Alaska Communications Systems (ACS). The building was marketed beginning in the fall of 2004 when the Fairbanks City Council determined the building was no longer required for municipal purposes and should be sold off. The building was advertised at the assessed value of \$766,000 to multiple potential buyers, during which time the city received three offers: \$300,000, \$250,000, and \$410,000. The city rejected the offers due to price, contingency, and liability concerns. The building's marketability was impeded for a couple of reasons. First, on-site parking is minimal. Second, a portion of the building was subject to a below market lease to ACS in which ACS pays a portion of utility and maintenance costs only. Lastly, the building had a multitude of maintenance issues as well as asbestos. The city received an offer from ACS for \$410,000 which it accepted. Overall, this was an arms-length transaction with typical financing, and was representative of market conditions at the time of sale.

**IMPROVED COMPARABLE I-3** **RELIANT COMP ID: 650**

**Matanuska Maid Dairy Bldg. - 650**  
**814 W. Northern Lights Blvd.**  
**Anchorage, AK**

**Location Description**  
 Btwn. NL Blvd. & Photo Ave./W. 29th, E. of North Star St., W. of Alley

**Tax ID**  
 010-014-60

**Legal Description**  
 Lot 1-5, 7-10, Block 4, Frank Dickson SD, Plat 135-A



**Transaction**

<b>Actual Price</b>	\$1,525,000	<b>Date</b>	9/11/2008
<b>Price</b>	\$1,525,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	State of Alaska	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	Matt Bobich	<b>Financing</b>	Conventional
<b>Buyer Type</b>	Investor	<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2008-051652-0		

**Site Description**

<b>Acres</b>	1.4	<b>Zoning</b>	B-3, General Business
<b>Land SF</b>	62,032	<b>Topography</b>	Generally Level
		<b>Waterfront Access</b>	No
<b>Access</b>	Below Average / Excellent		

**Improvements Description**

<b>Property Type</b>	Warehouse	<b>Quality</b>	Below Average
<b>GBA</b>	54,445		
<b>Percent Office</b>	16%	<b>Land to Building Ratio</b>	1.139351639
<b>Efficiency Ratio</b>	100%	<b>Ceiling Height</b>	18
<b>Tenancy Type</b>	Single-Tenant	<b>Yard Storage</b>	No
<b>Year Built</b>	1963 / 2008	<b>Overhead Doors</b>	Yes
<b>Construction</b>	Concrete	<b>Dock High Doors</b>	Yes

**Sale Indices**

<b>Improvement Value</b>	-\$25,800.00		
	<b>NOISF of Rentable</b>		
<b>TOS Occupancy</b>	<b>Risk Profile</b>		Average Risk
<b>Vacancy Stabilized</b>			

**Sale Comments**

This is the former Matanuska Maid building in Midtown Anchorage located between Northern Lights and Benson in a very high traffic, high exposure location. Mat Maid sold the property in 2008 via a sealed bid auction that was widely publicized. The improvements were configured as a dairy and were in poor condition and some asbestos contamination. The winning bid was \$1,525,000. Costs to convert the improvements from dairy to pure distribution warehouse use and remove asbestos were \$1 million. Deferred maintenance was estimated at \$250,000. Due to poor truck access, maneuvering room and configuration the improvements provided limited functional utility and were not suitable for continued use as distribution warehouse. Post sale the buyer converted the property to mini storage space at substantial expense. This is an excellent example of the impact that poor truck access has on value. Overall, this is a arms length market transaction representative of a distribution warehouse property offering limited functional utility.

**IMPROVED COMPARABLE I-4** **RELIANT COMP ID: 1075**

**Lathrop Bldg. - 1075**

**519 1st Avenue**

**Fairbanks, AK**

**Location Description**  
Between 1st and 2nd Avenues near Lacy St

**Tax ID**  
30431

**Legal Description**  
Lt 18, except S. 45' and Lts 19 & 20  
BLK 13 Fairbanks Townsite



**Transaction**

<b>Actual Price</b>	\$575,000	<b>Date</b>	3/11/2011
<b>Price</b>	\$575,000	<b>Transaction Type</b>	Listing
<b>Grantor</b>	Wells Fargo	<b>Property Rights</b>	Leased Fee
		<b>Financing</b>	Conventional
<b>Buyer Type</b>	Investor	<b>Conditions of Sale</b>	Asking
		<b>Days On Market</b>	210

**Site Description**

<b>Land SF</b>	10,100	<b>Zoning</b>	CBD
		<b>Topography</b>	Generally Level
<b>Access</b>	Average / Good		

**Improvements Description**

<b>GBA</b>	37,412	<b>Quality</b>	Average
<b>Percent Office</b>	10%	<b>Land to Building Ratio</b>	0.269966856
<b>Efficiency Ratio</b>	93%	<b>Ceiling Height</b>	8
<b>Tenancy Type</b>	Multi-Tenant		
<b>Year Built</b>	1939		
<b>Construction</b>	Concrete		

**Sale Indices**

**NOISF of Rentable**

**TOS Occupancy**  
**Vacancy Stabilized**

**Sale Comments**

This older building was foreclosed on by Wells Fargo in 2009. The listing was originally priced at \$1,200,000 but has been reduced to \$575,000. As an older building, the improvements are compromised with contained asbestos, estimates to cure range from \$106.92/sq ft. to \$160.38/sq ft.

**IMPROVED COMPARABLE I-5** **RELIANT COMP ID: 1813**

**TDX Aviation Park  
Facility - 1813  
4902 Spenard Road**

**Anchorage, AK**

**Location Description**  
NWC of International Airport Rd. &  
Spenard Rd.

**Tax ID**  
010-301-21

**Legal Description**  
Lot 2, AIRPORT GATEWAY  
SUBDIVISION, according to Plat No.  
2003-136



**Transaction**

<b>Actual Price</b>	\$4,500,000	<b>Date</b>	10/29/2012
<b>Price</b>	\$4,500,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	Alaska Master Park, LLC	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	Option Grantee	<b>Financing</b>	Conventional
<b>Buyer Type</b>	Investor	<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2013-017330-0	<b>Days On Market</b>	180

**Site Description**

<b>Acres</b>	5.6	<b>Zoning</b>	T, Transitional
<b>Land SF</b>	242,414	<b>Topography</b>	Level
<b>Access</b>	Average/ Excellent	<b>Waterfront Access</b>	No

**Improvements Description**

<b>GBA</b>	29,700	<b>Parking Spaces</b>	48
<b>Percent Office</b>		<b>Land to Building Ratio</b>	8.162087542
		<b>Ceiling Height</b>	16'
<b>Construction</b>	Reinforced concrete		

**Sale Indices**

<b>Price Per RA</b>	\$105.51	<b>Expense Ratio</b>	8.0%
		<b>NOISF of Rentable</b>	
<b>TOS Occupancy</b>		<b>Cap Rate</b>	7.09%
<b>Vacancy Stabilized</b>			

**Sale Comments**

This is the sale of the former National Guard Armory located at the northwest corner of Spenard Road and West International Airport Road. The site is influenced by both the midtown and airport markets, and is just across Aviation Avenue from Spenard Lake. The site was improved with a 28,433 sq ft concrete block building originally built in 1962. The property was auctioned off by the MOA and the successful bid was \$4,500,000. There was prior known contamination on the property, however, a no further action letter had been issued and no impact on the sale was noted. Post sale expenditures include demolition of the existing building, which includes small amounts of asbestos, at an estimated cost of \$269,000 (based on the accepted bid). The property was sold with deed restrictions requiring an aviation theme, meeting

**IMPROVED COMPARABLE I-6** **RELIANT COMP ID: 7724**

**Elks/Rockwell Building - 7724**

**109 Franklin Street**

**Juneau, AK**

**Location Description**

**Tax ID**

1C070A130030

**Legal Description**

Fr. Lot 6, Lots 7 and 8, Block 13, Juneau Townsite



**Transaction**

<b>Actual Price</b>	\$1,150,000	<b>Date</b>	12/31/2012
<b>Price</b>	\$751,900	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	PEREYRA 2006 TRUST	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	FISHBONE RENTALS LLC	<b>Financing</b>	Conventional
		<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2012-008422-0		

**Site Description**

<b>Acres</b>	0.3	<b>Zoning</b>	MU
<b>Land SF</b>	11,048	<b>Topography</b>	Sloping up to NE

**Improvements Description**

<b>Property Type</b>	Mixed Use		
<b>GBA</b>	15,924	<b>Parking Spaces</b>	10
		<b>Land to Building Ratio</b>	0.693795529

<b>Year Built</b>	1908
<b>Construction</b>	Masonry

**Sale Indices**

<b>Price Per RA</b>	\$47.22
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**NOISF of Rentable**

**TOS Occupancy**  
**Vacancy Stabilized**

**Sale Comments**

This building was originally the Elks Lodge until 2006 when it was converted to a restaurant/bar and event space. The 7,694 sq ft ground floor has the restaurant/bar and three restrooms. The second floor is 7,182 sq ft, mostly open ballroom with another commercial kitchen, bar and storage. The 1,048 sq ft third level is a 2-bedroom apartment. At sale the shell of the building was structurally fit, but the interior required significant renovation. Since the 2012 sale the first floor electric and plumbing was completely updated to code. As of spring 2020 the property is listed for sale for \$1.56 million, or \$97.97 per sq ft of GBA.

**IMPROVED COMPARABLE I-7** **RELIANT COMP ID: 7716**

**First National Bank  
Building - 7716  
238 Front Street**

**Juneau, AK**

**Location Description**

**Tax ID**

1C070A030040

**Legal Description**

Lot 3 and Por Lot 2 Block G, and  
Lot 4 Block 3, Juneau Townsite



**Transaction**

<b>Actual Price</b>	\$600,000	<b>Date</b>	3/30/2016
<b>Price</b>	\$600,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	First National Bank Alaska	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	Spickett's Palace LLC	<b>Financing</b>	Conventional
		<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2016-001398-0		

**Site Description**

<b>Acres</b>	0.1		
<b>Land SF</b>	5,943	<b>Topography</b>	Benched

**Improvements Description**

<b>Property Type</b>	Mixed Use	<b>Quality</b>	Average
<b>GBA</b>	12,580	<b>Land to Building Ratio</b>	0.472416534

<b>Year Built</b>	1916
<b>Construction</b>	Masonry

**Sale Indices**

<b>Price Per RA</b>	\$47.69
---------------------	---------

**NOISF of Rentable**

**TOS Occupancy**  
**Vacancy Stabilized**

**Sale Comments**

Downtown Juneau historic building with frontage on both Front Street and N Franklin Street. The purchaser planned to renovate the building with new retail storefronts and apartments above. The top floor was formerly used as a theater and requires repurposing. Since the sale the Franklin Street space has been renovated and leased to Devils Club Brewing.

**IMPROVED COMPARABLE 1-8** **RELIANT COMP ID: 3691**

**707 A Street - 3691**

**707 A Street**

**Anchorage, AK**

**Location Description**  
SEC of 7th Avenue and A Street

**Tax ID**  
002-142-62

**Legal Description**  
Lots 4,5,and 6 Block 109 Original  
Townsite of Anchorage



**Transaction**

<b>Actual Price</b>	\$1,075,000	<b>Date</b>	1/17/2018
<b>Price</b>	\$1,075,000	<b>Transaction Type</b>	Closed Sale
<b>Grantor</b>	Board of Regents of the University of	<b>Property Rights</b>	Fee Simple
<b>Grantee</b>	A Street LLC (50%), M&M Living	<b>Financing</b>	Cash
<b>Buyer Type</b>	Investor	<b>Conditions of Sale</b>	Arms Length
<b>Book/Page or Reference Doc</b>	2018-002075-0	<b>Days On Market</b>	210

**Site Description**

<b>Acres</b>	0.5	<b>Zoning</b>	B-2B, CBD Intermediate
<b>Land SF</b>	21,000	<b>Topography</b>	Generally Level
<b>Access</b>	Good / Good		

**Improvements Description**

<b>Property Type</b>	Office Building	<b>Quality</b>	Average
<b>GBA</b>	20,424		
<b>Percent Office</b>	100%	<b>Land to Building Ratio</b>	1.028202115
		<b>Ceiling Height</b>	12'
<b>Tenancy Type</b>	Multi-Tenant		
<b>Year Built</b>	1973/2019		
<b>Construction</b>	Wood Frame		

**Sale Indices**

**Improvement Value**            \$214,000.00

**NOISF of Rentable**

**TOS Occupancy**  
**Vacancy Stabilized**

**Comments**

This was the arm's length sale of a downtown property that required significant updating and some deferred maintenance. The purchase price was \$1,075,000 however after upgrades, based on numbers provided by the broker, the analysis price is \$1,650,000. The property was purchased by several local investors and is currently being renovated including removal of asbestos, a new HVAC, upgraded elevator and remodeling of all restrooms.

# Addendum: Property Information

Addendum: Property Information



Design Southeast

Ryan M. Wilson, PE, SE  
Structural Engineering  
(907) 747-5424

403 Lincoln St., Suite 240  
Sitka, AK 99835

May 1, 2018



**Wrangell Medical Center Building Condition Survey**  
**Structural, Building Envelope and Interior Finishes**  
(15 Pages)



5-1-2018

### Narrative

Per the request of SEARHC facilities staff, Ryan M. Wilson, PE recently participated in a condition survey of the Wrangell Medical Center. The general scope of work included the following:

1. Document any non-code compliant construction.
2. Document any major building maintenance deficiencies requiring immediate attention.
3. Prepare recommendations to correct non-code compliant work in such a way as to meet the minimum standards of the 2012 International Building Code.
4. Prepare recommendations to correct any major building maintenance deficiencies in such a way to make such construction new and serviceable.
5. Determine if a more thorough investigation is warranted.

This condition survey began during the afternoon of April 23 and ending late morning April, 25, 2018. Mr. Wilson's scope of work mainly included a brief visual condition assessment of the foundation, roof framing, roofing, siding, windows and basic interior finishes such as; flooring, suspended ceilings, etc. Only readily accessible areas were assessed. This condition assessment used noninvasive and nondestructive methods. Some of the recommendations in regards to finishes, listed as deficiencies, were based on the inspector's judgement. Structural analysis was outside the scope of work. Geotechnical and subsurface investigation were not performed. This report does not warrantee the building against settlement or subsidence of any kind. Environmental investigations such as for asbestos, lead paint, mold or carpenter ants were outside the scope of work. Brief visual assessments do not reveal all deficiencies, it is possible some may be found latter.

### Wrangell Medical Center Building Description

**Property location:** 310 Bennet Street, Wrangell, Alaska  
**Property owner:** City and Borough of Wrangell  
**Dates of inspection:** April 23-25, 2018  
**Building Description:** One main level with a partial basement. There are at least three known additions. The front of the building faces Reid Street.  
 -1967 original construction + 1974 Addition = 17,898 sf  
 -1988 Addition = 9,928 sf  
 -1994 Addition = 2,770 sf  
**Total Building Area = 30,596 sf**

#### Description of Elements and Components:

- 1967 Building:**
- Construction Type:** V, with sprinklers.
  - Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  - Structural Framing:** Conventional wood framing consisting of 2x floor joists, timber beams, 2x wood stud bearing walls, 2x roof rafters and timber purlins.
  - Roofing:** Built-up multi-ply tar roof. Note: see 1988 addition for over-framed standing seam metal roofing.
  - Siding:** Exterior Insulated Finished System (EIFS).
  - Windows:** Wood casement or fixed windows.
- 1974 Addition:**
- Construction Type:** V, with sprinklers.
  - Foundation:** Unable to verify. The 1974 structural design drawings show a shallow foundation supported by reinforced concrete basement walls, spread footings and a concrete slab on grade. All bearing on a soil embankment.
  - Structural Framing:** Unable to verify. The 1974 structural design drawings show 2x wood stud bearing walls, open web floor joists, structural steel floor beams, structural steel columns, open web joist roof rafters and glulam purlins.
  - Roofing:** Built-up multi-ply tar roof. Note: see 1988 addition for over-framed standing seam metal roofing.
  - Siding:** Exterior Insulated Finished System (EIFS).
  - Windows:** Wood casement or fixed windows.
- 1988 Addition:**
- Construction Type:** V, with sprinklers.
  - Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  - Structural Framing:** Combination of conventional modular wood framing and stick framed construction. The 1988 addition on the west side of the building using modular construction is supported by timber pilings. A stick framed roof was constructed over the entire building; original 1967 construction, 1974 addition and 1988 additions. The new roof Over-framing consists of engineered I joist rafters, glulam beam; purlins, hip and ridge beams. Factory built trusses over-frame the 1974 addition roof.
  - Lateral Force Resisting System:** Plywood shear walls and plywood

- roof diaphragms.
- 5. **Roofing:** Standing seam metal roofing.
- 6. **Siding:** Exterior Insulated Finished System (EIFS).
- 7. **Windows:** Wood casement or fixed windows.

- 1994 Addition:**
- 1. **Construction Type:** V, with sprinklers.
  - 2. **Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  - 3. **Floor Framing:** Elevated structural concrete slab consisting of composite metal floor deck with concrete topping slab.
  - 3. **Structural Framing:** Pre-Engineered metal building. Primary steel consists of structural steel rigid frames. Secondary cold formed metal girts and purlins span between the rigid frames to support the wall and roof elements.
  - 4. **Lateral Force Resisting System:** Structural steel rigid frames and ordinary concentrically braces frames. Roof diaphragm consists of steel rod cross bracing.
  - 5. **Roofing:** Standing seam metal roofing.
  - 6. **Siding:** Metal siding panels oriented vertically.
  - 7. **Windows:** Aluminum casement or fixed windows.



Main Entry – Southwest Elevation



West Elevation



North Elevation



East Elevation



North Elevation – Shop Vestibule  
Shop to the Left  
1994 Addition



East Elevation - Shop  
1994 Addition

**Wrangell Medical Center Deficiency List**

1. Refer to appendix A photo log for photos of some of the deficiencies listed below.
2. Refer to construction cost estimate prepared by Estimations Incorporated for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S01	Metal Roofing	There are (2) major roof leaks at the roof ventilation turrets and approximately (12) minor leaks throughout the metal roofing. The metal roofing was originally installed in 1988 (30 years old) and is at the end of it's useful life. The leaks at the ventilation turrets have resulted in approximately 120 sf of rotten plywood roof sheathing.	Like-kind replacement of the existing standing seam metal roofing. Replace approximately 120 sf of decayed plywood roof sheathing.	RECOMMENDATION	
S02	Seamless Metal Gutter System	Replacement is required during a reroof project.	Replace existing gutters with an new seamless metal gutter system	RECOMMENDATION	
S03	Air Handler Hoods	The existing air handler hoods are at the end of their life. The protective paint coating has failed allowing significant corrosion of the base metal to begin.	Like-kind replacement of air handler hoods.	RECOMMENDATION	
S04	Soffit sheathing	The roof eave soffit sheathing appears to consist of exterior gypsum or cementitious based sheathing. Approximately 800 sf has extensive water damage and needs replacement.	Like-kind replacement of approximately 800 sf of soffit sheathing.	RECOMMENDATION	
S05	EIFS Facia	Some sections of facia have fallen off the building and are missing.	Like-kind replacement of approximately 200 lin. ft of EIFS facia.	RECOMMENDATION	

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S06	EIFS Siding	Some sections of the exterior insulated finish system (EIFS) has damage from water infiltration, freeze-thaw or impacts.	Like-kind replacement of approximately 1,000 sf of EIFS siding.	RECOMMENDATION	
S07	Exterior Paint	The existing exterior paint finish is in fair condition. The caulking is in poor condition with some joints failing.	Paint the exterior of the building including siding, fascia and underside of soffit. Remove and replace any failed caulking sealant.	RECOMMENDATION	
S08	Windows	There are at least (6) windows with either failed seals (fogging) or broken panes. Approximately (46) casement windows have malfunctioning hardware.	Replace approximately (52) windows.	RECOMMENDATION	
S09	Skylights	The (2) skylights near the main entry are in poor condition. (1) skylight has a broken pane.	Replace (2) skylights.	RECOMMENDATION	
S10	Window Blinds	During the window replacement project item S08, approximately half of the window blinds will need to be temporarily removed to facilitate replacement of the new windows. The existing blinds are worn and dated. It would be more efficient to replace with new instead of reinstalling the existing blinds.	Replace the existing window blinds.	RECOMMENDATION	
S11	Flooring	Most of the flooring in the facility is worn and nearing the end of its life. A large percentage of vinyl seams have failed. There are also several patches that have been installed with staples fastened through the face of the vinyl flooring.	Replace the existing flooring	RECOMMENDATION	

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S12	Non-Compliant Suspended Ceiling System	Most of the existing suspended acoustic ceiling system is not constructed in such a way to meet the current seismic detailing requirements.	Replace the suspended ceilings in all rooms exceeding 144 sf.	2012 IBC, ASCE 7-10 13.5.6, ASTM E 580/E580M	
S13	Interior Paint	Interior paint finishes are in fair condition.	Paint interior walls, gypsum sheathed and adhesive tiled portions of ceiling.	RECOMMENDATION	
S14	Casework and Workstations	Casework and workstations are worn. The Formica seams and backsplash details create an infection control cleanliness issue.	Replace casework and work stations in patient care areas.	RECOMMENDATION	
S15	Elevated Exterior Deck	The deck is slightly uneven (possible settlement). The rim board is wavy when sited down. The guardrails do not meet current code. The spacing of the horizontal rails exceed 4". Connection of guardrail to deck not capable of resisting a 200 lb. load.	Rebuild and replace the existing deck framing, decking and guardrails	2012 IBC 1013.4	
S16	Activities Room Addition	The addition bump out was added over top of an existing elevated exterior timber deck and is poorly built. The foundation piers supporting the outer perimeter wall have settled. Water runs down the exterior wall, beneath the wall sole plate saturating the floor framing.	Demo the addition back to the original perimeter wall line and infill frame the opening.	RECOMMENDATION	



ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S17	Timber Piling	Approximately 60% of the creosote treated timber pilings were visually inspected. In addition, 20% were inspected by sounding with a metal rod and probing with an ice pick. Generally the pilings appeared to be in good condition however (1) piling with severe decay was found. Water entered the untreated center portion of this piling through large vertical checks.	1. Repair decayed timber piling found during nondestructive visual inspection. 2. Recommend a more thorough piling inspection using additional nondestructive testing such as ultrasound to check for additional bad pilings.	RECOMMENDATION	

Appendix A  
Photo Log



Deficiency Item S01. Decayed plywood roof sheathing typical at (2) roof ventilation turrets. Nontypical condition of framing.



Typical structural roof framing in good condition. 1988 roof over-framing addition.



Deficiency Item S01. Minor roof leak creating moist condition for mildew growth (white).



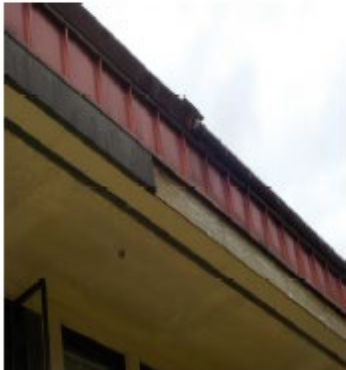
Deficiency Item S01. Example roof ventilation turret above major roof leak.



Deficiency Item S03. Air handler hood with corrosion.



Deficiency Item S04. Example water damaged roof soffit sheathing.



Deficiency Item S05. Missing EIFS fascia.



Deficiency Items S06, S07 and S08. Example damaged EIFS (freeze-thaw), fogged window, caulking sealant failure, siding in need of exterior paint



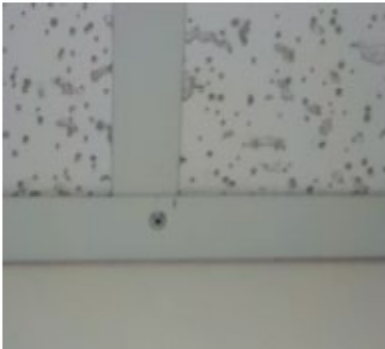
Deficiency Item S09. Broken skylight glazing.



Deficiency Item S11. Example of existing vinyl flooring repair.



Deficiency Item S11. Example vinyl Flooring seam failure.



Deficiency Item S12. Rooms over 144 sf, metal grid runners are fastened to angle on all four sides of ceiling. Only one side shown in photo.



Deficiency Item S15. Note dip in deck rim board. Guardrails non-code compliant. Space between horizontal rails exceeds 4". Connection to deck not capable or resisting a force of 200 pounds.



Deficiency Item S16. Addition bump out to activities room. Water runs down beneath the wall sole plate and runs across the floor. Foundation piers have settled.



Deficiency Item S17. Decayed creosote treated timber piling. Nontypical condition, not representative of average piling condition. Most pilings were found to be in good condition.



Typical creosote treated timber piling beneath 1988 addition, below emergency room. In good condition.



Typical creosote treated timber piling beneath 1968 Construction, beneath kitchen. In good condition. Reinforced concrete pile cap and grade beams in good condition.

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# Addendum: Experience Data



# Kim M. Wold

## Background

Mr. Wold's background includes over 40 years in the real estate appraisal sector. Mr. Wold has extensive experience in appraising properties such as single and multi-family residential, income-producing properties, special purpose properties (sawmills, fish processing plants, etc.), tidelands, logging camps, grocery stores, shopping centers, and aviation facilities. He also has extensive experience appraising urban and remote acreage of varying highest and best uses, such as residential, commercial, industrial, agricultural, forestry, mining claims, tidelands, recreational, etc. He has performed appraisals for mortgage underwriting, eminent domain, easement valuation, lease renewals, establishing market lease rates, and estate purposes.

Mr. Wold has appraised properties throughout Alaska, including Bristol Bay, Bethel, Anchorage, Haines, Hoonah, Juneau, Yakutat, Sitka, Wrangell, Petersburg, Craig, Klawock, Hydaburg, Metlakatla, Thorne Bay, Hollis, Ketchikan, Unalaska, Chignik, St. Paul Island, Kodiak Island, and numerous remote locations throughout Southeast Alaska.

## Education

### Real Estate Education

Mr. Wold has attended numerous appraisal-related courses presented by the American Institute of Real Estate Appraisers, Northwest Center for Professional Education, Marshall Valuation Service, University of Alaska, and the International Right-of-Way Association. Mr. Wold has also completed courses sponsored by the American Institute of Real Estate Appraisers and the Appraisal Institute in conjunction with the University of Portland, University of Colorado, University of San Diego, and Arizona State University. Specific courses completed include:

- Law and Value; Communication Corridors, Tower Sites & Property Rights, 2001
- Attacking and Defending an Appraisal in Litigation, 2001
- Valuation of Detrimental Conditions in Real Estate, 2002
- Appraisal Litigation Practice & Courtroom Management, 2003
- The Road Less Traveled: Special Purpose Properties, 2004
- Hospitality Properties, 2004
- Condominiums, Co-Ops, and PUDs, 2006
- Current Issues and Misconceptions in the Appraisal Practice, 2007
- Business Practices and Ethics, 2009

- Highest and Best Use and Market Analysis, 2009
- Self-Storage: Emerging Core Asset, 2011
- Fundamentals of Separating Real Property, Personal Property, & Intangible Business Assets, 2012
- Litigation Appraising – Specialized Topics, 2014
- Forecasting Revenue, 2015
- Review Theory, 2015
- Uniform Standards of Professional Appraisal Practice, 2018
- The Appraiser as an Expert Witness: Preparation and Testimony, 2019
- USFLA, 2021
- Evaluations & Other Report Alternatives, 2021

### Employment History

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<b>Reliant, LLC</b>	Appraiser, March 2019 to Present
<b>Integra Realty Resources – Seattle</b>	Appraiser, April 2017 to March 2019
<b>Alaska Appraisal Associates, Inc.</b>	President and Chief Appraiser, October 1978 to April 2017
<b>Ketchikan Gateway Borough</b>	Appraiser, January 1976 to October 1978

### Designations, Certifications and Awards

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<b>State License's / Certifications</b>	<ul style="list-style-type: none"> <li>▪ State of Alaska, Certified General Real Estate Appraiser, License No. 52 (expires June 30, 2023).</li> </ul>
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### Organization Affiliations, Offices & Memberships

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<b>Qualified Before Courts &amp; Administrative Bodies</b>	<ul style="list-style-type: none"> <li>▪ Senior Member – National Association of Review Appraisers and Mortgage Underwriters</li> <li>▪ Associate Member – Appraisal Institute</li> <li>▪ Fee Appraiser – Federal Housing Authority (FHA/HUD #2218)</li> <li>▪ US Bankruptcy Court</li> <li>▪ Superior Court of the State of Alaska</li> <li>▪ Superior Court of the State of Washington</li> <li>▪ Board of Equalization for Ketchikan Gateway Borough and the City of Craig</li> <li>▪ Testified in Internal Revenue Service tax appeal hearings</li> </ul>
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**Partial List of Clients**

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**Clients include:**

Government Agencies (FDIC, State of Alaska, Federal, and Local)  
Financial Institutions  
Fisheries  
Forestry  
Native Corporations  
Tourism

A more detailed list of clients and professional references is available upon request.

### A Foundation to Build On:

- Vision
- Integrity
- Commitment
- Performance

### A Commitment to Client Service:

- Quality Research & Analysis
- Quality Presentation
- Fast Turn Around Times
- Competitive Fees
- On Time Delivery
- Solid Confidentiality

### Extensive Valuation & Consulting Services:

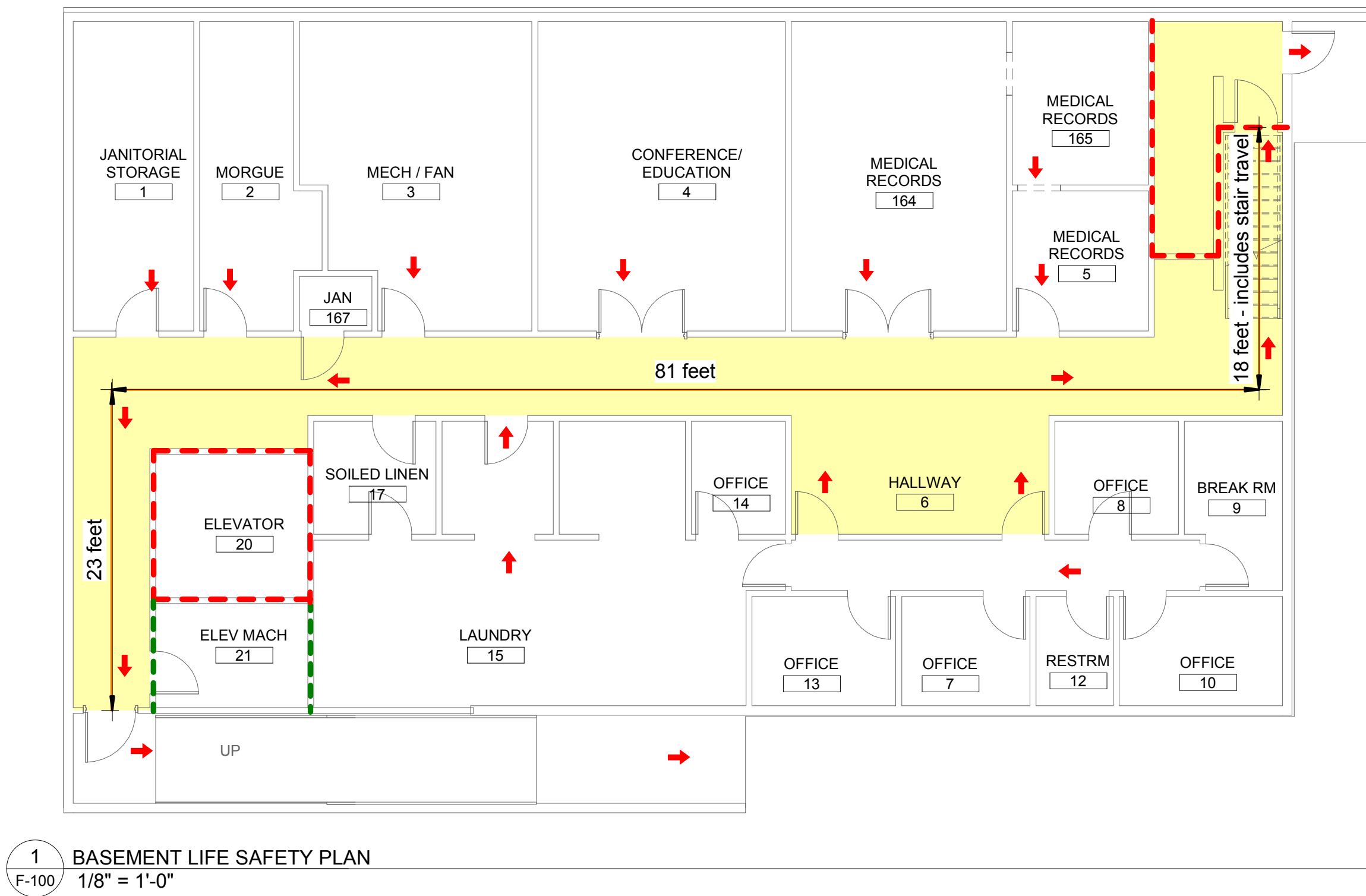
- Mortgage Financing
- Market & Feasibility Analysis
- Litigation & Arbitration Support
- Sale & Lease Negotiation
- Property Tax Consulting
- Estate Planning / Documentation
- Settlement Trusts
- Site Selection
- Due Diligence
- Investment Analysis
- Market Research
- Eminent Domain
- Partial Interest Valuations
- Forensic & Historic Valuations

### Extensive Market Knowledge:

- Institutional
- Hotels
- Apartment & Condominiums
- Health Care / Medical
- Affordable Housing / LIHTC
- Senior Housing / Assisted Living
- Lumber & Sawmills
- Shipyards & Marinas
- Truck Stops & Travel Centers
- Seafood Processing Plants
- Right-of-Way / Condemnation
- Remote Properties
- Industrial
- Ground Leases
- Office
- Retail
- Athletic Clubs
- High-Tech
- Vacant Land
- Parking Garages
- Movie Theatres
- Wetland Banking/Mitigation
- Residential Litigation Support
- Multifamily



9330 Vanguard Drive, Suite 201  
Anchorage, Alaska 99507  
Phone: (907) 929-2226  
Fax: (907) 929-2260  
Email: [admin@reliantadvisory.com](mailto:admin@reliantadvisory.com)  
[www.reliantadvisory.com](http://www.reliantadvisory.com)



1 BASEMENT LIFE SAFETY PLAN  
F-100 1/8" = 1'-0"

**SHEET NOTES:**

1. APPLICABLE CODES: IBC 2012 WITH ALASKA DEVIATIONS AND NFPA 101-2012
2. THE FACILITY IS A SEPARATED OCCUPANCY (NFPA 101 SECTIONS 6.1.14.2.3 AND 6.1.14.4)
3. THE ENTIRE FACILITY INCLUDING ATTIC, CRAWL SPACE, CARPORT, AND AWNINGS IS FULLY SPRINKLERED BY A DRY PIPE, CLOSED HEAD, SPRINKLER SYSTEM.
4. THE ENTIRE FACILITY IS MONITORED BY AN ADDRESSABLE FIRE ALARM AND DETECTION SYSTEM.
5. EXISTING BUSINESS OCCUPANCY APPLIES TO THE BASEMENT / LOWER FLOOR. (NFPA 101 SECTION 39)
6. EXISTING HEALTH CARE OCCUPANCY APPLIES TO THE MAIN / UPPER FLOOR. (NFPA 101 SECTION 19)
7. A 2-HOUR FIRE SEPARATION IS REQUIRED BETWEEN THE BASEMENT AND FIRST FLOOR. A 2-HOUR FIRE BARRIER AT THE ELEVATOR AND STAIR SHAFTS ALSO SUPPORT THIS REQUIREMENT. (NFPA 101 TABLE 6.1.14.4.1(a))
8. A 1-HOUR FIRE SEPARATION IS REQUIRED: HAZARDOUS AREAS INCLUDING, BUT NOT LIMITED TO, ELEVATOR MACHINE ROOM WHICH CONTAINS PRESSURIZED HYDRAULIC FLUID. (NFPA 101 SECTION 8.7.1.1(3))

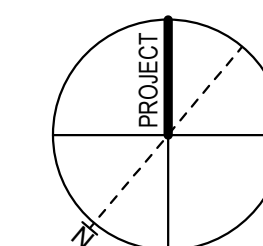
**LIFE SAFETY PLAN LEGEND**

- 1-HOUR FIRE BARRIER WALL AND DOOR ASSEMBLY
- 2-HOUR FIRE BARRIER WALL AND DOOR ASSEMBLY
- SMOKE BARRIER WALL AND DOOR ASSEMBLY
- EXIT CORRIDOR
- HAZARDOUS AREA (NFPA 101-2012 19.3.2)
- EXIT ROUTE
- SMOKE PARTITION FLOOR, WALL AND DOOR ASSEMBLY

**LIFE SAFETY PLAN DISCLAIMER**

THESE DRAWINGS ARE COMPILED FROM VARIOUS SOURCES INCLUDING THE ORIGINAL CONSTRUCTION DRAWINGS, REMODEL DRAWINGS, FIELD OBSERVATIONS, AND CONSULTANT RECOMMENDATIONS FOR JOINT COMMISSION COMPLIANCE.

INFORMATION CONTAINED IN THESE DRAWINGS REPRESENTS THE BEST AVAILABLE INFORMATION AT THIS TIME. ALL INFORMATION SHOULD BE PHYSICALLY VERIFIED WHEN PLANNING ANY PROGRAMMATIC OR PHYSICAL MODIFICATIONS.



No.	Date	Item
<b>REVISIONS</b>		



PROJECT :  
**SEARHC WRANGELL MEDICAL CENTER LIFE SAFETY PLAN 2018**  
WRANGELL ALASKA

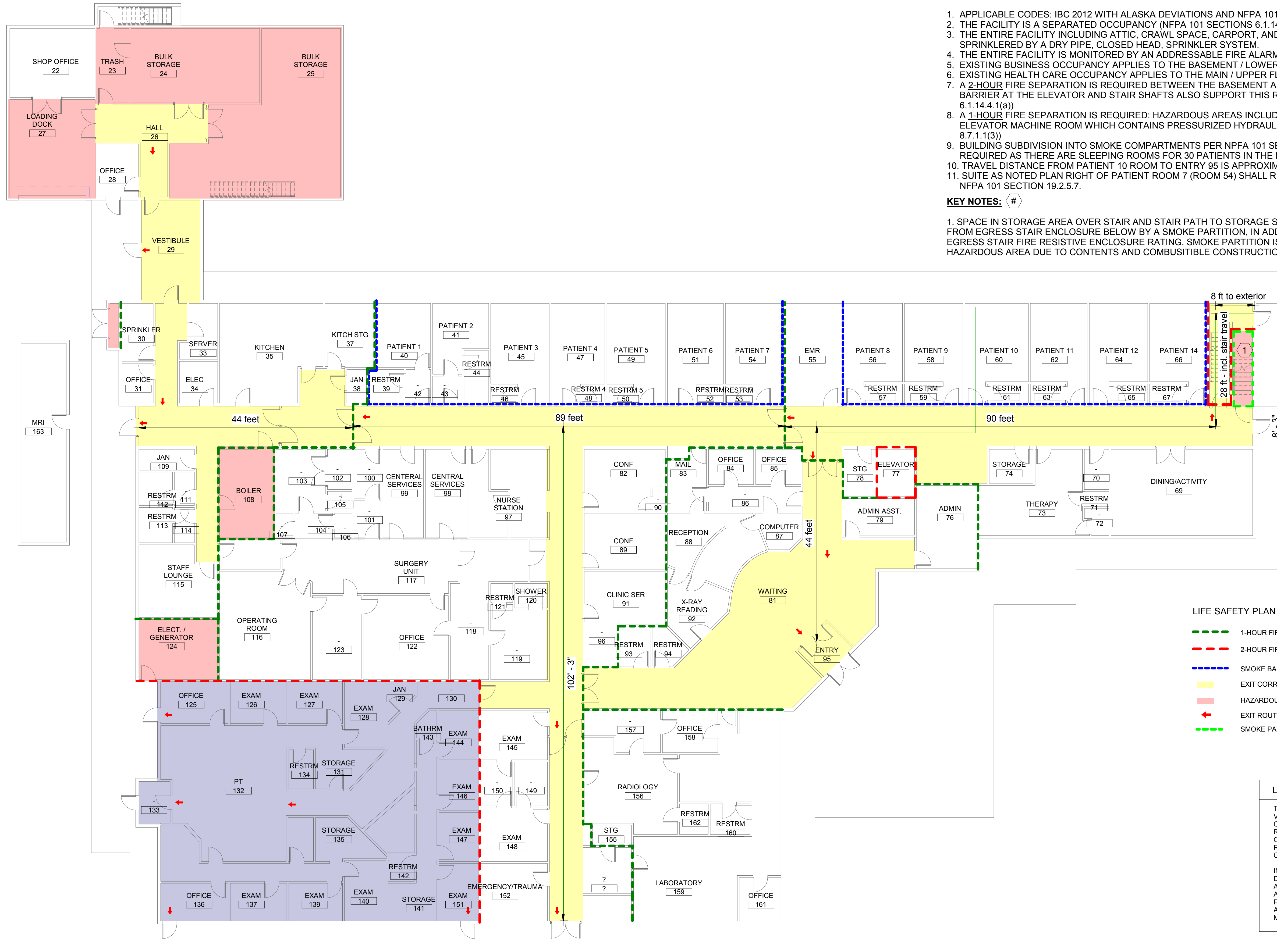
SHEET TITLE :  
**BASEMENT LIFE SAFETY PLAN**  
2018 Life Safety Code Review

DESIGN	CAN
DRAWN	CB
CHECKED	DR
DATE	12/05/2018

PROJECT No.  
**18314AN**  
SHEET NUMBER

**F-100**

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



**SHEET NOTES:**

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9. BUILDING SUBDIVISION INTO SMOKE COMPARTMENTS PER NFPA 101 SECTION 19.3.7.1 IS NOT REQUIRED AS THERE ARE SLEEPING ROOMS FOR 30 PATIENTS IN THE FACILITY AND ON THE STORY.
10. TRAVEL DISTANCE FROM PATIENT 10 ROOM TO ENTRY 95 IS APPROXIMATELY 107 FEET.
11. SUITE AS NOTED PLAN RIGHT OF PATIENT ROOM 7 (ROOM 54) SHALL REMAIN IN COMPLIANCE WITH NFPA 101 SECTION 19.2.5.7.

**KEY NOTES: #**

1. SPACE IN STORAGE AREA OVER STAIR AND STAIR PATH TO STORAGE SPACE SHALL BE SEPARATED FROM EGRESS STAIR ENCLOSURE BELOW BY A SMOKE PARTITION, IN ADDITION TO THE REQUIRED EGRESS STAIR FIRE RESISTIVE ENCLOSURE RATING. SMOKE PARTITION IS REQUIRED AS STORAGE IS A HAZARDOUS AREA DUE TO CONTENTS AND COMBUSTIBLE CONSTRUCTION OF THE STORAGE AREA.

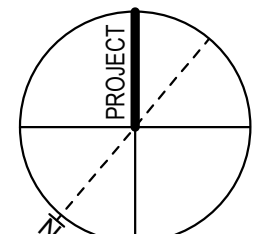
**LIFE SAFETY PLAN LEGEND**

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- EXIT ROUTE
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**1** FIRST FLOOR LIFE SAFETY PLAN  
F-101 3/32" = 1'-0"

No.	Date	Item
<b>REVISIONS</b>		



**SEARCHC**  
SEARCHC Regional Health Center  
Your Partner in Health

---



**PDC ENGINEERS**  
PLAN • DESIGN • CONSTRUCT  
1028 Aurora Drive, Fairbanks, Alaska 99709  
907.452.1414 | AEC605

**PROJECT:**  
**SEARCHC WRANGELL MEDICAL CENTER LIFE SAFETY PLAN 2018**  
**WRANGELL ALASKA**

**SHEET TITLE:**  
**FIRST FLOOR LIFE SAFETY PLAN**  
**2018 Life Safety Code Review**

DESIGN	CAN
DRAWN	CB
CHECKED	DR
DATE	12/05/2018
PROJECT No. <b>18314AN</b>	
SHEET NUMBER <b>F-101</b>	



701 East Tudor Road, Suite 250  
Anchorage, AK 99503 | 907.257.9100

2215 Midway Ln, Suite 200  
Bellingham, WA 98226 | 360.255.7235

[amc-engineers.com](http://amc-engineers.com)

1 May 2018

Mr. Steve Merkel  
SEARHC Facilities Director  
222 Tongass Drive  
Sitka, Alaska 99835

Subject: Wrangell Medical Center Building Condition Survey (18315)

Dear Steve:

Wrangell Medical Center (WMC) building condition survey mechanical and electrical site visit was made 24 and 25 April 2018 per your request. This letter summarizes the mechanical and electrical survey. Attached with this letter are mechanical and electrical deficiency lists, structural report, and related estimate of probable construction costs.

Building condition survey site visit personnel consisted of Steve Merkel Facility Director, Victor Weaver Deputy Director of Facility Services, and Shannon Freitas Safety Management Program Manager with SEARHC, Ryan Wilson Structural Engineer with Design Southeast, and John Lackey Electrical Engineer and David Boggs Mechanical Engineer with AMC Engineers. Site assistance was provided by Jim Holder WMC Maintenance Director.

This narrative is based upon available owner furnished record drawings and limited field verification. The building condition survey was based upon the assumption to provide rehabilitation of existing spaces to meet current code and standards criteria for this critical access hospital. Facility rehabilitation would be done in multiple phases to allow the building to remain operational during the upgrades.

Many of the mechanical and electrical systems are in failing condition and/or do not meet current codes and standards. If the hospital continues to operate beyond the anticipated 3-5 years, we recommend replacing failing equipment and critical systems not meeting current criteria.

### Codes and Standards

The building condition survey is based upon current codes adopted by the State of Alaska who is the Authority Having Jurisdiction (AHJ), the 2014 Federal Guidelines Institute (FGI) Guidelines for Design and Construction of Health Care Facilities (incorporates ASHRAE Standard 170 Ventilation of Health Care Facilities – which is under continuous maintenance), 2012 NFPA 99 Health Care Facilities Code, and 2012 NFPA 101 Life Safety Code. We recommend the facility complete a Safety Risk Assessment (SAR) in accordance with 2012 NFPA 99 Chapter 4 and 2014 FGI 1.2-3 to confirm codes and standards to be used.

A summary of current applicable codes and requirements follows:

- 2012 International Building Code (IBC).
- 2012 International Existing Building Code (IEBC).
- 2012 International Mechanical Code (IMC).
- 2012 Uniform Plumbing Code (UPC).
- 2012 International Fire Code (IFC).
- 2017 NFPA 70, National Electric Code, NEC.
- 2013 NFPA 72, National Fire Alarm and Signaling Code.
- 2012 NFPA 99, Health Care Facilities Code
- 2012 NFPA 101, Life Safety Code:
- 2017 NESC, National Electric Safety Code,
- 2010 ASCE 7, Minimum Design Loads for Buildings and Other Structures
- Standard for Accessible and Usable Buildings and Facilities (ANSI A117.1).

### Mechanical Building Condition Survey

#### Fire Protection:

Existing sprinkler system consists of three dry pipe risers serving the building. The sprinkler distribution pipe has pin hole leaks due to corrosion. The piping consists of different wall thickness, including pipes with a corrosion resistance ratio less than 1.0. All sprinkler heads are dry type and require replacement or representative samples tested every 10 years.

Replacement of failing sprinkler piping and sprinkler heads is recommended. Existing sprinkler systems would be modified to relocate sprinkler heads and provide new sprinkler heads to accommodate floor plan revisions and current coverage requirements.

Automatic fire protection sprinklers are required during demolition and construction activities. The CT trailer has an independent clean agent fire protection system.

#### Domestic Plumbing:

The sprinkler system and domestic water line are not protected by backflow devices. Multiple service sinks and hose connections throughout building were observed without cross connection protection per UPC requirements.

A single aged oil fired water heater placed on CMUs provides hot water for the facility. Hot water plumbing system is not temperature regulated to meet UPC or FGI requirements, including hot water circulation criteria.

The building 6" wastewater service line has failed in areas, requires multiple cleaning each year due to root blockages, and interior 4" wastewater line has reversed slopes and corrosion.



#### Medical Gas:

Medical Vacuum and Oxygen source and distribution infrastructure is not adequate for providing medical gas requirements. These systems do not meet NFPA 99 source or distribution requirements, including isolation and alarm requirements. These systems are lacking medical gas verification records.

The operating room medical gas system consist of one cylinder each of oxygen, medical air, and nitrous oxide connected to hoses, and medical vacuum wall inlets.

Oxygen concentrator and connected 80 psig low flow tank are not located in accordance with IFC, NFPA 55, and NFPA 99 requirements. Oxygen cylinder fill operations includes 2,000 psig and 55 psig flexible lines (exposed and concealed) routed through building storage and occupied areas. Medical vacuum pumps are located in sprinkler riser room and do not meet current NFPA 99 requirements.

Recommend revisions to source equipment and distributions systems are made. Medical gas outlets should be modified to improve user access and functionality, as well as meet current UPC and FGI requirements. Modifications to medical gas lines will require independent verification per 2012 NFPA-99 requirements.

#### Fuel Oil:

A single wall underground 3,000 gallon fuel oil (FO) tank installed in 1988 with separate FOS/FOR lines (6 total) to both boilers and one water heater in mechanical room are routed through crawl space and underground to the tank. A separate fuel oil tank is provided for the generator.

#### Chilled Water:

The ventilation system does not provide mechanically cooled air. There is not a chilled water system for the facility. Direct expansion air condition equipment is provided at some IT and critical equipment locations.

#### Heating System:

The heating plant consist of two Burnham V-909 1,054 MBH oil fired boilers and circulation pumps to provide the hydronic, hot water, heat for the building. Boiler controls are local without outdoor temperature reset. Each boiler has a ceiling mounted captive air expansion tank. Facility maintenance personnel state the building temperature can be maintain in the winter with one boiler operating. No records of boiler burner combustion efficiency or flue gases were available.

Additional boiler and hydronic circulation capacity will be required to temper the additional air required to meet ventilation requirements. Heating terminal units and related controls are also required to meet program area temperature criteria.

#### Steam and Condensate:

The hospital's original 15 Hp steam boiler, feedwater, and condensate return system that served laundry, humidifiers, sterilizers, and water heater has been removed. There is not a central steam system serving the hospital.

#### Humidification Control:

The hospital's ability to increase relative humidity has been disabled and mostly removed. Dehumidification was not incorporated for the AHUs. There is not a humidity level monitoring system for the facility. The facility cannot maintain FGI criteria humidity levels.

#### Ventilation:

The existing AHUs, fans, and ductwork systems are not able to support the ventilation demands to meet current code and criteria requirements. Many areas are currently not provided with ventilation and do not meet indoor air quality or exhaust air requirements. The existing two AHUs are in failing condition and are beyond their anticipated service life. We recommend replacing the system if the facility will continue to operate beyond the anticipated 3-5 years.

Fire dampers, smoke dampers, or fire/smoke dampers were not observed in the ductwork systems. Locations for these dampers are to be coordinated with life safety plans and required for defend-in-place locations.

The facility doesn't have a permanent room for examination or treatment of a patient with a suspected airborne infection. Airborne infection isolation (AII) is provided by temporary installation of exterior wall window mounted exhaust air fan.

#### Testing, Adjusting and Balancing (TAB):

It is unknown when the last testing, adjusting and balancing report was provided. No records of HVAC operating conditions were found. Areas requiring differential air pressure relationships may not be maintained. TAB reports are recommended for existing conditions and future HVAC work.

#### HVAC Controls:

Existing building HVAC system uses pneumatic controls with many components from original construction. The control system air compressor and dryer are located in the same room with the water service, three dry pipe sprinkler risers, and medical vacuum compressors with inadequate maintenance space. The air compressor also serves the dry pipe sprinkler systems.

It is unknown when the last calibration and overall haul of pneumatic controls was provided. There is no master control or alarm panels for the HVAC equipment. The facility cannot maintain FGI criteria temperature or humidity levels.

Recommend a Direct Digital Control (DDC) building automation system (BAS) with local and internet graphical interface for monitoring, controlling, and troubleshooting. The BAS will improve energy efficiency, preventative and predictive maintenance, efficient response to alarms and user requirements.

### Electrical Building Condition Survey

#### Power Distribution:

The power distribution system has been expanded from the original 1968 construction to include an emergency generator and Essential Electrical System. The building electrical distribution system does not meet current NEC article 517 requirements.

#### Power:

Power systems throughout the building do not meet NEC article 517 requirements and FGI guidelines. Numerous branch circuits are not connected to the appropriate branch of the electrical system and there are multiple instances where there are not adequate receptacles in patient care areas.

#### Lighting:

Existing lighting throughout the clinic is outdated but functional. We recommend replacing lighting throughout the hospital with high efficiency LED fixtures if the facility will continue to operate as a hospital beyond the anticipated 3-5 years.

#### Telecom:

Existing telecom cabling does not meet NEC article 800 requirements and the BICSI Telecommunication Distribution Methods Manual standards. The main telecom room is adequately sized for the facility.

#### Fire Alarm:

The fire alarm system dates back to the 1988 remodel and is outdated but functional. Based on annual fire alarm testing reports many of the detectors need to be replaced. In addition, a comprehensive survey of detection and audio/visual notification should be completed to verify that the facility is adequately protected. Fire alarm service contractor is currently able to provide replacement devices; however, the system is beyond its anticipated service life, therefore we recommend replacing the system if the facility will continue to operate as a hospital beyond the anticipated 3-5 years.

**Nurse Call:**

The nurse call system dates back to the 1988 remodel and is outdated, but functional. Maintenance personnel report that spare parts are becoming difficult to obtain, therefore we recommend replacing the system if the facility will continue to operate as a hospital beyond the anticipated 3-5 years.

**Public Address:**

The public address system was not surveyed. The system was not mentioned in our meetings with staff as deficient or having problems. Unknown when the system was installed.

**CCTV/Security/Access Control:**

The CCTV, Security, or Access Control systems were not surveyed. It is unknown when these systems were installed. These systems are recommended to support program requirements in order to meet current FGI criteria and policy procedures.

**Seismic Restraint**

The mechanical and electrical systems will require seismic restraint in accordance with the IBC and ASCE standard 7. This critical care access hospital is considered an essential facility and all mechanical and electrical components require a seismic component importance factor ( $I_p$ ) of 1.5 in accordance with the IBC and ASCE 7.

**Construction Phasing Considerations**

Coordination of project construction phasing with the life safety plans and infrastructure systems will be required to maintain occupied adjacent spaces throughout the project. The facility will need to review the phasing plan to identify operational risks and provide direction for the design team and contractor. Some disruptions to services are expected; though the goal would be to minimize disruptions through planning and coordination.

Means of providing ventilation and differential air pressure relationships during construction should be reviewed with the phasing plans. Coordination with other projects in the area and/or connecting to the area of work or systems is recommended to minimize future disruptions.

Commissioning of systems per the 2014 FGI Guidelines 1.2-7 would be completed before the project is accepted and area is occupied.

### Facility Recommendations

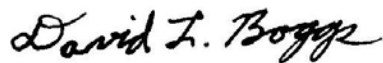
Recommended items for completion before determination of phasing plans and specific project scopes include:

- Life safety plans.
- Building floor plan and mechanical and electrical system as-builts.
- Functional program requirements, (2014 FGI 1.2-2).
- Hazardous, lead paint, and asbestos containing materials survey.
- Safety Risk Assessment (SRA) for each project phase, (2014 FGI 1.2-3).

The Functional Program describes the planned operational function of space(s) as it relates to providing direct and indirect patient care. Once a project scope is determined, the Owner Performance Requirements (OPR) (2014 FGI 1.2-7.2.1) and Infection Control Risk Assessment (ICRA) (2014 FGI 1.2-3.2) drafts would be undertaken. These documents and their elements will be iteratively used to complete the OPR and Basis of Design (BOD) (2014 FGI 1.2-3.2.2) for the project's construction documents by the facility and the design team. The project Pre-Construction Risk Assessment (PCRA) and Interim Life Safety Measures (ISLM) would be developed along with Infection Control Risk Mitigation Recommendations (ICRMR) (2014 FGI 1.2-3.2.3) before demolition or construction starts.

Please contact me if there are any questions or additional services we may provide.

Sincerely,



David L. Boggs, PE  
Principal Mechanical Engineer

#### Attachments:

1. Wrangell Medical Center Survey Construction Cost Estimate, 1 May 2018; 20 pages
2. Wrangell Medical Center Survey Mechanical Deficiency List, 1 May 2018, 4 pages
3. Wrangell Medical Center Survey Electrical Deficiency List, 1 May 2018, 3 pages
4. Wrangell Medical Center Survey Structural Report, 1 May 2018, 15 pages

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701 East Tudor Road, Suite 250  
Anchorage, AK 99503 | 907.257.9100

2215 Midway Ln, Suite 200  
Bellingham, WA 98226 | 360.255.7235

[amc-engineers.com](http://amc-engineers.com)

Proj. Code: WMCEVAL  
Proj. No.: 18315  
Engineer: JDL  
Checked: D. Boggs  
Input date: 1-May-18

<File: C:\Users\dlb\AppData\Local\Temp\Bluebeam Software\{19611544.xlsx}WMC Elec Deficiencies>

## Wrangell Medical Center Electrical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
E01	Electrical identification	Electrical system identification is missing on multiple panels and not up to date in almost all cases.	Provide phenolic labels attached to the exterior of each piece of equipment identifying the equipment name and the source where it is fed from. Assign logical names to unnamed panels. Provide updated panel schedules clearly identifying each circuit.	2017 NEC 408.4	
E02	Critical branch receptacle identification	Critical branch receptacles are not distinctly identified to differentiate them from standby branch receptacles.	Provide red colored critical branch receptacles. Approximately 300 devices total.	2017 NEC 517.18 FGI 2.1-8.3.6.3	
E03	Branch circuit loads on wrong branches	Numerous branch circuit loads are served from the wrong branch of the electrical system. For example, gutter heat trace is served from the life safety branch of the electrical system when it should be served from the equipment branch.	Extend and connect branch circuits to correct branch circuit panel, approximately 50 circuits total. Provide branch circuit breakers as necessary to serve revised loads.	2017 NEC 517.33, 517.34, 517.35	

# Wrangell Medical Center Electrical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
E04	Panels EB and P served by wrong branch of electrical system	Panels EB and P serve equipment branch loads and should be connected to the equipment branch of the essential electrical system. They are currently being served from the standby branch.	Reroute feeders serving panel EB and P to generator room and connect to essential electrical system distribution panel CDP. Add a 200 amp, 3 pole breaker in panel CDP to serve panel EB. Add a 225 amp, 3 pole breaker in panel CDP to serve panel P.	2017 NEC 517.34	
E05	Automatic Transfer Switch (ATS) load shed sequence	There is no load shed sequence in place to shed the standby ATS in the event of a generator overload. Currently when the generator overloads, the generator drops both the standby and essential electrical system ATSS.	Revise controls on the standby ATS to disconnect from the generator when under voltage or under frequency conditions are detected. This will effectively shed the standby ATS on overload and allow the generator to continue running and also keep the essential electrical system energized. Set standby ATS to require manual reconnection to generator after it disconnects due to under voltage or under frequency.	2017 NEC 517.31	
E06	X-ray panel electrical clearance violation	X-ray panel currently does not have required electrical clearances due to equipment and casework in the x-ray control room.	Relocate X-ray panel to a location with required electrical clearances. Extend branch circuits to new location and reconnect.	2017 NEC 110.26	
E07	Panel P electrical clearance violation	Panel P currently does not have required electrical clearances due to being too close to the boiler.	Relocate Panel P to a location with required electrical clearances. Extend branch circuits to new location and reconnect.	2017 NEC 110.26	
E08	Patient room receptacles	Patient room headwalls do not have enough receptacles to meet current NEC and FGI requirements.	Add receptacles as required to meet requirements of NEC and FGI. Add circuits to local branch circuit panels as required. Approximately 56 total receptacles.	2017 NEC 517.18 and 517.19 2014 FGI 2.1-8.3.6.3 and Table 2.1-3	
E09	Emergency room receptacles	Emergency rooms do not have enough receptacles to meet current NEC and FGI requirements.	Add receptacles as required to meet requirements of NEC and FGI. Add circuits to local branch circuit panels as required. Approximately 24 total receptacles.	2017 NEC 517.18 and 517.19 2014 FGI 2.1-8.3.6.3 and	

## Wrangell Medical Center Electrical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
T1	Telecom cabling and pathway in attic	Telecom cabling in the attic is not installed to meet current codes and standards. In addition much of the cabling is not plenum rated as required when installed exposed in a plenum space.	Provide cable tray in the attic to serve each area of the hospital. Replace telecom cabling routed through the attic with plenum rated cabling routed via cable tray and other approved methods.	2017 NEC article 800  BICSI Guidelines	
T2	Fire stopping	Many penetrations for telecom cabling through fire rated assemblies are not properly firestopped.	Provide listed firestopping at each penetration through a rated assembly to maintain the rating of that wall or ceiling assembly.	2017 NEC article 800  BICSI Guidelines	
T3	Abandoned telecom cabling	There is abandoned cabling in the attic space.	Identify and remove abandoned telecom cabling.	2017 NEC 800.25	
FA1	Non-compliant smoke detectors	Based on the 2015 annual fire alarm testing report, many of the smoke detectors did not pass testing requirements. All smoke and heat detectors throughout the hospital should be replaced due to their age and based on recommendation from the testing agency. There are approximately 140 detectors in the hospital. 24 detectors have been replaced since the testing report.	Replace the remaining smoke and heat detectors throughout the hospital.	2013 NFPA 72 Chapter 14	
FA2	Duct detector in attic AHU missing	There is no duct detector in the return air path of the attic AHU to trigger shutdown of the unit and stop the spread of smoke in the event of a fire.	Provide a duct smoke detector in return air path of air handling unit per IMC requirements.	2012 IMC 606.2	
FA3	Recommission fire alarm system	System requires acceptance testing and recommissioning after any changes are made to the system.	Provide testing and recommissioning of fire alarm system in accordance with NFPA requirements.	NFPA 72 Chapter 14	





701 East Tudor Road, Suite 250  
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Proj. Code: WMCEVAL  
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Engineer: DLB  
Checked: D. Boggs  
Input date: 1-May-18

File: X:\18315 WMCEVAL\Design Mech\Mech WMC Deficiency List 180501.xlsx\WMC Mech Deficiencies

## Wrangell Medical Center Mechanical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
M01	Boiler Room Fuel Oil System	1988 installed 3,000 gallon UST single wall FO tank with separate FOS/FOR lines to both boilers & one water heater in mechanical room routed UG and through crawl space.	Remove UST and FOS/FOR lines. Provide 3,000 gallon double wall UL AST with double wall FOS/FOR lines to 60 gallon day tank with containment and FOR pump.	IFC, ADEC	Rehabilitation; meet current standards & reduce risk
M02	Water Service	8" building water service to fire water and domestic water line is not protected by back flow device. Sprinkler riser room without floor drain.	Provide 8" reduced pressure backflow device and 6" waste floor drain system to accommodate stuck valve.	2012 UPC 603.3	
M03	Domestic Water Cross Connections	Sprinkler system is connected to domestic water without backflow device. Multiple service sinks and hose connections throughout building with cross connections.	Provide 6" double check backflow device at sprinkler system and backflow protection devices at cross connection points.	2012 UPC 603.3	
M04	Sprinkler System Leaks	Sprinkler system with three dry pipe risers distribution piping with leaks at threaded fittings on XL pipe, which has a corrosion resistance ratio less than one.	Replace sprinkler system piping 2" and under with galvanized pipe with a corrosion resistance ration 1 or greater.	2013 NFPA	Repair, rehabilitation
M05	Sprinkler Heads	All sprinkler heads are dry type and require replacement or representative samples every 10 years.	Phase replace sprinkler heads when replacing sprinkler piping and include flex pipe for sprinkler heads to meet seismic requirements for suspended ceilings.	2011 NFPA 25 5.3.1.1.1.6	

## Wrangell Medical Center Mechanical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
M06	Wastewater, Sewer, Lines	6" wastewater service line has failed in areas, requires multiple cleaning each year due to root blockages, and interior 4" wastewater line has & reversed slopes & corrosion holes.	Replace 6" wastewater service line and 240' of interior 4" wastewater.	2012 UPC Ch. 7	Repair, rehabilitation
M07	Domestic Water Heater	Single aged oil fired water heater placed on CMUs without anchors or seismic restraints. Multiple hot water accumulators without restraints and code required distribution mixing valve.	Replace with duplex hot water generator or source for redundancy and increased efficiency; including seismic restraints and mixing valve.	2012 UPC Chapters 4 & 5	
M08	Seismic Anchors and Restraints	Mechanical, electric, & plumbing (MEP) components, equipment and systems are not seismically restraint. Original construction criteria doesn't meet current requirements, including life safety and hazardous elements.	Update MEP elements throughout the facility to meet seismic component importance factor, $I_p=1.5$ for this essential healthcare facility.	2012 IBC, 2010 ASCE 7	
M09	Boiler Room Combustion & Ventilation Air	Boiler room combustion air doesn't meet code requirements and ventilation air is not adequate.	Add boiler room mechanical combustion air and ventilation cooling air system.	2012 IMC	
M10	Building Automation System	Building uses pneumatic controls and does not have a functional building automation system to allow for monitoring or control of MEP systems, interfacing with building security or allowing remote interface. Energy efficiency, preventative & predictive maintenance, efficient response to alarms and user requirements are impacted.	Provide building automation system, BAS.	Recommend to monitor, control, & record values to meet 2014 FGI criteria	
M11	Medical Vacuum System	Medical vacuum (MV) Category 1 system does not meet NFPA 99 source or distribution requirements, including isolation & alarm requirements; system is lacking medical gas verification records.	Provide medical vacuum (MV) source equipment in dedicated room with connections to master alarm panels and local alarms. Revise MV distribution system, zone valves, and outlets to meet NFPA 99 requirements.	2012 NFPA 99, 2012 UPC	

## Wrangell Medical Center Mechanical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
M12	Medical Oxygen Source	Oxygen concentrator and connected 80 psig low flow tank are not located in accordance with IFC, NFPA 55 and NFPA 99 requirements. O2 cylinder fill operations includes 2,000 psig and 55 psig flexible lines (exposed & concealed) routed through building storage and occupied areas.	Provide separate heated, ventilated, and sprinklered building (20'x30') meeting IFC requirements. Provide secure and protected cylinder fill points.	2012 IFC, 2012 NFPA 99	
M13	Medical Oxygen Cylinder Storage	Greater than 12 Type K O2 cylinders are storage adjacent & under building overhang. Empty cylinders are separated and stored outside exposed to environment.	Provide protected exterior shelter for separated full and empty cylinders.	2012 IFC, 2012 UPC, 2012 NFPA 99	
M14	Medical Oxygen Manifold	Oxygen manifold with 4 cylinders on each primary and secondary headers. Manifold control for alarms & switching has been modified for direct connect to oxygen concentrator 55 psig discharge from a single regulator from the 150 gallon 80 psig vessel and alternate 2,000 psig oxygen system piped to filled cylinders while connected to manifold. Manifold room is not located, ventilated, or fire rated per IFC.	Provide separate oxygen manifold room per IFC criteria without direct connections to oxygen concentrator and with manifold controller with PSV vented to exterior. Provide connections to master alarm panels and local alarms.	2012 IFC, 2012 UPC, 2012 NFPA 99	
M15	Medical Oxygen & Medical Vacuum Distribution Systems & Alarms	The Medical Oxygen (O2) and Medical Vacuum (MV) Category 1 piping systems, zone valves, master & area alarm panels do not meet requirements. The number of outlets per rooms do not meet UPC or FGI requirements. Records showing annual medical gas inspections or last medical gas verifier inspection are not available.	Revise O2 & MV distribution systems to incorporate zone, source, & service valves; area and dual master alarm panels, and inlet/outlets to meet program requirements and installations per criteria.	2012 IFC, 2012 UPC, 2012 NFPA 99, 2014 FGI	

## Wrangell Medical Center Mechanical Deficiency List

Refer to Estimations Inc. 1 May 2018, Wrangell Medical Center Building Condition Survey construction cost estimate for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
M16	Combustible Plenum Ventilation	Above ceiling and attic areas are used for plenum return air and exhaust air. Plenums contain combustible materials and access to different occupied areas without fire rated assemblies.	Provide return air and exhaust air ducted systems or rated plenum assemblies through office and healthcare areas.	2012 IFC, 2012 IBC, 2012 IMC	
M17	Life Safety Plans	Life safety plans are not available and rated assemblies with occupancy separations are not identified.	Provide life safety plan review including required assembly separations and exit plans.	2012 IFC, 2012 IBC, 2012 IMC, 2012 NFPA 101	
M18	HVAC and Ventilation Systems	Building's two air handling units do not provide adequate outside air, total air change, temperature (heating & cooling) control, humidity control to meet IBC, IFC, IMC, NFPA 101, FGI criteria; similarly exhaust air and differential air pressure relationships are not provided. Many occupied areas are not provided with ventilation.	Demo existing AHUs and exhaust air fans, ductwork and GRDs. Provide complete building HVAC ventilation (heating, cooling, humidity, filtration, & control) systems; estimated supply air 33,000 CFM. Support equipment include additional boilers, chillers (60 tons), pumps, ductwork, FD, FSDs, VAV terminal units, air inlet/outlets, and controls.	2012 IFC, 2012 IBC, 2012 IMC, 2012 NFPA 101, 2014 FGI	
M19	Hot Water, Plumbing	Hot water plumbing system is not temperature regulated to meet UPC or FGI requirements, including hot water circulation criteria.	Provide hot water temperature control devices for fixtures and circulation to meet FGI and UPC criteria.	2012 UPC, 2014 FGI	
M20	Asbestos Containing Materials, ACM	Insulation containing asbestos is believed to be distributed throughout the mechanical systems in addition to ACM in other materials.	Conduct ACM survey and demo mechanical insulation and replace with insulation meeting energy saving criteria.	OSHA	this tasks would be included with building with ACM survey, report, & abatement plan.

## Design Southeast

Ryan M. Wilson, PE, SE  
Structural Engineering  
(907) 747-5424

403 Lincoln St., Suite 240  
Sitka, AK 99835

May 1, 2018



### **Wrangell Medical Center Building Condition Survey Structural, Building Envelope and Interior Finishes (15 Pages)**



5-1-2018

## Narrative

Per the request of SEARHC facilities staff, Ryan M. Wilson, PE recently participated in a condition survey of the Wrangell Medical Center. The general scope of work included the following:

1. Document any non-code compliant construction.
2. Document any major building maintenance deficiencies requiring immediate attention.
3. Prepare recommendations to correct non-code compliant work in such a way as to meet the minimum standards of the 2012 International Building Code.
4. Prepare recommendations to correct any major building maintenance deficiencies in such a way to make such construction new and serviceable.
5. Determine if a more thorough investigation is warranted.

This condition survey began during the afternoon of April 23 and ending late morning April, 25, 2018. Mr. Wilson's scope of work mainly included a brief visual condition assessment of the foundation, roof framing, roofing, siding, windows and basic interior finishes such as; flooring, suspended ceilings, etc. Only readily accessible areas were assessed. This condition assessment used noninvasive and nondestructive methods. Some of the recommendations in regards to finishes, listed as deficiencies, were based on the inspector's judgement. Structural analysis was outside the scope of work. Geotechnical and subsurface investigation were not performed. This report does not warrantee the building against settlement or subsidence of any kind. Environmental investigations such as for asbestos, lead paint, mold or carpenter ants were outside the scope of work. Brief visual assessments do not reveal all deficiencies, it is possible some may be found latter.

## Wrangell Medical Center Building Description

**Property location:** 310 Bennet Street, Wrangell, Alaska  
**Property owner:** City and Borough of Wrangell  
**Dates of inspection:** April 23-25, 2018  
**Building Description:** One main level with a partial basement. There are at least three known additions. The front of the building faces Reid Street.  
-1967 original construction + 1974 Addition = 17,898 sf  
-1988 Addition = 9,928 sf  
-1994 Addition = 2,770 sf  
**Total Building Area = 30,596 sf**

### **Description of Elements and Components:**

- 1967 Building:**
1. **Construction Type:** V, with sprinklers.
  2. **Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  3. **Structural Framing:** Conventional wood framing consisting of 2x floor joists, timber beams, 2x wood stud bearing walls, 2x roof rafters and timber purlins.
  4. **Roofing:** Built-up multi-ply tar roof. Note: see 1988 addition for over-framed standing seam metal roofing.
  5. **Siding:** Exterior Insulated Finished System (EIFS).
  6. **Windows:** Wood casement or fixed windows.
- 1974 Addition:**
1. **Construction Type:** V, with sprinklers.
  2. **Foundation:** Unable to verify. The 1974 structural design drawings show a shallow foundation supported by reinforced concrete basement walls, spread footings and a concrete slab on grade. All bearing on a soil embankment.
  3. **Structural Framing:** Unable to verify. The 1974 structural design drawings show 2x wood stud bearing walls, open web floor joists, structural steel floor beams, structural steel columns, open web joist roof rafters and glulam purlins.
  4. **Roofing:** Built-up multi-ply tar roof. Note: see 1988 addition for over-framed standing seam metal roofing.
  5. **Siding:** Exterior Insulated Finished System (EIFS).
  6. **Windows:** Wood casement or fixed windows.
- 1988 Addition:**
1. **Construction Type:** V, with sprinklers.
  2. **Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  3. **Structural Framing:** Combination of conventional modular wood framing and stick framed construction. The 1988 addition on the west side of the building using modular construction is supported by timber pilings. A stick framed roof was constructed over the entire building; original 1967 construction, 1974 addition and 1988 additions. The new roof Over-framing consists of engineered I joist rafters, glulam beam; purlins, hip and ridge beams. Factory built trusses over-frame the 1974 addition roof.
  4. **Lateral Force Resisting System:** Plywood shear walls and plywood

roof diaphragms.

5. **Roofing:** Standing seam metal roofing.
6. **Siding:** Exterior Insulated Finished System (EIFS).
7. **Windows:** Wood casement or fixed windows.

- 1994 Addition:**
1. **Construction Type:** V, with sprinklers.
  2. **Foundation:** Creosote treated timber pilings with reinforced concrete pile caps and grade beams.
  3. **Floor Framing:** Elevated structural concrete slab consisting of composite metal floor deck with concrete topping slab.
  3. **Structural Framing:** Pre-Engineered metal building. Primary steel consists of structural steel rigid frames. Secondary cold formed metal girts and purlins span between the rigid frames to support the wall and roof elements.
  4. **Lateral Force Resisting System:** Structural steel rigid frames and ordinary concentrically braces frames. Roof diaphragm consists of steel rod cross bracing.
  5. **Roofing:** Standing seam metal roofing.
  6. **Siding:** Metal siding panels oriented vertically.
  7. **Windows:** Aluminum casement or fixed windows.



**Main Entry – Southwest Elevation**



**West Elevation**





**North Elevation**



**East Elevation**



**North Elevation – Shop Vestibule  
Shop to the Left  
1994 Addition**



**East Elevation - Shop  
1994 Addition**

## Wrangell Medical Center Deficiency List

1. Refer to appendix A photo log for photos of some of the deficiencies listed below.
2. Refer to construction cost estimate prepared by Estimations Incorporated for item costs.

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S01	Metal Roofing	There are (2) major roof leaks at the roof ventilation turrets and approximately (12) minor leaks throughout the metal roofing. The metal roofing was originally installed in 1988 (30 years old) and is at the end of it's useful life. The leaks at the ventilation turrets have resulted in approximately 120 sf of rotten plywood roof sheathing.	Like-kind replacement of the existing standing seam metal roofing. Replace approximately 120 sf of decayed plywood roof sheathing.	RECOMMENDATION	
S02	Seamless Metal Gutter System	Replacement is required during a reroof project.	Replace existing gutters with an new seamless metal gutter system	RECOMMENDATION	
S03	Air Handler Hoods	The existing air handler hoods are at the end of their life. The protective paint coating has failed allowing significant corrosion of the base metal to begin.	Like-kind replacement of air handler hoods.	RECOMMENDATION	
S04	Soffit sheathing	The roof eave soffit sheathing appears to consist of exterior gypsum or cementitious based sheathing. Approximately 800 sf has extensive water damage and needs replacement.	Like-kind replacement of approximately 800 sf of soffit sheathing.	RECOMMENDATION	
S05	EIFS Facia	Some sections of facia have fallen off the building and are missing.	Like-kind replacement of approximately 200 lin. ft of EIFS facia.	RECOMMENDATION	

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S06	EIFS Siding	Some sections of the exterior insulated finish system (EIFS) has damage from water infiltration, freeze-thaw or impacts.	Like-kind replacement of approximately 1,000 sf of EIFS siding.	RECOMMENDATION	
S07	Exterior Paint	The existing exterior paint finish is in fair condition. The caulking is in poor condition with some joints failing.	Paint the exterior of the building including siding, facia and underside of soffit. Remove and replace any failed caulking sealant.	RECOMMENDATION	
S08	Windows	There are at least (6) windows with either failed seals (fogging) or broken panes. Approximately (46) casement windows have malfunctioning hardware.	Replace approximately (52) windows.	RECOMMENDATION	
S09	Skylights	The (2) skylights near the main entry are in poor condition. (1) skylight has a broken pane.	Replace (2) skylights.	RECOMMENDATION	
S10	Window Blinds	During the window replacement project item S08, approximately half of the window blinds will need to be temporarily removed to facilitate replacement of the new windows. The existing blinds are worn and dated, It would be more efficient to replace with new instead of reinstalling the existing blinds.	Replace the existing window blinds.	RECOMMENDATION	
S11	Flooring	Most of the flooring in the facility is worn and nearing the end of its life. A large percentage of vinyl seams have failed. There are also several patches that have been installed with staples fastened through the face of the vinyl flooring.	Replace the existing flooring	RECOMMENDATION	

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S12	Non-Compliant Suspended Ceiling System	Most of the existing suspended acoustic ceiling system is not constructed in such a way to meet the current seismic detailing requirements.	Replace the suspended ceilings in all rooms exceeding 144 sf.	2012 IBC, ASCE 7-10 13.5.6, ASTM E 580/E580M	
S13	Interior Paint	Interior paint finishes are in fair condition.	Paint interior walls, gypsum sheathed and adhesive tiled portions of ceiling.	RECOMMENDATION	
S14	Casework and Workstations	Casework and workstations are worn. The Formica seams and backsplash details create an infection control cleanliness issue.	Replace casework and work stations in patient care areas.	RECOMMENDATION	
S15	Elevated Exterior Deck	The deck is slightly uneven (possible settlement). The rim board is wavy when sited down. The guardrails do not meet current code. The spacing of the horizontal rails exceed 4". Connection of guardrail to deck not capable of resisting a 200 lb. load.	Rebuild and replace the existing deck framing, decking and guardrails	2012 IBC 1013.4	
S16	Activities Room Addition	The addition bump out was added over top of an existing elevated exterior timber deck and is poorly built. The foundation piers supporting the outer perimeter wall have settled. Water runs down the exterior wall, beneath the wall sole plate saturating the floor framing.	Demo the addition back to the original perimeter wall line and infill frame the opening.	RECOMMENDATION	

ITEM	TITLE	DESCRIPTION OF DEFICIENCY	PROPOSED CORRECTION	CODE / CRITERIA	NOTES
S17	Timber Piling	Approximately 60% of the creosote treated timber pilings were visually inspected. In addition, 20% were inspected by sounding with a metal rod and probing with an ice pick. Generally the pilings appeared to be in good condition however (1) piling with severe decay was found. Water entered the untreated center portion of this piling through large vertical checks.	<ol style="list-style-type: none"> <li>1. Repair decayed timber piling found during nondestructive visual inspection.</li> <li>2. Recommend a more thorough piling inspection using additional nondestructive testing such as ultrasound to check for additional bad pilings.</li> </ol>	RECOMMENDATION	

Appendix A  
Photo Log



Deficiency Item S01. Decayed plywood roof sheathing typical at (2) roof ventilation turrets. Nontypical condition of framing.



Typical structural roof framing in good condition. 1988 roof over-framing addition.



Deficiency Item S01. Minor roof leak creating moist condition for mildew growth (white).



Deficiency Item S01. Example roof ventilation turret above major roof leak.



Deficiency Item S03. Air handler hood with corrosion.



Deficiency Item S04. Example water damaged roof soffit sheathing.



Deficiency Item S05. Missing EIFS fascia.



Deficiency Items S06, S07 and S08. Example damaged EIFS (freeze-thaw), fogged window, caulking sealant failure, siding in need of exterior paint





Deficiency Item S09. Broken skylight glazing.



Deficiency Item S11. Example of existing vinyl flooring repair.



Deficiency Item S11. Example vinyl Flooring seam failure.



Deficiency Item S12. Rooms over 144 sf, metal grid runners are fastened to angle on all four sides of ceiling. Only one side shown in photo.



Deficiency Item S15. Note dip in deck rim board. Guardrails non-code compliant. Space between horizontal rails exceeds 4". Connection to deck not capable or resisting a force of 200 pounds.



Deficiency Item S16. Addition bump out to activities room. Water runs down beneath the wall sole plate and runs across the floor. Foundation piers have settled.



Deficiency Item S17. Decayed creosote treated timber piling. Nontypical condition, not representative of average piling condition. Most pilings were found to be in good condition.



Typical creosote treated timber piling beneath 1988 addition, below emergency room. In good condition.



Typical creosote treated timber piling beneath 1968 Construction, beneath kitchen. In good condition. Reinforced concrete pile cap and grade beams in good condition.



TRAINING  
TEL (907) 272-8852  
FAX (907) 272-0319  
TOLL FREE IN AK (800) 458-2580

May 31, 2018

CONSULTING & ENGINEERING  
TEL (907) 272-9336  
FAX (907) 272-4159

SEARHC  
3100 Channel Drive, Suite 300  
Juneau, Alaska 99801  
Attn: Steve Merkel

[stevenm@searhc.org](mailto:stevenm@searhc.org)

**RE: Wrangell Medical Center**

**Subj: Limited Asbestos Survey**

This letter summarizes the findings associated with the limited asbestos survey conducted by Environmental Management, Inc. (EMI) in the Wrangell Medical Center (WMC), 310 Bennett Street, Wrangell, Alaska. The survey was performed on May 22 and 23, 2018, by Andy Coulson, an accredited Building Inspectors certified in accordance with the Asbestos Hazard Emergency Response Act (AHERA).

The purpose of this survey was to investigate building materials for the presence of asbestos for planning future operations and maintenance requirements. The investigation was performed by first conducting a walkthrough of the building, escorted by Jim Holder, WMC. Among other items, Jim pointed out the three phases of construction of the building:

- 1) original construction,
- 2) long term care section, and
- 3) new modular addition.

Bulk samples of suspect materials were then collected and submitted to a laboratory approved under the National Voluntary Laboratory Accreditation Program.

A total of 108 bulk samples were collected. The samples were submitted to NVL Laboratories (NVL) in Seattle, Washington for analysis via polarized light microscopy. Suspect materials found to contain asbestos at concentrations of 1% or greater and therefore considered Asbestos Containing Materials (ACM) were:

- The roofing material of the original Wrangell Health Center Building (samples 17909-007, 17909-062, 17909-063, 17909-064; photo 1).
- The tar paper skirts around HVAC penetrations in the attic of the new, modular addition to the building (sample 17909-066, photo 2).
- Grey sealant on one of the ducts in the air handler room (sample 17909-003, photo 3). Other ducts were covered in orange insulation, if grey sealant is encountered on them it should be considered ACM.
- A pale green caulk from the interior of the window of patient room 2 (sample 17909-088); other pale green window caulks should also be considered ACM.

- Black mastic was observed in several locations beneath floor tiles and beneath the green carpet in the basement; it is represented in several samples (17909-028, 17909-029, 17909-034, 17909-037, 17909-042; photo 4). It was not observed outside of the residential care addition, but if black mastic is encountered elsewhere in the building it should be considered ACM.
- Six different patterns of floor tiles were observed; three of which contained asbestos (17909-028, 17909-029, 17909-037; photos 5-7). Non-ACM floor tiles (Photos 8-10) may still be associated with the black mastic described above (For example, sample 17909-042). Because the colors and patterns of ACM and Non-ACM floor tiles are similar, and the differences do not show up well in photographs, all floor tiles should be considered ACM unless verified with specific samples to show they are not ACM.
- A single cement standpipe was observed on the east side exterior of the building near the southeast corner. This cement contained asbestos (sample 17909-100, photo 11).
- Some joint compound samples from the gypsum wallboard systems of the original and long-term care portions of the building (samples 17909-025, 17909-073, 17909-080, 17909-087) contained asbestos. Based on these results, the gypsum wallboard systems of the original and long-term care portions of the building should be considered ACM unless specific testing demonstrates otherwise. Samples from the GWS dividers in the attic (17909-009), and from the new modular addition to the building (17909-044 and 17909-051) did not contain asbestos.
- Black sink undercoatings (17909-058, 17909-060, 17909-070, 17909-078). White and green undercoatings were also observed on one sink each, samples of these undercoatings did not contain asbestos.

In addition to the sampled materials, Thermal System Insulation that is presumed to contain asbestos was observed in the boiler room (Photo 12), air handler room (Photo 13), and in the attic below the old roof (Photo 14). This material consisted of a presumed ACM pipe wrapping as well as a presumed ACM hard insulating material at joints and valves. Some limited sections of the ACM pipe wrapping appear to have been replaced with fiberglass. This material is in fair condition, with a couple nicks in the encapsulating wrap around the TSI, and in several locations the ends of hard insulating pipe joints are exposed (Photo 15). Due to the heterogeneous nature of these TSI materials, they were not sampled. If the TSI is not fiberglass it must be presumed to be ACM. No suspect TSI was observed in the crawlspaces or in the two newer sections of the building.

Because of the building's age several materials should be assumed to be ACM. The metal flue from the boilers in the boiler room should be assumed to contain ACM insulating material. Fire-rated doors, including 2 attic access hatches, should be assumed to contain asbestos. Several flanged pipe joints were observed in the boiler room, these should be assumed to contain an ACM gasket. Elevator brake pads, internal components of boilers, furnaces, and other pieces of building mechanical equipment often contain asbestos and need to be handled accordingly. To avoid damaging the roof, any tar paper, vapor barrier, or other roofing materials under the metal roof were not sampled and should be assumed to possibly be ACM. Flexible duct joints were in good condition and observed to be labeled as Ventglas, which as currently produced is a non-ACM fiberglass product; however, because it is unknown what the composition was when these joints were installed, these and other flexible duct joints should be assumed to be ACM unless further information is obtained to show otherwise.



The following section discusses the samples from the materials that did not contain asbestos. The orange fibrous duct insulation in the attic was sampled and did not contain asbestos. Grey, brown, and blue vinyl baseboards and their associated mastics were sampled; none of the samples contained asbestos. In the basement, two patterns of 12” by 12” glued-in ceiling tiles, and one of 24” by 48”, were sampled along with their associated brown mastics; none contained asbestos. 4 patterns of lay-in ceiling tiles, 2 in the oldest portion of the building and 2 in the newest, were sampled and none contained asbestos. Several colors of vinyl sheet flooring were sampled along with associated mastics, none contained asbestos; however, if black mastic is observed it should be considered ACM as discussed above. The mastics underneath several different styles of carpet were sampled, none contained asbestos except for the black mastic under the green carpet in the basement described above; if black mastic is encountered under other carpets it should be considered ACM. The gypsum wall panels used in several parts of the health center were sampled and did not contain asbestos. The red penetration caulk used throughout the building was sampled and did not contain asbestos. Several other miscellaneous caulks from windows, sinks, and the building exterior were sampled and except for the pale green caulk described above none contained asbestos, however a wide variety of these materials were present so caulks should still be assumed to contain asbestos. The exterior building texture, the caulk between the walls and soffit, and the vapor barrier and gypsum wallboard of the soffit were sampled and did not contain asbestos.

This was a limited asbestos survey and therefore does not meet the standards for a thorough survey as required under NESHAPS for building demolition. Any material(s) that will be impacted by work activities that are discovered and are not represented in this assessment effort, or materials outside the area of investigation for this effort, should be tested for the presence of asbestos before being disturbed and disposed. The asbestos sampling followed EPA and OSHA’s sampling and building inspection standards as set in 29 Code of Federal Regulations (CFR) 1910, 29 CFR 1926, 40 CFR 61, and 40 CFR 763 as applicable to an employer or owner of a commercial building. Please contact EMI at (907) 272-9336 if you have any questions.

Sincerely,  
**ENVIRONMENTAL MANAGEMENT, INC.**

Andy Coulson  
 Environmental Scientist

Attached:

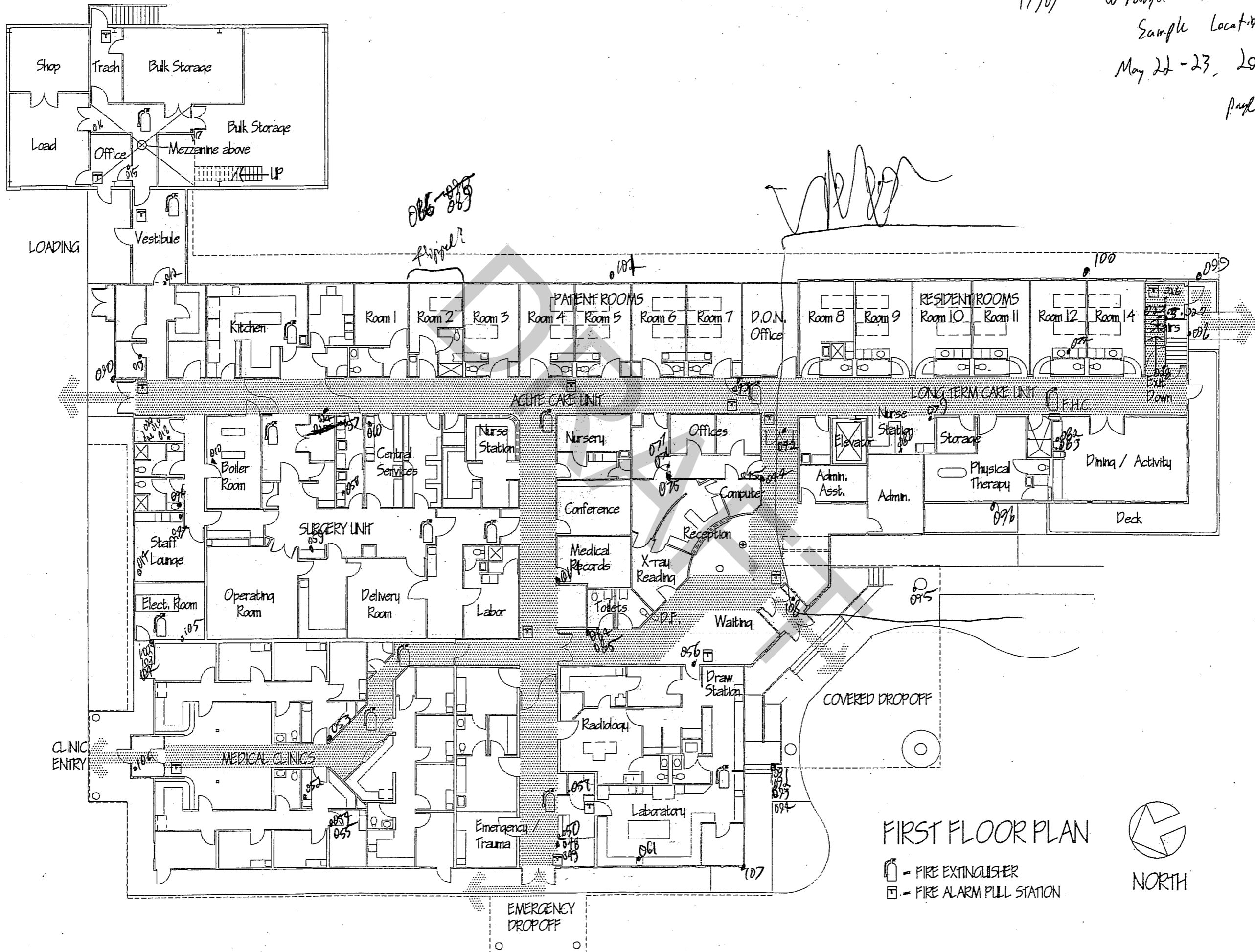
Sample Location Maps

Photo Log



NVL Reports:

1809975	1809962	1809974
1809971	1809979	1809961
1809970	1809976	



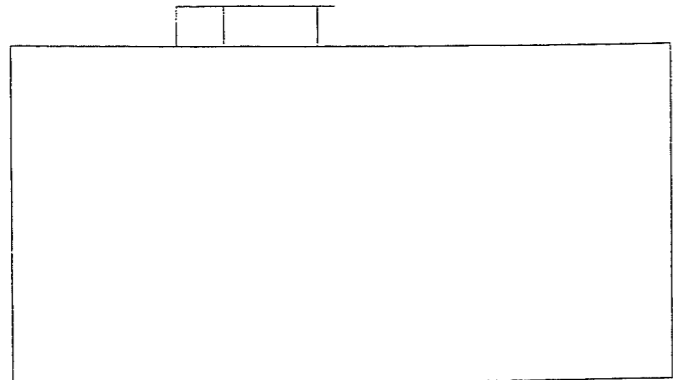


FIRST FLOOR PLAN

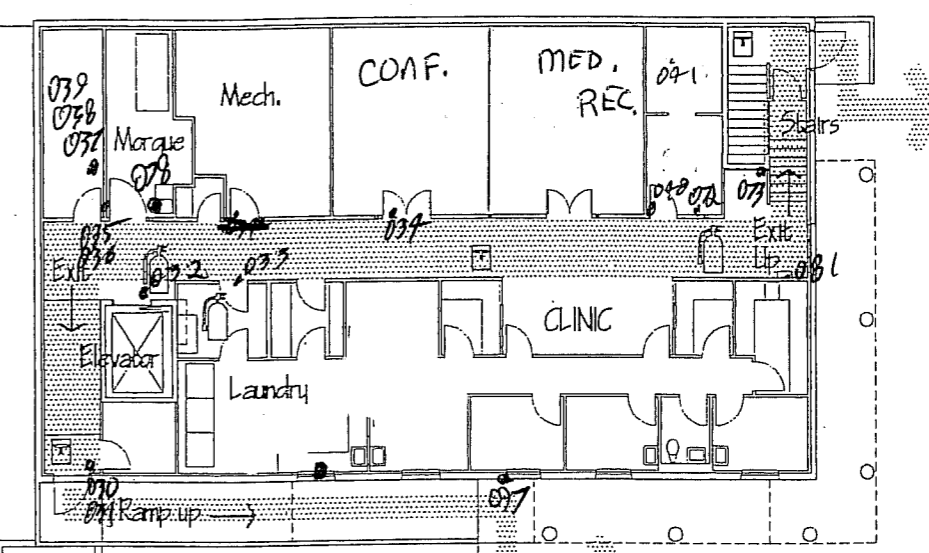
-  - FIRE EXTINGUISHER
-  - FIRE ALARM PULL STATION



17909 Wrayell Medical Center  
Sample Locations  
May 22-23, 2018  
page 2



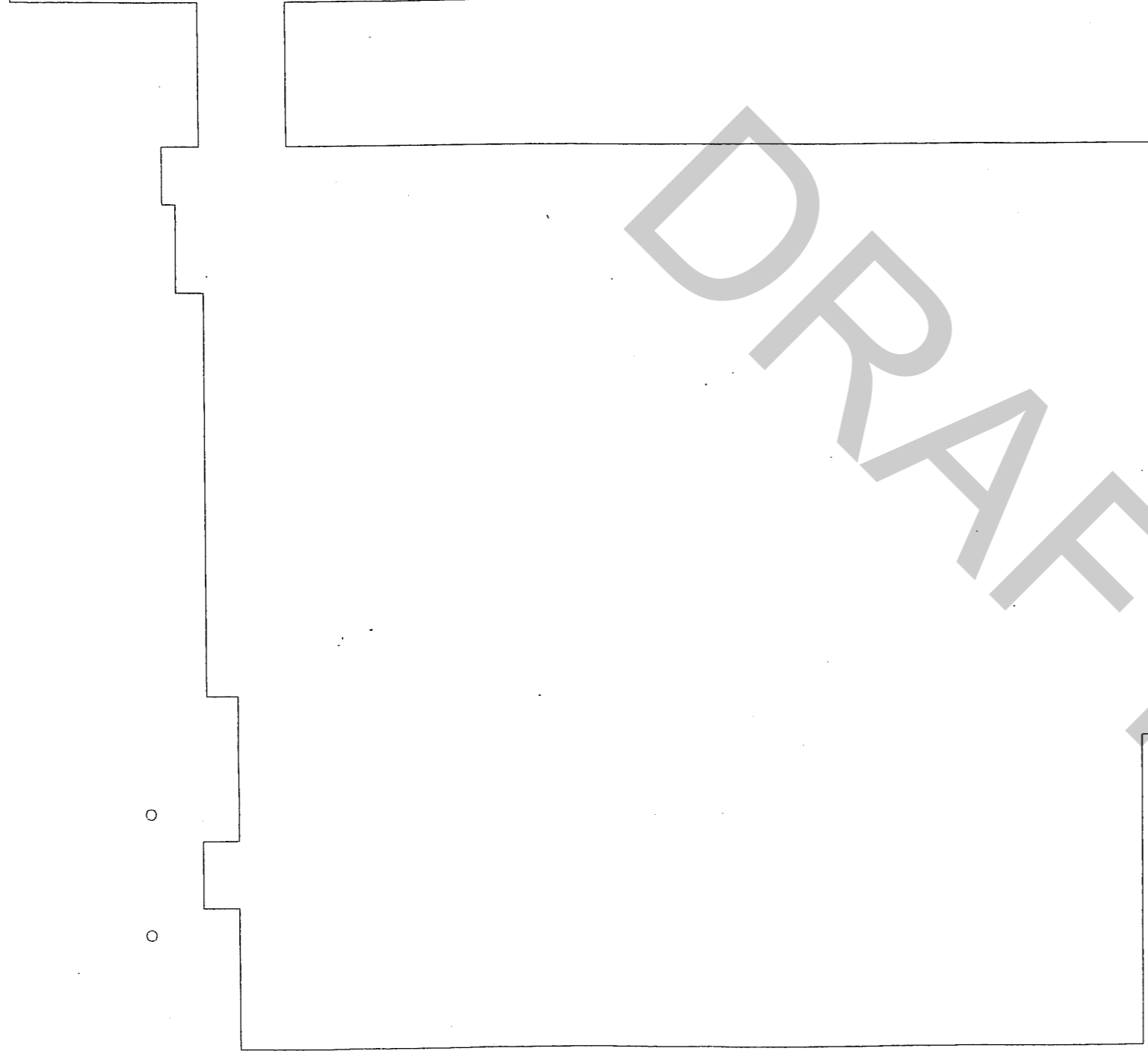
DRAFT



BASEMENT FLOOR PLAN

- ☒ - FIRE EXTINGUISHER
- ☑ - FIRE ALARM PULL STATION

NORTH





## Photo Log

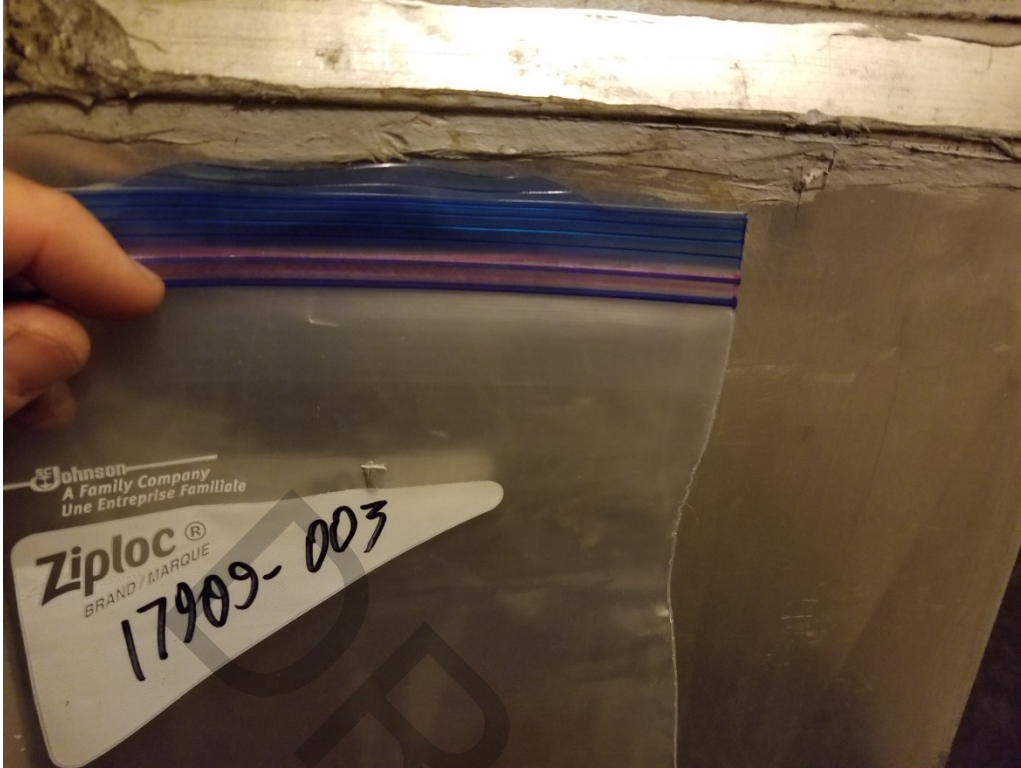


**Photo 1:** Roofing material of the original building roof is ACM. (May 22, 2018)



**Photo 2:** Tar paper skirts around penetrations in the new portion of the attic are ACM. (May 23, 2018)

## Photo Log

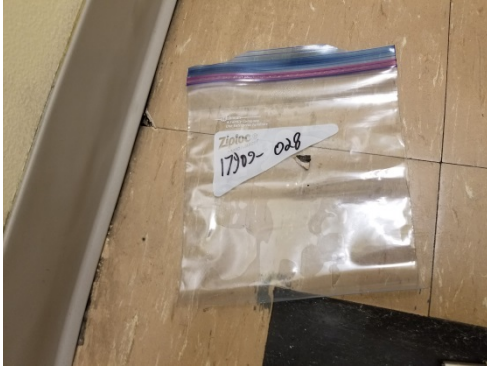


**Photo 3:** Grey duct sealant is ACM. (May 22, 2018)

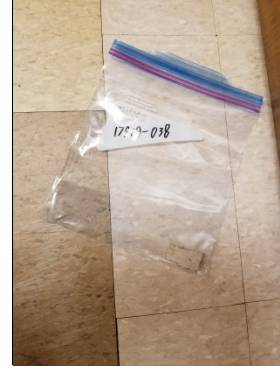


**Photo 4:** Black mastic beneath found beneath floor tiles and green carpet in the basement. (May 22, 2018)

## Photo Log



**Photo 5:** Pink floor tiles in the upper landing of the stairway were ACM, and had a black ACM mastic. Tile appears beige in this photograph; appeared pink when sampled. (May 22, 2018)



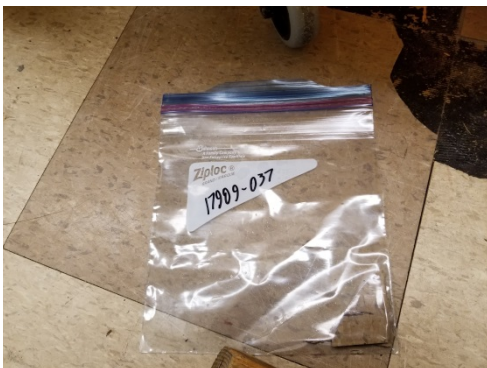
**Photo 8:** Asbestos was not detected in white floor tiles in the basement storage room, and no black or ACM mastics were detected. (May 22, 2018)



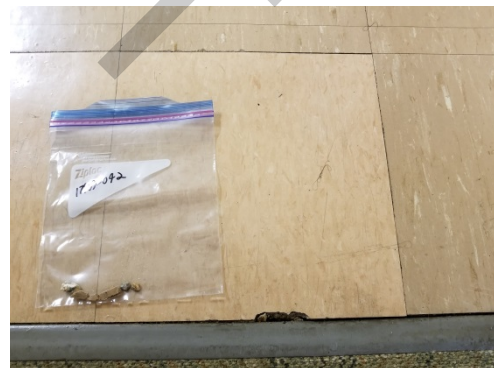
**Photo 6:** Off-white floor tiles in the stairway were ACM, and had a black mastic with trace amounts of asbestos. (May 22, 2018)



**Photo 9:** Asbestos was not detected in speckled beige floor tiles in the basement storage room, and no black or ACM mastics were detected. (May 22, 2018)



**Photo 7:** Brown floor tiles in the basement storage room were ACM, and had a black ACM mastic. (May 22, 2018)



**Photo 10:** Asbestos was not detected in pink floor tiles in the entrance to the long term care wing, but tiles did have a black ACM mastic. Tile appears grey in photograph, but appeared pink when sampled. (May 22, 2018)

## Photo Log



**Photo 11:** The cement standpipe near the southeast corner of the building is ACM. (May 23, 2018)



**Photo 12:** Presumed ACM TSI in the boiler room. Flue in back corner is assumed to contain ACM insulation. (May 22, 2018)

## Photo Log



**Photo 13:** Presumed ACM TSI in the air handler room. Orange duct insulation on the right is not ACM. (May 22, 2018)



**Photo 14:** Presumed ACM TSI in the attic under the roof of the original building. (May 22, 2018)

## Photo Log



**Photo 15:** Exposed ends of presumed ACM TSI hard insulated joints. (May 22, 2018)

May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



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**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809975.00**

Client Project: 17909  
Location: WH-01

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly'.

Nick Ly, Technical Director



Lab Code: 102063-0

1.888.NVL.LABS  
1.888.(685.5227)  
www.nvllabs.com

Enc.: Sample Results

NVL Laboratories, Inc.  
4708 Aurora Ave N, Seattle, WA 98103  
p 206.547.0100 | f 206.634.1936

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809975.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-01

**Lab ID: 18051827 Client Sample #: 17909-001**

Location: WH-01

<b>Layer 1 of 1</b>	<b>Description:</b> Red soft material with paint and paper			
	Non-Fibrous Materials:	Other Fibrous Materials: %		<b>Asbestos Type: %</b>
	Binder/Filler, Paint	None Detected ND		<b>None Detected ND</b>

**Lab ID: 18051828 Client Sample #: 17909-002**

Location: WH-01

<b>Layer 1 of 2</b>	<b>Description:</b> White compacted powdery material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials: %		<b>Asbestos Type: %</b>
	Calcareous binder, Fine particles, Paint	Cellulose 2%		<b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> White chalky material with paper			
	Non-Fibrous Materials:	Other Fibrous Materials: %		<b>Asbestos Type: %</b>
	Gypsum/Binder, Binder/Filler	Cellulose 3%		<b>None Detected ND</b>
		Glass fibers 4%		

**Lab ID: 18051829 Client Sample #: 17909-003**

Location: WH-01

<b>Layer 1 of 1</b>	<b>Description:</b> Gray soft material			
	Non-Fibrous Materials:	Other Fibrous Materials: %		<b>Asbestos Type: %</b>
	Binder/Filler	None Detected ND		<b>Chrysotile 4%</b>

**Lab ID: 18051830 Client Sample #: 17909-004**

Location: WH-01

<b>Layer 1 of 1</b>	<b>Description:</b> Orange fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials: %		<b>Asbestos Type: %</b>
	Binder/Filler	Glass fibers 97%		<b>None Detected ND</b>

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809975.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-01

**Lab ID: 18051831 Client Sample #: 17909-005**

Location: WH-01

Layer 1 of 1 Description: Orange fibrous material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 Glass fibers 96%

**Asbestos Type: %  
 None Detected ND**

**Lab ID: 18051832 Client Sample #: 17909-006**

Location: WH-01

Layer 1 of 1 Description: Orange fibrous material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 Glass fibers 98%

**Asbestos Type: %  
 None Detected ND**

**Lab ID: 18051833 Client Sample #: 17909-007**

Location: WH-01

Layer 1 of 1 Description: Black asphaltic material

Non-Fibrous Materials:  
 Asphalt/Binder

Other Fibrous Materials:%  
 Cellulose 3%

**Asbestos Type: %  
 Chrysotile 2%**

**Lab ID: 18051834 Client Sample #: 17909-008**

Location: WH-01

Layer 1 of 2 Description: Black asphaltic material

Non-Fibrous Materials:  
 Asphalt/Binder

Other Fibrous Materials:%  
 Glass fibers 5%

**Asbestos Type: %  
 None Detected ND**

Layer 2 of 2 Description: Brown fibrous material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 Cellulose 80%

**Asbestos Type: %  
 None Detected ND**

**Lab ID: 18051835 Client Sample #: 17909-009**

Location: WH-01

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809975.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-01

<b>Layer 1 of 2</b>	<b>Description:</b> White compacted powdery material with paint and paper	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Calcareous binder, Fine particles, Paint	Cellulose 3%	
<b>Layer 2 of 2</b>	<b>Description:</b> White chalky material with paper	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Gypsum/Binder, Binder/Filler	Cellulose 5%	

**Lab ID: 18051836 Client Sample #: 17909-010**

Location: WH-01

<b>Layer 1 of 1</b>	<b>Description:</b> Yellow mastic on silver foil	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Mastic/Binder, Metal foil	None Detected ND	

**Lab ID: 18051837 Client Sample #: 17909-011**


Location: WH-01

<b>Layer 1 of 2</b>	<b>Description:</b> Yellow sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Vinyl/Binder, Synthetic foam	Glass fibers 11%	
<b>Layer 2 of 2</b>	<b>Description:</b> Yellow mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Mastic/Binder	Cellulose 3%	

**Lab ID: 18051838 Client Sample #: 17909-012**

Location: WH-01

<b>Layer 1 of 2</b>	<b>Description:</b> Off-white sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b> <b>None Detected ND</b>
		Vinyl/Binder	None Detected ND	

<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Lauren Wetzel	
<b>Reviewed by:</b> Nick Ly	
<b>Date:</b> 05/26/2018	<b>Date:</b> 05/29/2018

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503


**Batch #: 1809975.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-01

<b>Layer 2 of 2</b>	<b>Description:</b> Off-white mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Mastic/Binder	Cellulose 2%	<b>None Detected ND</b>
<b>Lab ID: 18051839</b>	<b>Client Sample #: 17909-013</b>			
Location: WH-01				
<b>Layer 1 of 1</b>	<b>Description:</b> White mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Mastic/Binder	Synthetic fibers 2%	<b>None Detected ND</b>
<b>Lab ID: 18051840</b>	<b>Client Sample #: 17909-014</b>			
Location: WH-01				
<b>Layer 1 of 2</b>	<b>Description:</b> Gray sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Vinyl/Binder, Synthetic foam	Glass fibers 6%	<b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Yellow mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Mastic/Binder	Cellulose 3%	<b>None Detected ND</b>
<b>Lab ID: 18051841</b>	<b>Client Sample #: 17909-015</b>			
Location: WH-01				
<b>Layer 1 of 3</b>	<b>Description:</b> Brown sheet vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Vinyl/Binder, Mineral grains	Cellulose 2%	<b>None Detected ND</b>
<b>Layer 2 of 3</b>	<b>Description:</b> Clear adhesive	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Adhesive/Binder	None Detected ND	<b>None Detected ND</b>

<b>Sampled by:</b> Client		 Nick Ly, Technical Director
<b>Analyzed by:</b> Lauren Wetzel	<b>Date:</b> 05/26/2018	
<b>Reviewed by:</b> Nick Ly	<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI

Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-01

**Batch #: 1809975.00**

Client Project #: 17909

Date Received: 5/25/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Layer 3 of 3**

**Description:** Black sheet vinyl

Non-Fibrous Materials:  
Vinyl/Binder, Mineral grains

Other Fibrous Materials:%  
Cellulose 3%

**Asbestos Type: %**  
**None Detected ND**

DRAFT

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI  
**Address** 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503  
**Project Manager** Mr. Glenn Hashburgh  
**Phone** (907) 272-9336  
**NVL Batch Number** **1809975.00**  
**TAT** 1 Day **AH** No  
**Rush TAT**  
**Due Date** 5/29/2018 **Time** 11:55 AM  
**Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-01

**Subcategory** PLM Bulk

**Item Code** ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

**Total Number of Samples** 15 **Rush Samples** \_\_\_\_\_

	Lab ID	Sample ID	Description	A/R
1	18051827	17909-001		A
2	18051828	17909-002		A
3	18051829	17909-003		A
4	18051830	17909-004		A
5	18051831	17909-005		A
6	18051832	17909-006		A
7	18051833	17909-007		A
8	18051834	17909-008		A
9	18051835	17909-009		A
10	18051836	17909-010		A
11	18051837	17909-011		A
12	18051838	17909-012		A
13	18051839	17909-013		A
14	18051840	17909-014		A
15	18051841	17909-015		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Lauren Wetzel		NVL	5/26/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:** \_\_\_\_\_

Date: 5/25/2018  
 Time: 1:10 PM  
 Entered By: Emily Schubert

# 1809975



## ASBESTOS CHAIN OF CUSTODY

### Turn Around Time

- 1 Hour
- 2 Hours
- 4 Hours
- 24 Hours
- 2 Days
- 3 Days
- 4 Days
- 5 Days
- 10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc. Project Manager Glenn Hasburgh  
 Address 206 E Fireweed Ln, Suite 201 Cell ( ) -  
Anchorage, AK 99503 Email ghasburgh@emi-alaska.com  
 Phone (907) 272-9336 Fax (907) 272-4159

Project Name/Number <u>17909</u>	Project Location <u>WH-01</u>
<input type="checkbox"/> PCM Air (NIOSH 7400) <input type="checkbox"/> TEM (NIOSH 7402) <input type="checkbox"/> TEM (AHERA) <input type="checkbox"/> TEM (EPA Level II Modified) <input checked="" type="checkbox"/> PLM (EPA 600/R-93-116) <input checked="" type="checkbox"/> EPA 400 Points (600/R-93-116) <input type="checkbox"/> EPA 1000Points (600/R-93-116) <input type="checkbox"/> PLM Gravimetry (600/R-93-116) <input type="checkbox"/> Asbestos in Vermiculite (EPA 600/R-04/004) <input type="checkbox"/> Asbestos in Sediment (EPA 1900 Points) <input type="checkbox"/> Asbestos Friable/Non-Friable (EPA 600/R-93/116) <input type="checkbox"/> Other _____	

Reporting Instructions \_\_\_\_\_

Call ( ) -     Fax ( ) -     Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

### Total Number of Samples

Sample ID	Description	A/R
1	Red insulation canlk	
2	tape and joint compound	
3	gray duct insulation	
4	orange duct insulation	
5	orange duct insulation	
6	Orange duct insulation	
7	roofing tar	
8	roofing tar paper	
9	GWS	
10	silver duct wrap	
11	yellow VSF	
12	off white VSF	
13	Carpet mastic	
14	#5 tile Tile paper VSF	
15	marble pattern VSF	

page 8 of 8

May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



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**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809971.00**

Client Project: 17909  
Location: WH-02

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly', written in a cursive style.

Nick Ly, Technical Director



Lab Code: 102063-0

1.888.NVL.LABS  
1.888.(685.5227)  
www.nvllabs.com

Enc.: Sample Results

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809971.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-02

**Lab ID: 18051792      Client Sample #: 17909-016**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** White compacted powdery material with vinyl surface

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Calcareous binder, Vinyl/Binder	None Detected ND	

**None Detected ND**

**Layer 2 of 2      Description:** White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Calcareous binder, Binder/Filler	Cellulose 20%	

**None Detected ND**

**Lab ID: 18051793      Client Sample #: 17909-017**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Rubber/Binder	None Detected ND	

**None Detected ND**

**Layer 2 of 2      Description:** White soft mastic with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Mastic/Binder, Binder/Filler, Paint	Cellulose 8%	

**None Detected ND**

**Lab ID: 18051794      Client Sample #: 17909-018**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White chalky material with paper and vinyl surface

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Gypsum/Binder, Binder/Filler, Vinyl/Binder	Cellulose 20%	
	Glass fibers 5%	

**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809971.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-02

**Lab ID: 18051795      Client Sample #: 17909-019**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Calcareous binder	Cellulose 24%	

**None Detected ND**

**Lab ID: 18051796      Client Sample #: 17909-020**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Gray compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Fine particles, Perlite	Cellulose 42%	
Glass beads, Paint	Glass fibers 31%	

**None Detected ND**

**Lab ID: 18051797      Client Sample #: 17909-021**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White soft material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Caulking compound, Binder/Filler, Paint	Cellulose 10%	

**None Detected ND**

**Lab ID: 18051798      Client Sample #: 17909-022**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White compacted powdery material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Calcareous binder	Cellulose 27%	

**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809971.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-02

**Lab ID: 18051799      Client Sample #: 17909-023**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Yellow soft mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Mastic/Binder, Fine particles	Cellulose 2%	
		<b>None Detected ND</b>

**Lab ID: 18051800      Client Sample #: 17909-024**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Gray compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Fine particles, Perlite	Cellulose 44%	
Glass beads, Paint	Glass fibers 32%	
		<b>None Detected ND</b>

**Lab ID: 18051801      Client Sample #: 17909-025**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White compacted powdery material with paint and paper

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Calcareous binder, Paint	Cellulose 14%	
		<b>Chrysotile 2%</b>

**Lab ID: 18051802      Client Sample #: 17909-026**

Location: WH-02

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Mastic/Binder	None Detected ND	
		<b>None Detected ND</b>

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809971.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-02

<b>Layer 2 of 2</b>	<b>Description:</b> Beige brittle material	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Mastic/Binder	Cellulose <1%	<b>None Detected ND</b>

**Lab ID: 18051803**      **Client Sample #: 17909-027**

Location: WH-02

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Black vinyl	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Vinyl/Binder	None Detected ND	<b>None Detected ND</b>

<b>Layer 2 of 2</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Mastic/Binder, Fine particles	Cellulose <1%	<b>None Detected ND</b>

**Lab ID: 18051804**      **Client Sample #: 17909-028**

Location: WH-02

Comments: Sample was dried prior to analysis.


<b>Layer 1 of 2</b>	<b>Description:</b> Tan tile	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Vinyl/Binder, Calcareous particles	None Detected ND	<b>Chrysotile 2%</b>

<b>Layer 2 of 2</b>	<b>Description:</b> Black asphaltic mastic	Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
		Asphalt/Binder, Mastic/Binder	None Detected ND	<b>Chrysotile 6%</b>

**Lab ID: 18051805**      **Client Sample #: 17909-029**

Location: WH-02

Comments: Sample was dried prior to analysis.

<b>Sampled by:</b> Client		
<b>Analyzed by:</b> Welly Hsieh	<b>Date:</b> 05/25/2018	
<b>Reviewed by:</b> Nick Ly	<b>Date:</b> 05/29/2018	Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809971.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-02

<b>Layer 1 of 2</b>	<b>Description:</b> Tan tile	Non-Fibrous Materials: Vinyl/Binder, Calcareous particles	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>Chrysotile 2%</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Trace black asphaltic mastic	Non-Fibrous Materials: Asphalt/Binder, Mastic/Binder	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>Chrysotile &lt;1%</b>

**Lab ID: 18051806**      **Client Sample #: 17909-030**

Location: WH-02

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Gray compressed fibrous material	Non-Fibrous Materials: Binder/Filler, Fine particles, Perlite Glass beads	Other Fibrous Materials:% Cellulose 45% Glass fibers 31%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Brown brittle mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% Cellulose 3%	<b>Asbestos Type: %</b> <b>None Detected ND</b>

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI  
**Address** 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503  
**Project Manager** Mr. Glenn Hashburgh  
**Phone** (907) 272-9336  
**NVL Batch Number** 1809971.00  
**TAT** 1 Day **AH No**  
**Rush TAT**  
**Due Date** 5/29/2018 **Time** 11:55 AM  
**Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-02

**Subcategory** PLM Bulk

**Item Code** ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

**Total Number of Samples** 15 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051792	17909-016		A
2	18051793	17909-017		A
3	18051794	17909-018		A
4	18051795	17909-019		A
5	18051796	17909-020		A
6	18051797	17909-021		A
7	18051798	17909-022		A
8	18051799	17909-023		A
9	18051800	17909-024		A
10	18051801	17909-025		A
11	18051802	17909-026		A
12	18051803	17909-027		A
13	18051804	17909-028		A
14	18051805	17909-029		A
15	18051806	17909-030		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Welly Hsieh		NVL	5/25/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:**

Date: 5/25/2018  
 Time: 1:02 PM  
 Entered By: Emily Schubert

1809971



# ASBESTOS CHAIN OF CUSTODY

Turn Around Time  
 1 Hour     24 Hours     4 Days  
 2 Hours     2 Days     5 Days  
 4 Hours     3 Days     10 Days  
 Please call for TAT less than 24 Hours

Company Environmental Management, Inc.  
 Address 206 E Fireweed Ln, Suite 201  
Anchorage, AK 99503  
 Phone (907) 272-9336

Project Manager Glenn Hasburgh  
 Cell ( ) -  
 Email ghasburgh@emi-alaska.com  
 Fax (907) 272 - 4159

Project Name/Number 17909      Project Location WH-02

- PCM Air (NIOSH 7400)
- PLM (EPA 600/R-93-116)
- PLM Gravimetry (600/R-93-116)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- TEM (NIOSH 7402)
- EPA 400 Points (600/R-93-116)
- Asbestos in Vermiculite (EPA 600/R-04/004)
- Other
- TEM (AHERA)
- TEM (EPA Level II Modified)
- EPA 1000Points (600/R-93-116)
- Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions  
 Call ( ) -       Fax ( ) -       Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

Total Number of Samples 15

Sample ID	Description	A/R
1	17909-016	Tape, joint compound
2	17909-017	gully, core base and mastic
3	17909-018	gypsum wall panels
4	17909-019	Tape, joint compound
5	17909-020	lag in ceiling tile
6	17909-021	wall panel seam material
7	17909-022	tape / joint compound
8	17909-023	core base mastic
9	17909-024	lag in ceiling tile
10	17909-025	tape, joint compound
11	17909-026	core base mastic
12	17909-027	vsf stairway
13	17909-028	pink floor tile
14	17909-029	off white floor tiles
15	17909-030	glued ceiling tiles pattern 1

Print Name	Signature	Company	Date	Time
Sampled by <u>Andy Coulson</u>		<u>EMI</u>	<u>22 May 2016</u>	<u>12:40</u>
Relinquish by <u>Andy Coulson</u>		<u>EMI</u>		

**Office Use Only**

Print Name	Signature	Company	Date	Time
Received by <u>Emily S</u>		<u>NVL</u>	<u>8/25/18</u>	<u>1155</u> A12B
Analyzed by				
Called by				
Faxed/Email by				

May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



INDUSTRIAL  
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**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809970.00**

Client Project: 17909  
Location: WH-03

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly'.

Nick Ly, Technical Director



Lab Code: 102063-0

**1.888.NVL.LABS** Enc.: Sample Results  
**1.888.(685.5227)**  
[www.nvllabs.com](http://www.nvllabs.com)

NVL Laboratories, Inc.  
4708 Aurora Ave N, Seattle, WA 98103  
p 206.547.0100 | f 206.634.1936

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

**Lab ID: 18051777      Client Sample #: 17909-031**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Brown brittle mastic

Non-Fibrous Materials:  
Mastic/Binder

Other Fibrous Materials:%  
Cellulose <1%

**Asbestos Type: %  
None Detected ND**

**Lab ID: 18051778      Client Sample #: 17909-032**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Tan compressed fibrous material with paint

Non-Fibrous Materials:  
Binder/Filler, Paint

Other Fibrous Materials:%  
Cellulose 82%

**Asbestos Type: %  
None Detected ND**

**Layer 2 of 2      Description:** Brown brittle mastic

Non-Fibrous Materials:  
Mastic/Binder

Other Fibrous Materials:%  
Talc fibers 2%

**Asbestos Type: %  
None Detected ND**

**Lab ID: 18051779      Client Sample #: 17909-033**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Tan vinyl

Non-Fibrous Materials:  
Vinyl/Binder

Other Fibrous Materials:%  
None Detected ND

**Asbestos Type: %  
None Detected ND**

**Layer 2 of 2      Description:** Off-white/gray soft mastic

Non-Fibrous Materials:  
Mastic/Binder

Other Fibrous Materials:%  
Cellulose 2%

**Asbestos Type: %  
None Detected ND**

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

**Lab ID: 18051780      Client Sample #: 17909-034**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Yellow soft mastic

Non-Fibrous Materials:  
Mastic/Binder

Other Fibrous Materials:%  
Cellulose <1%

**Asbestos Type: %  
None Detected ND**

**Layer 2 of 2      Description:** Black asphaltic mastic

Non-Fibrous Materials:  
Asphalt/Binder, Mastic/Binder

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %  
Chrysotile 4%**

**Lab ID: 18051781      Client Sample #: 17909-035**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 3      Description:** Black rubbery material with paint

Non-Fibrous Materials:  
Rubber/Binder, Paint

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %  
None Detected ND**

**Layer 2 of 3      Description:** White soft mastic

Non-Fibrous Materials:  
Mastic/Binder

Other Fibrous Materials:%  
Cellulose <1%

**Asbestos Type: %  
None Detected ND**

**Layer 3 of 3      Description:** White compacted powdery material with paint

Non-Fibrous Materials:  
Calcareous binder, Paint

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %  
None Detected ND**

**Lab ID: 18051782      Client Sample #: 17909-036**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

<b>Layer 1 of 2</b>	<b>Description:</b> Tan brittle mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	None Detected ND	<b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> White compacted powdery material with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Calcareous binder, Paint	Cellulose <1%	<b>None Detected ND</b>

**Lab ID: 18051783 Client Sample #: 17909-037**

Location: WH-03

Comments: Sample was dried prior to analysis.


<b>Layer 1 of 2</b>	<b>Description:</b> Tan tile	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Vinyl/Binder, Calcareous particles	None Detected ND	<b>Chrysotile 3%</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Black asphaltic mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Asphalt/Binder, Mastic/Binder	None Detected ND	<b>Chrysotile 4%</b>

**Lab ID: 18051784 Client Sample #: 17909-038**

Location: WH-03

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Beige vinyl tile	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Vinyl/Binder, Calcareous particles	None Detected ND	<b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Trace yellow soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	None Detected ND	<b>None Detected ND</b>

<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Welly Hsieh	
<b>Reviewed by:</b> Nick Ly	
<b>Date:</b> 05/25/2018	
<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

**Lab ID: 18051785      Client Sample #: 17909-039**

Location: WH-03

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Beige vinyl tile	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Vinyl/Binder, Calcareous particles	None Detected ND	
<b>Layer 2 of 2</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	Cellulose 2%	

**Lab ID: 18051786      Client Sample #: 17909-040**

Location: WH-03

Comments: Sample was dried prior to analysis.


<b>Layer 1 of 2</b>	<b>Description:</b> Brown rubbery material	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Rubber/Binder	None Detected ND	
<b>Layer 2 of 2</b>	<b>Description:</b> White soft mastic with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder, Paint	None Detected ND	

**Lab ID: 18051787      Client Sample #: 17909-041**

Location: WH-03

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> White soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	None Detected ND	

<b>Sampled by:</b> Client		
<b>Analyzed by:</b> Welly Hsieh	<b>Date:</b> 05/25/2018	
<b>Reviewed by:</b> Nick Ly	<b>Date:</b> 05/29/2018	Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

**Lab ID: 18051788      Client Sample #: 17909-042**

Location: WH-03

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 4</b>	<b>Description:</b> Beige vinyl tile	Non-Fibrous Materials: Vinyl/Binder, Calcareous particles	Other Fibrous Materials:% None Detected    ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 4</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Cellulose    2%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 3 of 4</b>	<b>Description:</b> Gray soft material	Non-Fibrous Materials: Mineral grains, Fine particles	Other Fibrous Materials:% None Detected    ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 4 of 4</b>	<b>Description:</b> Black asphaltic mastic	Non-Fibrous Materials: Asphalt/Binder, Mastic/Binder	Other Fibrous Materials:% Cellulose    2%	<b>Asbestos Type: %</b> <b>Chrysotile 5%</b>


**Lab ID: 18051789      Client Sample #: 17909-043**

Location: WH-03

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Gray vinyl	Non-Fibrous Materials: Vinyl/Binder	Other Fibrous Materials:% Glass fibers    7%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% Cellulose    2%	<b>Asbestos Type: %</b> <b>None Detected ND</b>

**Sampled by:** Client  
**Analyzed by:** Welly Hsieh      **Date:** 05/25/2018  
**Reviewed by:** Nick Ly      **Date:** 05/29/2018

  
 \_\_\_\_\_  
 Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809970.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-03

**Lab ID: 18051790      Client Sample #: 17909-044**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Gray rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Rubber/Binder	None Detected    ND	

**None Detected ND**

**Layer 2 of 2      Description:** White soft mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Mastic/Binder	Cellulose <1%	

**None Detected ND**

**Lab ID: 18051791      Client Sample #: 17909-045**

Location: WH-03

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** White woven fibrous material with mastic and vinyl surface

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Binder/Filler, Mastic/Binder, Vinyl/Binder	Cellulose 48%	

**None Detected ND**

**Layer 2 of 2      Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Gypsum/Binder, Binder/Filler	Cellulose 21%	
	Glass fibers 3%	

**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI **NVL Batch Number** **1809970.00**  
**Address** 206E Fireweed Lane, Ste. 201 **TAT** 1 Day **AH** No  
 Anchorage, AK 99503 **Rush TAT**  
**Project Manager** Mr. Glenn Hashburgh **Due Date** 5/29/2018 **Time** 11:55 AM  
**Phone** (907) 272-9336 **Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-03

**Subcategory** PLM Bulk

**Item Code** ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

**Total Number of Samples** 15 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051777	17909-031		A
2	18051778	17909-032		A
3	18051779	17909-033		A
4	18051780	17909-034		A
5	18051781	17909-035		A
6	18051782	17909-036		A
7	18051783	17909-037		A
8	18051784	17909-038		A
9	18051785	17909-039		A
10	18051786	17909-040		A
11	18051787	17909-041		A
12	18051788	17909-042		A
13	18051789	17909-043		A
14	18051790	17909-044		A
15	18051791	17909-045		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Welly Hsieh		NVL	5/25/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:**

Date: 5/25/2018  
 Time: 12:54 PM  
 Entered By: Emily Schubert

1809970



# ASBESTOS CHAIN OF CUSTODY

### Turn Around Time

- 1 Hour       24 Hours'       4 Days
- 2 Hours       2 Days       5 Days
- 4 Hours       3 Days       10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc. Project Manager Glenn Hasburgh  
 Address 206 E Fireweed Ln, Suite 201 Cell ( ) -  
Anchorage, AK 99503 Email ghasburgh@emi-alaska.com  
 Phone (907) 272-9336 Fax (907) 272 - 4159

Project Name/Number 17909 Project Location WH-03

- PCM Air (NIOSH 7400)       TEM (NIOSH 7402)       TEM (AHERA)       TEM (EPA Level II Modified)
- PLM (EPA 600/R-93-116)       EPA 400 Points (600/R-93-116)       EPA 1000Points (600/R-93-116)
- PLM Gravimetry (600/R-93-116)       Asbestos in Vermiculite (EPA 600/R-04/004)       Asbestos in Sediment (EPA 1900 Points)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)       Other

Reporting Instructions  
 Call ( ) -       Fax ( ) -       Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

### Total Number of Samples

Sample ID	Description	A/R
1	17909-031 brown mastic	
2	17909-032 glue in ceiling tile pattern 2	
3	17909-033 pink vst	
4	17909-034 carpet mastic	
5	17909-035 core base	
6	17909-036 joint compound	
7	17909-037 brown floor tile	
8	17909-038 white floor tile	
9	17909-039 speckled floor tile	
10	17909-040 purple core base	
11	17909-041 Carpet mastic	
12	17909-042 bright pink floor tile	
13	17909-043 grey vst	
14	17909-044 grey core base	
15	17909-045 wallpaper, tape, joint compound	

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson	<i>Andy Coulson</i>	EMI	22 May 2016	13:17
Relinquish by	Andy Coulson	<i>Andy Coulson</i>	EMI	22 May 2016	13:55

### Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	<i>Smith</i>	<i>[Signature]</i>	NVL	5/25/18	11:55 ADB
Analyzed by					
Called by					
Faxed/Email by					

May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



INDUSTRIAL  
HYGIENE  
SERVICES

Laboratory | Management | Training

**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809962.00**

Client Project: 17909  
Location: WH-04

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly'.

Nick Ly, Technical Director



Lab Code: 102063-0

1.888.NVL.LABS  
1.888.(685.5227)  
www.nvllabs.com

Enc.: Sample Results



# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809962.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-04

**Lab ID: 18051745      Client Sample #: 17909-046**

Location: WH-04

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Clear soft elastic material

Non-Fibrous Materials:  
Caulking compound

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Layer 2 of 2      Description:** White soft material

Non-Fibrous Materials:  
Caulking compound

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051746      Client Sample #: 17909-047**

Location: WH-04

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Off-white soft elastic material

Non-Fibrous Materials:  
Caulking compound, Fine particles

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051747      Client Sample #: 17909-048**

Location: WH-04

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Clear/gray soft mastic (on wood)

Non-Fibrous Materials:  
Mastic/Binder, Fine particles, Wood flakes

Other Fibrous Materials:%  
Cellulose <1%

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051748      Client Sample #: 17909-049**

Location: WH-04

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809962.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-04

<b>Layer 1 of 2</b>	<b>Description:</b> Beige vinyl	Non-Fibrous Materials: Vinyl/Binder	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
---------------------	---------------------------------	--	---	--

<b>Layer 2 of 2</b>	<b>Description:</b> Off-white soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Cellulose 3%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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**Lab ID: 18051749**      **Client Sample #: 17909-050**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Beige soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Synthetic fibers 8%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
---------------------	---------------------------------------	---	--	--

**Lab ID: 18051750**      **Client Sample #: 17909-051**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> White compacted powdery material with paint	Non-Fibrous Materials: Calcareous binder, Paint	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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<b>Layer 2 of 2</b>	<b>Description:</b> White compacted powdery material with paper	Non-Fibrous Materials: Binder/Filler, Calcareous binder	Other Fibrous Materials:% Cellulose 16%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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**Lab ID: 18051751**      **Client Sample #: 17909-052**

Location: WH-04

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809962.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-04

<b>Layer 1 of 2</b>	<b>Description:</b> White soft elastic material	Non-Fibrous Materials: Caulking compound	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> White soft material	Non-Fibrous Materials: Caulking compound, Calcareous particles	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>

**Lab ID: 18051752 Client Sample #: 17909-053**

Location: WH-04

Comments: Sample was dried prior to analysis.


<b>Layer 1 of 3</b>	<b>Description:</b> Tan vinyl	Non-Fibrous Materials: Vinyl/Binder, Synthetic foam	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 3</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles, Wood flakes	Other Fibrous Materials:% Cellulose 3% Synthetic fibers 2%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 3 of 3</b>	<b>Description:</b> Off-white chalky material with paper	Non-Fibrous Materials: Gypsum/Binder, Binder/Filler	Other Fibrous Materials:% Cellulose 27%	<b>Asbestos Type: %</b> <b>None Detected ND</b>

**Lab ID: 18051753 Client Sample #: 17909-054**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> White soft mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% Synthetic fibers <1%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Welly Hsieh	
<b>Reviewed by:</b> Nick Ly	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809962.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-04

**Lab ID: 18051754      Client Sample #: 17909-055**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder, Fine particles	Cellulose 4%	
<b>Layer 2 of 2</b>	<b>Description:</b> Off-white crumbly material	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Binder/Filler, Fine particles	Cellulose 2%	

**Lab ID: 18051755      Client Sample #: 17909-056**

Location: WH-04


Comments: Sample was dried prior to analysis.

<b>Layer 1 of 3</b>	<b>Description:</b> White soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	Synthetic fibers <1%	
<b>Layer 2 of 3</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder	Cellulose <1%	
<b>Layer 3 of 3</b>	<b>Description:</b> Gray soft material	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Binder/Filler, Fine particles, Mineral grains	None Detected ND	

**Lab ID: 18051756      Client Sample #: 17909-057**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Sampled by:</b> Client		
<b>Analyzed by:</b> Welly Hsieh	<b>Date:</b> 05/25/2018	 Nick Ly, Technical Director
<b>Reviewed by:</b> Nick Ly	<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809962.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-04

<b>Layer 1 of 1</b>	<b>Description:</b> White soft flaky material	Non-Fibrous Materials: Binder/Filler, Fine particles	Other Fibrous Materials:% Cellulose 10%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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**Lab ID: 18051757**      **Client Sample #: 17909-058**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Black asphaltic material	Non-Fibrous Materials: Asphalt/Binder, Fine particles	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>Chrysotile 4%</b>
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**Lab ID: 18051758**      **Client Sample #: 17909-059**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Green flaky material	Non-Fibrous Materials: Binder/Filler, Fine particles, Mica	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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**Lab ID: 18051759**      **Client Sample #: 17909-060**

Location: WH-04

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Black asphaltic material	Non-Fibrous Materials: Asphalt/Binder, Fine particles	Other Fibrous Materials:% Cellulose 2%	<b>Asbestos Type: %</b> <b>Chrysotile 3%</b>
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**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI  
**Address** 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503  
**Project Manager** Mr. Glenn Hashburgh  
**Phone** (907) 272-9336  
**NVL Batch Number** **1809962.00**  
**TAT** 1 Day **AH** No  
**Rush TAT**  
**Due Date** 5/29/2018 **Time** 11:55 AM  
**Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-04

**Subcategory** PLM Bulk  
**Item Code** ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

**Total Number of Samples** 15 **Rush Samples** \_\_\_\_\_

	Lab ID	Sample ID	Description	A/R
1	18051745	17909-046		A
2	18051746	17909-047		A
3	18051747	17909-048		A
4	18051748	17909-049		A
5	18051749	17909-050		A
6	18051750	17909-051		A
7	18051751	17909-052		A
8	18051752	17909-053		A
9	18051753	17909-054		A
10	18051754	17909-055		A
11	18051755	17909-056		A
12	18051756	17909-057		A
13	18051757	17909-058		A
14	18051758	17909-059		A
15	18051759	17909-060		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Welly Hsieh		NVL	5/25/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:** \_\_\_\_\_

Date: 5/25/2018  
 Time: 12:09 PM  
 Entered By: Nicholas Dossegger



# ASBESTOS CHAIN OF CUSTODY

Turn Around Time

- 1 Hour
- 24 Hours
- 4 Days
- 2 Hours
- 2 Days
- 5 Days
- 4 Hours
- 3 Days
- 10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc.

Project Manager Glenn Hasburgh

Address 206 E Fireweed Ln, Suite 201

Cell ( ) -

Anchorage, AK 99503

Email ghasburgh@emi-alaska.com

Phone (907) 272-9336

Fax (907) 272 - 4159

Project Name/Number <u>17909</u>	Project Location <u>WH-04</u>
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- PCM Air (NIOSH 7400)
- PLM (EPA 600/R-93-116)
- PLM Gravimetry (600/R-93-116)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- TEM (NIOSH 7402)
- EPA 400 Points (600/R-93-116)
- Asbestos in Vermiculite (EPA 600/R-04/004)
- Other
- TEM (AHERA)
- EPA 1000 Points (600/R-93-116)
- Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions

Call ( ) -  Fax ( ) -  Email acoulson@emi-alaska.com

ghasburgh@emi-alaska.com

**Total Number of Samples**

Sample ID	Description	A/R
1	17909-046 sink caulk	
2	17909-047 sink caulk	
3	17909-048 carpet mastic	
4	17909-049 Peach vsf	
5	17909-050 wall panel mastic	
6	17909-051 joint compound	
7	17909-052 sink caulk	
8	17909-053 wood pattern vsf	
9	17909-054 carpet mastic	
10	17909-055 carpet mastic	
11	17909-056 carpet mastic and levelling compound	
12	17909-057 white sink undercoat	
13	17909-058 black sink undercoat	
14	17909-059 green sink undercoat	
15	17909-060 black sink undercoat	

	Print Name	Signature	Company	Date	Time
Sampled by	<u>Andy Coulson</u>	<u>[Signature]</u>	<u>EMI</u>	<u>22 May 2018</u>	<u>15:55</u>
Relinquish by	<u>Andy Coulson</u>		<u>EMI</u>		

**Office Use Only**

	Print Name	Signature	Company	Date	Time
Received by	<u>Emily S</u>	<u>[Signature]</u>	<u>NVL</u>	<u>5/28/18</u>	<u>11:55</u>
Analyzed by	<u>Wally Hsieh</u>		<u>M</u>	<u>5/28/18</u>	<u>14:50</u>
Called by					
Faxed/Email by					

ADB  
ABD

May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



INDUSTRIAL  
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Laboratory | Management | Training

**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809979.00**

Client Project: 17909  
Location: WH-05

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly'.

Nick Ly, Technical Director



Lab Code: 102063-0

**1.888.NVL.LABS**  
**1.888.(685.5227)**  
[www.nvllabs.com](http://www.nvllabs.com)

Enc.: Sample Results



# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

**Lab ID: 18051859      Client Sample #: 17909-061**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description: Black plastic**

Non-Fibrous Materials:  
Plastic

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %  
None Detected ND**

**Lab ID: 18051860      Client Sample #: 17909-062**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Layer 1 of 3      Description: Black asphaltic material**

Non-Fibrous Materials:  
Asphalt/Binder, Fine particles, Wood flakes

Other Fibrous Materials:%  
Cellulose    2%

**Asbestos Type: %  
Chrysotile 7%**

**Layer 2 of 3      Description: Black asphaltic material with mastic**

Non-Fibrous Materials:  
Asphalt/Binder, Mastic/Binder, Fine particles

Other Fibrous Materials:%  
Glass fibers    18%

**Asbestos Type: %  
None Detected ND**

**Layer 3 of 3      Description: Black asphaltic fibrous felt**

Non-Fibrous Materials:  
Asphalt/Binder, Binder/Filler

Other Fibrous Materials:%  
Cellulose    61%

**Asbestos Type: %  
None Detected ND**

**Lab ID: 18051861      Client Sample #: 17909-063**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Layer 1 of 3      Description: Black asphaltic material**

Non-Fibrous Materials:  
Asphalt/Binder, Fine particles

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %  
Chrysotile 6%**

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

<b>Layer 2 of 3</b>	<b>Description:</b> Built-up black asphaltic material with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Asphalt/Binder, Fine particles, Wood flakes	Glass fibers 32%		<b>None Detected ND</b>

<b>Layer 3 of 3</b>	<b>Description:</b> Tan fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Binder/Filler, Fine particles	Cellulose 93%		<b>None Detected ND</b>

**Lab ID: 18051862**      **Client Sample #: 17909-064**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Black asphaltic material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Asphalt/Binder, Fine particles	Cellulose <1%		<b>Chrysotile 10%</b>

**Lab ID: 18051863**      **Client Sample #: 17909-065**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Built-up black asphaltic material and mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Asphalt/Binder, Mastic/Binder, Wood flakes	Glass fibers 42%		<b>None Detected ND</b>

<b>Layer 2 of 2</b>	<b>Description:</b> Tan fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Binder/Filler, Fine particles	Cellulose 89%		<b>None Detected ND</b>

**Lab ID: 18051864**      **Client Sample #: 17909-066**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

<b>Layer 1 of 2</b>	<b>Description:</b> White woven fibrous material with vinyl surface	Non-Fibrous Materials: Binder/Filler, Vinyl/Binder	Other Fibrous Materials:% Synthetic fibers 52%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Black asphaltic material	Non-Fibrous Materials: Asphalt/Binder, Fine particles	Other Fibrous Materials:% Cellulose <1%	<b>Asbestos Type: %</b> <b>Chrysotile 8%</b>

**Lab ID: 18051865**      **Client Sample #: 17909-067**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Gray rubbery material	Non-Fibrous Materials: Rubber/Binder	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: %</b> <b>None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> White soft mastic with paint and paper	Non-Fibrous Materials: Mastic/Binder, Binder/Filler, Paint	Other Fibrous Materials:% Cellulose 14%	<b>Asbestos Type: %</b> <b>None Detected ND</b>

**Lab ID: 18051866**      **Client Sample #: 17909-068**

Location: WH-05


Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Gray soft material	Non-Fibrous Materials: Caulking compound	Other Fibrous Materials:% Cellulose <1%	<b>Asbestos Type: %</b> <b>None Detected ND</b>
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**Lab ID: 18051867**      **Client Sample #: 17909-069**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Welly Hsieh	
<b>Reviewed by:</b> Nick Ly	
<b>Date:</b> 05/25/2018	
<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

<b>Layer 1 of 2</b>	<b>Description:</b> Multi-color fibrous material with white soft mastic	Non-Fibrous Materials: Binder/Filler, Mastic/Binder	Other Fibrous Materials:% Synthetic fibers 61%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> Yellow soft mastic	Non-Fibrous Materials: Mastic/Binder, Fine particles	Other Fibrous Materials:% Synthetic fibers <1%	<b>Asbestos Type: % None Detected ND</b>

**Lab ID: 18051868 Client Sample #: 17909-070**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Black asphaltic material	Non-Fibrous Materials: Asphalt/Binder, Fine particles	Other Fibrous Materials:% Cellulose <1%	<b>Asbestos Type: % Chrysotile 3%</b>
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**Lab ID: 18051869 Client Sample #: 17909-071**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> Mutli-color fibrous material with gray soft material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% Synthetic fibers 57%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 2 of 2</b>	<b>Description:</b> White soft mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials:% Synthetic fibers 2%	<b>Asbestos Type: % None Detected ND</b>

**Lab ID: 18051870 Client Sample #: 17909-072**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

<b>Layer 1 of 2</b>	<b>Description:</b> Gray compressed fibrous material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Binder/Filler, Fine particles, Perlite	Cellulose 41%		<b>None Detected ND</b>
	Glass beads, Paint	Glass fibers 38%		

<b>Layer 2 of 2</b>	<b>Description:</b> Brown brittle mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Mastic/Binder	Cellulose 2%		<b>None Detected ND</b>

**Lab ID: 18051871 Client Sample #: 17909-073**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 2</b>	<b>Description:</b> White woven fibrous material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Binder/Filler, Paint	Cellulose 51%		<b>None Detected ND</b>

<b>Layer 2 of 2</b>	<b>Description:</b> Off-white compacted powdery material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Calcareous binder	None Detected ND		<b>Chrysotile 2%</b>

**Lab ID: 18051872 Client Sample #: 17909-074**

Location: WH-05

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> White soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		<b>Asbestos Type: %</b>
	Caulking compound	None Detected ND		<b>None Detected ND</b>

**Lab ID: 18051873 Client Sample #: 17909-075**

Location: WH-05

Comments: Sample was dried prior to analysis.

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI

Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809979.00**

Client Project #: 17909

Date Received: 5/25/2018

Samples Received: 15

Samples Analyzed: 15

Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-05

Layer	Description	Non-Fibrous Materials:	Other Fibrous Materials: %	Asbestos Type: %
Layer 1 of 3	Gray rubbery material	Rubber/Binder	None Detected ND	None Detected ND
Layer 2 of 3	White soft mastic	Mastic/Binder, Calcareous particles	None Detected ND	None Detected ND
Layer 3 of 3	White compacted powdery material with paint	Calcareous binder, Paint	None Detected ND	None Detected ND

**Sampled by:** Client

**Analyzed by:** Welly Hsieh

**Reviewed by:** Nick Ly

**Date:** 05/25/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI **NVL Batch Number** **1809979.00**  
**Address** 206E Fireweed Lane, Ste. 201 **TAT** 1 Day **AH** No  
 Anchorage, AK 99503 **Rush TAT**  
**Project Manager** Mr. Glenn Hashburgh **Due Date** 5/29/2018 **Time** 11:55 AM  
**Phone** (907) 272-9336 **Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-05

**Subcategory** PLM Bulk

**Item Code** ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

**Total Number of Samples** 15 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051859	17909-061		A
2	18051860	17909-062		A
3	18051861	17909-063		A
4	18051862	17909-064		A
5	18051863	17909-065		A
6	18051864	17909-066		A
7	18051865	17909-067		A
8	18051866	17909-068		A
9	18051867	17909-069		A
10	18051868	17909-070		A
11	18051869	17909-071		A
12	18051870	17909-072		A
13	18051871	17909-073		A
14	18051872	17909-074		A
15	18051873	17909-075		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Welly Hsieh		NVL	5/25/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:**

Date: 5/25/2018  
 Time: 1:36 PM  
 Entered By: Nicholas Dossegger



## ASBESTOS CHAIN OF CUSTODY

### Turn Around Time

- 1 Hour       24 Hours       4 Days
- 2 Hours       2 Days       5 Days
- 4 Hours       3 Days       10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc.  
 Address 206 E Fireweed Ln, Suite 201  
Anchorage, AK 99503  
 Phone (907) 272-9336

Project Manager Glenn Hasburgh  
 Cell ( )  
 Email ghasburgh@emi-alaska.com  
 Fax (907) 272 - 4159

Project Name/Number <u>17909</u>	Project Location <u>WH-05</u>
----------------------------------	-------------------------------

- PCM Air (NIOSH 7400)       TEM (NIOSH 7402)       TEM (AHERA)       TEM (EPA Level II Modified)
- PLM (EPA 600/R-93-116)       EPA 400 Points (600/R-93-116)       EPA 1000Points (600/R-93-116)
- PLM Gravimetry (600/R-93-116)       Asbestos in Vermiculite (EPA 600/R-04/004)       Asbestos in Sediment (EPA 1900 Points)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)       Other \_\_\_\_\_

Reporting Instructions

Call ( )       Fax ( )       Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

**Total Number of Samples** 15

Sample ID	Description	A/R
1	17909-061 black plastic sink	
2	17909-062 roof material	
3	17909-063 roof material	
4	17909-064 roof material	
5	17909-065 roof material	
6	17909-066 roof penetration skirt	
7	17909-067 blue core base and mastic	
8	17909-068 grey caulk	
9	17909-069 blue carpet and mastic	
10	17909-070 black sink undercoat	
11	17909-071 green carpet and mastic	
12	17909-072 glue in ceiling tiles and mastic	
13	17909-073 tape joint compound	
14	17909-074 sink caulk	
15	17909-075 core base and mastic	

Print Name	Signature	Company	Date	Time
Sampled by <b>Andy Coulson</b>		EMI	23 May 2016	10:00
Relinquish by <b>Andy Coulson</b>		EMI		

**Office Use Only**

Print Name	Signature	Company	Date	Time
Received by <b>Emily S</b>		NVL	5/25/18	11:55 ADB
Analyzed by				
Called by				
Faxed/Email by				



May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



INDUSTRIAL  
HYGIENE  
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Laboratory | Management | Training

**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809976.00**

Client Project: 17909  
Location: WH-06

Dear Mr. Hashburgh,

Enclosed please find test results for the 15 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly'.

Nick Ly, Technical Director



Lab Code: 102063-0

**1.888.NVL.LABS**  
**1.888.(685.5227)**  
[www.nvllabs.com](http://www.nvllabs.com)

Enc.: Sample Results

NVL Laboratories, Inc.  
4708 Aurora Ave N, Seattle, WA 98103  
p 206.547.0100 | f 206.634.1936

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809976.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-06

**Lab ID: 18051842 Client Sample #: 17909-076**

Location: WH-06

<b>Layer 1 of 4</b>	<b>Description:</b> Red fibrous material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials: Synthetic fibers 97%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 2 of 4</b>	<b>Description:</b> Beige mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials: Synthetic fibers 2%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 3 of 4</b>	<b>Description:</b> White woven fibrous material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials: Synthetic fibers 94%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 4 of 4</b>	<b>Description:</b> Yellow mastic	Non-Fibrous Materials: Mastic/Binder	Other Fibrous Materials: Cellulose 4%	<b>Asbestos Type: % None Detected ND</b>

**Lab ID: 18051843 Client Sample #: 17909-077**


Location: WH-06

<b>Layer 1 of 1</b>	<b>Description:</b> Clear adhesive	Non-Fibrous Materials: Adhesive/Binder	Other Fibrous Materials: Cellulose 3% Synthetic fibers 2%	<b>Asbestos Type: % None Detected ND</b>
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**Lab ID: 18051844 Client Sample #: 17909-078**

Location: WH-06

<b>Layer 1 of 1</b>	<b>Description:</b> Black soft/loose material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials: None Detected ND	<b>Asbestos Type: % Chrysotile 2%</b>
---------------------	---	---	--	---

<b>Sampled by:</b> Client		
<b>Analyzed by:</b> Lauren Wetzel	<b>Date:</b> 05/29/2018	
<b>Reviewed by:</b> Nick Ly	<b>Date:</b> 05/29/2018	Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809976.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-06

**Lab ID: 18051845      Client Sample #: 17909-079**

Location: WH-06

Layer 1 of 1      **Description:** Brown sheet vinyl

Non-Fibrous Materials:  
 Vinyl/Binder

Other Fibrous Materials:%  
 None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051846      Client Sample #: 17909-080**

Location: WH-06

Layer 1 of 1      **Description:** White compacted powdery material with paint and paper

Non-Fibrous Materials:  
 Calcareous binder, Fine particles, Paint

Other Fibrous Materials:%  
 Cellulose    2%

**Asbestos Type: %**  
**Chrysotile 2%**

**Lab ID: 18051847      Client Sample #: 17909-081**

Location: WH-06

Layer 1 of 1      **Description:** White soft material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 Cellulose    2%

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051848      Client Sample #: 17909-082**

Location: WH-06

Layer 1 of 1      **Description:** Brown soft material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 Cellulose    5%

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051849      Client Sample #: 17909-083**

Location: WH-06

Layer 1 of 1      **Description:** Off-white soft material

Non-Fibrous Materials:  
 Binder/Filler

Other Fibrous Materials:%  
 None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/29/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809976.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 15  
 Samples Analyzed: 15  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-06

**Lab ID: 18051850      Client Sample #: 17909-084**

Location: WH-06

**Layer 1 of 1      Description:** Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Paint, Styrofoam	Cellulose 27%	
Glass debris	Glass fibers 24%	

**None Detected ND**

**Lab ID: 18051851      Client Sample #: 17909-085**

Location: WH-06

**Layer 1 of 1      Description:** Tan compressed fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Paint, Styrofoam	Cellulose 25%	
Glass debris	Glass fibers 25%	

**None Detected ND**

**Lab ID: 18051852      Client Sample #: 17909-086**

Location: WH-06

**Layer 1 of 1      Description:** Off-white soft material with paper

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler	Cellulose 2%	

**None Detected ND**

**Lab ID: 18051853      Client Sample #: 17909-087**

Location: WH-06

**Layer 1 of 1      Description:** White compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Calcareous binder, Fine particles, Paint	Cellulose 3%	

**Chrysotile 2%**

**Lab ID: 18051854      Client Sample #: 17909-088**

Location: WH-06

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/29/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809976.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 15  
Samples Analyzed: 15  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-06

<b>Layer 1 of 1</b>	<b>Description:</b> Yellow soft material	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Binder/Filler	None Detected ND	<b>Chrysotile 5%</b>

**Lab ID: 18051855**      **Client Sample #: 17909-089**

Location: WH-06

<b>Layer 1 of 1</b>	<b>Description:</b> Yellow mastic with paint	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Mastic/Binder, Paint	None Detected ND	<b>None Detected ND</b>

**Lab ID: 18051856**      **Client Sample #: 17909-090**

Location: WH-06

<b>Layer 1 of 1</b>	<b>Description:</b> Beige sandy textured material	Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
		Sand, Binder/Filler	None Detected ND	<b>None Detected ND</b>

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/29/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI **NVL Batch Number** **1809976.00**  
**Address** 206E Fireweed Lane, Ste. 201 **TAT** 1 Day **AH** No  
 Anchorage, AK 99503 **Rush TAT**  
**Project Manager** Mr. Glenn Hashburgh **Due Date** 5/29/2018 **Time** 11:55 AM  
**Phone** (907) 272-9336 **Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-06

**Subcategory** PLM Bulk

**Item Code** ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

**Total Number of Samples** 15 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051842	17909-076		A
2	18051843	17909-077		A
3	18051844	17909-078		A
4	18051845	17909-079		A
5	18051846	17909-080		A
6	18051847	17909-081		A
7	18051848	17909-082		A
8	18051849	17909-083		A
9	18051850	17909-084		A
10	18051851	17909-085		A
11	18051852	17909-086		A
12	18051853	17909-087		A
13	18051854	17909-088		A
14	18051855	17909-089		A
15	18051856	17909-090		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Lauren Wetzel		NVL	5/29/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:**

Date: 5/25/2018  
 Time: 1:22 PM  
 Entered By: Emily Schubert



## ASBESTOS CHAIN OF CUSTODY

### Turn Around Time

- 1 Hour
- 24 Hours
- 4 Days
- 2 Hours
- 2 Days
- 5 Days
- 4 Hours
- 3 Days
- 10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc.  
 Address 206 E Fireweed Ln, Suite 201  
Anchorage, AK 99503  
 Phone (907) 272-9336

Project Manager Glenn Hasburgh  
 Cell ( ) -  
 Email ghasburgh@emi-alaska.com  
 Fax (907) 272 - 4159

Project Name/Number <u>17909</u>	Project Location <u>WH-06</u>
----------------------------------	-------------------------------

- PCM Air (NIOSH 7400)
- TEM (NIOSH 7402)
- TEM (AHERA)
- TEM (EPA Level II Modified)
- PLM (EPA 600/R-93-116)
- EPA 400 Points (600/R-93-116)
- EPA 1000Points (600/R-93-116)
- PLM Gravimetry (600/R-93-116)
- Asbestos in Vermiculite (EPA 600/R-04/004)
- Asbestos in Sediment (EPA 1900 Points)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- Other

Reporting Instructions

Call ( ) -  Fax ( ) -  Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

### Total Number of Samples 15

Sample ID	Description	A/R
1	17909-076	carpet and mastic
2	17909-077	mastic
3	17909-078	black sink undercoat
4	17909-079	wood pattern vinyl
5	17909-080	joint compound
6	17909-081	caulk
7	17909-082	stick-on sink liner
8	17909-083	caulk
9	17909-084	lay-in ceiling tile
10	17909-085	lay-in ceiling tile
11	17909-086	sink caulk
12	17909-087	joint compound
13	17909-088	caulk
14	17909-089	wall panel mastic
15	17909-090	exterior wall texture

	Print Name	Signature	Company	Date	Time
Sampled by	Andy Coulson		EMI	27 May 2018	11:40
Relinquish by	Andy Coulson		EMI		

### Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emily S		NVL	5/28/18	11:55
Analyzed by					
Called by					
Faxed/Email by					

ADB

**Nicholas Dossegger**

---

**From:** Coulson, Andy <acoulson@emi-alaska.com>  
**Sent:** Friday, May 25, 2018 14:28  
**To:** Nicholas Dossegger  
**Subject:** RE: Duplicate Sample 17909-089 for WH-06  
**Attachments:** 20180523\_113240 (should be 17909-088).jpg; 20180523\_113510 (should remain 17909-089).jpg

Hi Nick,

Attached are two pictures, I included which is which in their file names. 20180523\_113510 shows the sample that is correctly labeled as 17909-089, and 20180523\_113240 shows the sample that should be labeled 17909-088.

Thank you,  
Andy

---

**From:** Nicholas Dossegger [mailto:Nick.d@nvlabs.com]  
**Sent:** Friday, May 25, 2018 1:13 PM  
**To:** Coulson, Andy  
**Subject:** Duplicate Sample 17909-089 for WH-06

Andy,

We at NVL labs, just finished entering the info for the samples that you submitted. However, we came across two samples labeled the same as "17909-089" for project location WH-06. The samples in question look the same so there is a chance it's a duplicate. The batch will be on hold for the time being. How would you like to proceed?

Thanks & Regards,

**Nicholas Dossegger**  
Client Service Specialist

[www.nvlabs.com](http://www.nvlabs.com)

ph: 206.547.0100 | fax: 206.634.1936

toll free: 1.888.NVL.LABS (685.5227)

4708 Aurora Avenue North, Seattle, WA 98103

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Thanks & Regards,

**Nicholas Dossegger**



May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



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**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809974.00**

Client Project: 17909  
Location: WH-07

Dear Mr. Hashburgh,

Enclosed please find test results for the 14 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly', written in a cursive style.

Nick Ly, Technical Director



Lab Code: 102063-0

**1.888.NVL.LABS** Enc.: Sample Results  
**1.888.(685.5227)**  
[www.nvllabs.com](http://www.nvllabs.com)

NVL Laboratories, Inc.  
4708 Aurora Ave N, Seattle, WA 98103  
p 206.547.0100 | f 206.634.1936

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809974.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 14  
Samples Analyzed: 14  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-07

**Lab ID: 18051813      Client Sample #: 17909-091**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Black asphaltic fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Asphalt/Binder, Binder/Filler	Cellulose 58%	

**None Detected ND**

**Lab ID: 18051814      Client Sample #: 17909-092**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 3      Description:** White bumpy compacted powdery material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Calcareous binder, Fine particles, Paint	Cellulose 2%	

**None Detected ND**

**Layer 2 of 3      Description:** Off-white brittle material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Gypsum/Binder, Binder/Filler	None Detected ND	

**None Detected ND**

**Layer 3 of 3      Description:** Brown chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Gypsum/Binder, Binder/Filler	Glass fibers 4%	

**None Detected ND**

**Lab ID: 18051815      Client Sample #: 17909-093**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Gypsum/Binder, Binder/Filler	Glass fibers 6%	

**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809974.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 14  
Samples Analyzed: 14  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-07

**Lab ID: 18051816      Client Sample #: 17909-094**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Gray soft material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Binder/Filler	Cellulose 3%	

**None Detected ND**

**Layer 2 of 2      Description:** Off-white sandy textured material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Sand, Binder/Filler	None Detected ND	

**None Detected ND**

**Lab ID: 18051817      Client Sample #: 17909-095**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 2      Description:** Off-white sandy textured material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Sand, Binder/Filler	None Detected ND	

**None Detected ND**

**Layer 2 of 2      Description:** Gray sandy/brittle material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Sand, Binder/Filler	None Detected ND	

**None Detected ND**

**Lab ID: 18051818      Client Sample #: 17909-096**


Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 3      Description:** Off-white sandy textured material

Non-Fibrous Materials:	Other Fibrous Materials:%	<b>Asbestos Type: %</b>
Sand, Binder/Filler	None Detected ND	

**None Detected ND**

<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Lauren Wetzel	
<b>Reviewed by:</b> Nick Ly	
<b>Date:</b> 05/26/2018	
<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809974.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 14  
 Samples Analyzed: 14  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-07

<b>Layer 2 of 3</b>	<b>Description:</b> Gray sandy/brittle material	Non-Fibrous Materials: Sand, Binder/Filler	Other Fibrous Materials:% Glass fibers 9%	<b>Asbestos Type: % None Detected ND</b>
<b>Layer 3 of 3</b>	<b>Description:</b> Off-white brittle material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% Cellulose 2%	<b>Asbestos Type: % None Detected ND</b>

**Lab ID: 18051819 Client Sample #: 17909-097**

Location: WH-07

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> White soft material	Non-Fibrous Materials: Binder/Filler, Sand	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: % None Detected ND</b>
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**Lab ID: 18051820 Client Sample #: 17909-098**

Location: WH-07

Comments: Sample was dried prior to analysis.


<b>Layer 1 of 1</b>	<b>Description:</b> Off-white sandy textured material	Non-Fibrous Materials: Organic debris, Binder/Filler	Other Fibrous Materials:% Cellulose 2%	<b>Asbestos Type: % None Detected ND</b>
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**Lab ID: 18051821 Client Sample #: 17909-099**

Location: WH-07

Comments: Sample was dried prior to analysis.

<b>Layer 1 of 1</b>	<b>Description:</b> Pink soft material	Non-Fibrous Materials: Binder/Filler	Other Fibrous Materials:% None Detected ND	<b>Asbestos Type: % None Detected ND</b>
---------------------	--	---	---	--

<b>Sampled by:</b> Client	 _____ Nick Ly, Technical Director
<b>Analyzed by:</b> Lauren Wetzel	
<b>Reviewed by:</b> Nick Ly	
<b>Date:</b> 05/26/2018	
<b>Date:</b> 05/29/2018	

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809974.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 14  
Samples Analyzed: 14  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-07

**Lab ID: 18051822      Client Sample #: 17909-100**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Gray cementitious material

Non-Fibrous Materials:  
Cement/Binder

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**Chrysotile 11%**  
**Crocidolite 10%**

**Lab ID: 18051823      Client Sample #: 17909-101**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White soft material

Non-Fibrous Materials:  
Binder/Filler, Sand

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051824      Client Sample #: 17909-102**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Pink soft material

Non-Fibrous Materials:  
Binder/Filler

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Lab ID: 18051825      Client Sample #: 17909-103**

Location: WH-07

Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** White soft material

Non-Fibrous Materials:  
Binder/Filler, Sand

Other Fibrous Materials:%  
None Detected    ND

**Asbestos Type: %**  
**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Batch #: 1809974.00**

Client Project #: 17909  
Date Received: 5/25/2018  
Samples Received: 14  
Samples Analyzed: 14  
Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-07

**Lab ID: 18051826      Client Sample #: 17909-104**

Location: WH-07

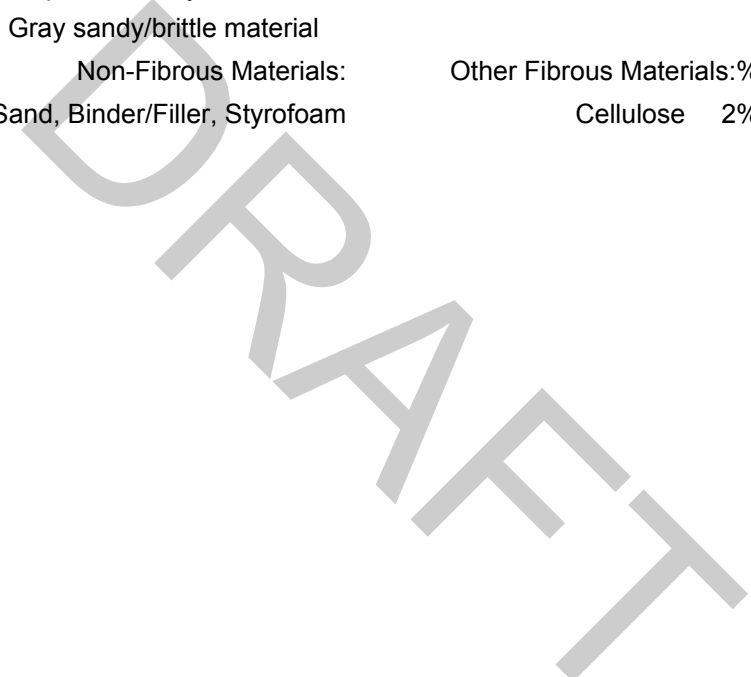
Comments: Sample was dried prior to analysis.

**Layer 1 of 1      Description:** Gray sandy/brittle material

Non-Fibrous Materials:  
Sand, Binder/Filler, Styrofoam

Other Fibrous Materials: %  
Cellulose    2%

**Asbestos Type: %  
None Detected ND**



**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018

Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

**Company** Environmental Management Inc. EMI **NVL Batch Number** **1809974.00**  
**Address** 206E Fireweed Lane, Ste. 201 **TAT** 1 Day **AH** No  
 Anchorage, AK 99503 **Rush TAT**  
**Project Manager** Mr. Glenn Hashburgh **Due Date** 5/29/2018 **Time** 11:55 AM  
**Phone** (907) 272-9336 **Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

**Project Name/Number:** 17909 **Project Location:** WH-07

**Subcategory** PLM Bulk

**Item Code** ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

**Total Number of Samples** 14 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051813	17909-091		A
2	18051814	17909-092		A
3	18051815	17909-093		A
4	18051816	17909-094		A
5	18051817	17909-095		A
6	18051818	17909-096		A
7	18051819	17909-097		A
8	18051820	17909-098		A
9	18051821	17909-099		A
10	18051822	17909-100		A
11	18051823	17909-101		A
12	18051824	17909-102		A
13	18051825	17909-103		A
14	18051826	17909-104		A

	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Lauren Wetzel		NVL	5/26/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special Instructions:**

Date: 5/25/2018  
 Time: 1:09 PM  
 Entered By: Nicholas Dossegger



# ASBESTOS CHAIN OF CUSTODY

Turn Around Time  
 1 Hour     24 Hours     4 Days  
 2 Hours     2 Days     5 Days  
 4 Hours     3 Days     10 Days  
 Please call for TAT less than 24 Hours

Company Environmental Management, Inc.    Project Manager Glenn Hasburgh  
 Address 206 E Fireweed Ln, Suite 201    Cell (    ) -    -  
Anchorage, AK 99503    Email ghasburgh@emi-alaska.com  
 Phone (907) 272-9336    Fax (907) 272 - 4159

Project Name/Number 17909    Project Location WH-07

- PCM Air (NIOSH 7400)
- PLM (EPA 600/R-93-116)
- PLM Gravimetry (600/R-93-116)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- TEM (NIOSH 7402)
- EPA 400 Points (600/R-93-116)
- Asbestos in Vermiculite (EPA 600/R-04/004)
- Other
- TEM (AHERA)
- EPA 1000Points (600/R-93-116)
- Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions  
 Call (    ) -    -     Fax (    ) -    -     Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

Total Number of Samples 14

Sample ID	Description	A/R
1	17909-091	Vapor barrier
2	17909-092	exterior wall board
3	17909-093	exterior wall board
4	17909-094	exterior wall material
5	17909-095	exterior wall texture
6	17909-096	sprinkler system exterior caulk
7	17909-097	exterior white caulk
8	17909-098	exterior wall texture
9	17909-099	exterior pink caulk
10	17909-100	cement pipe
11	17909-101	exterior white caulk
12	17909-102	exterior pink caulk
13	17909-103	exterior white caulk
14	17909-104	wall cement
15		AC 5/22/18

Print Name	Signature	Company	Date	Time
Sampled by <u>Andy Coulson</u>	<u>[Signature]</u>	<u>EMI</u>	<u>22 May 2018</u>	<u>12:55</u>
Relinquish by <u>Andy Coulson</u>		<u>EMI</u>		

**Office Use Only**

Print Name	Signature	Company	Date	Time
Received by <u>[Signature]</u>	<u>[Signature]</u>	<u>NVL</u>	<u>8/29/18</u>	<u>1155 ADB</u>
Analyzed by				
Called by				
Faxed/Email by				



May 29, 2018

Glenn Hashburgh  
Environmental Management Inc. EMI  
206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503



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**RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1809961.00**

Client Project: 17909  
Location: WH-08

Dear Mr. Hashburgh,

Enclosed please find test results for the 4 sample(s) submitted to our laboratory for analysis on 5/25/2018.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

A handwritten signature in black ink, appearing to read 'Nick Ly', written in a cursive style.

Nick Ly, Technical Director



Lab Code: 102063-0

1.888.NVL.LABS  
1.888.(685.5227)  
www.nvllabs.com

Enc.: Sample Results

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI  
 Address: 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503

**Batch #: 1809961.00**

Client Project #: 17909  
 Date Received: 5/25/2018  
 Samples Received: 4  
 Samples Analyzed: 4  
 Method: EPA/600/R-93/116  
 & EPA/600/M4-82-020

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-08

**Lab ID: 18051741 Client Sample #: 17909-105**

Location: WH-08

Comments: Sample was dried prior to analysis.

**Layer 1 of 1 Description:** Gray fibrous material

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Glass debris	Glass fibers 88%	

**None Detected ND**

**Lab ID: 18051742 Client Sample #: 17909-106**

Location: WH-08

Comments: Sample was dried prior to analysis.

**Layer 1 of 2 Description:** Brown/black fibrous material

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler	Synthetic fibers 96%	

**None Detected ND**

**Layer 2 of 2 Description:** White mastic

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Mastic/Binder	Synthetic fibers 3%	

**None Detected ND**

**Lab ID: 18051743 Client Sample #: 17909-107**

Location: WH-08

Comments: Sample was dried prior to analysis.

**Layer 1 of 2 Description:** Gray brittle material

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler, Styrofoam	Cellulose 2%	

**None Detected ND**

**Layer 2 of 2 Description:** White fibrous material with blue soft material

Non-Fibrous Materials:	Other Fibrous Materials: %	<b>Asbestos Type: %</b>
Binder/Filler	Glass fibers 92%	

**None Detected ND**

**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

# Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Environmental Management Inc. EMI

Address: 206E Fireweed Lane, Ste. 201  
Anchorage, AK 99503

**Attention: Mr. Glenn Hashburgh**

Project Location: WH-08

**Batch #: 1809961.00**

Client Project #: 17909

Date Received: 5/25/2018

Samples Received: 4

Samples Analyzed: 4

Method: EPA/600/R-93/116  
& EPA/600/M4-82-020

**Lab ID: 18051744**

**Client Sample #: 17909-108**

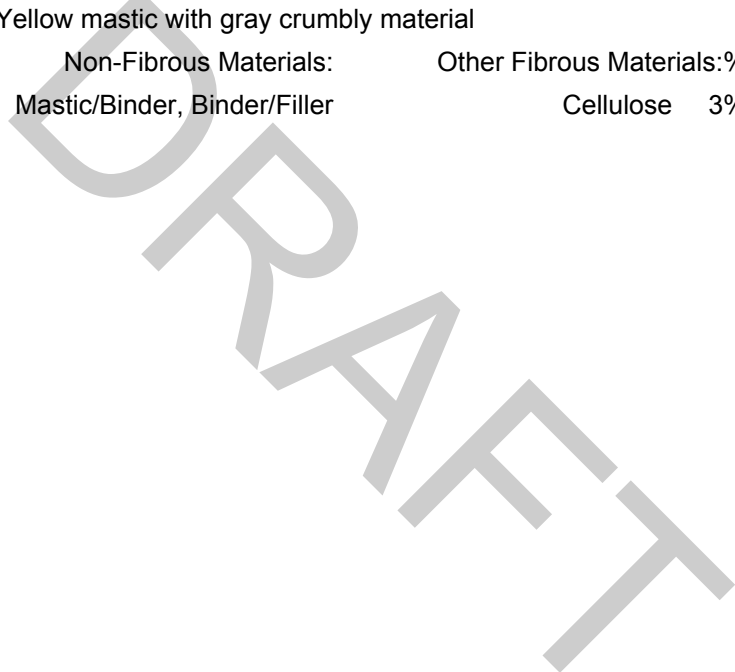
Location: WH-08

Comments: Sample was dried prior to analysis.

**Layer 1 of 1**      **Description:** Yellow mastic with gray crumbly material

Non-Fibrous Materials:	Other Fibrous Materials: %
Mastic/Binder, Binder/Filler	Cellulose 3%

**Asbestos Type: %**  
**None Detected ND**



**Sampled by:** Client

**Analyzed by:** Lauren Wetzel

**Reviewed by:** Nick Ly

**Date:** 05/26/2018

**Date:** 05/29/2018



Nick Ly, Technical Director

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government



**Company** Environmental Management Inc. EMI  
**Address** 206E Fireweed Lane, Ste. 201  
 Anchorage, AK 99503  
**Project Manager** Mr. Glenn Hashburgh  
**Phone** (907) 272-9336  
**NVL Batch Number** **1809961.00**  
**TAT** 1 Day **AH** No  
**Rush TAT**  
**Due Date** 5/29/2018 **Time** 11:55 AM  
**Email** ghasburgh@emi-alaska.com  
**Fax** (907) 272-4159

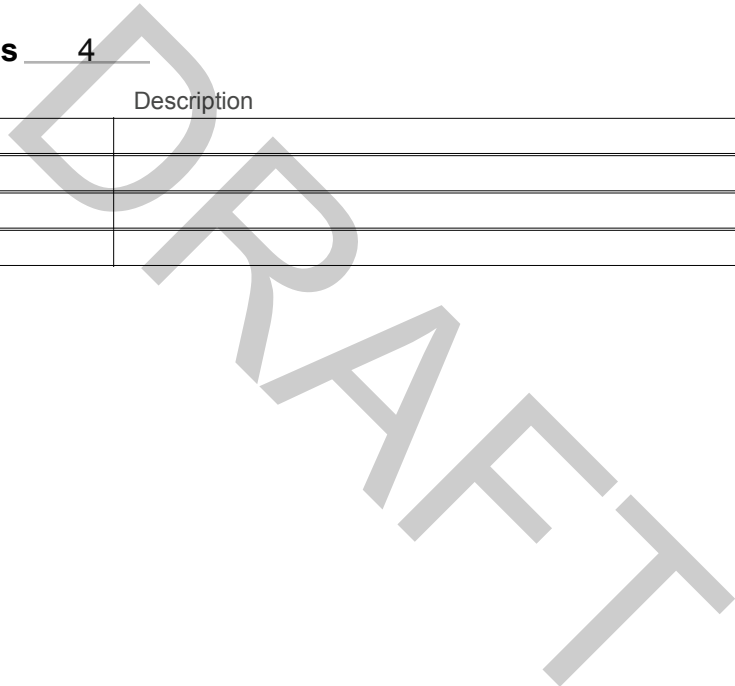
**Project Name/Number:** 17909 **Project Location:** WH-08

**Subcategory** PLM Bulk

**Item Code** ASB-02 **EPA 600/R-93-116 Asbestos by PLM <bulk>**

**Total Number of Samples** 4 **Rush Samples**

	Lab ID	Sample ID	Description	A/R
1	18051741	17909-105		A
2	18051742	17909-106		A
3	18051743	17909-107		A
4	18051744	17909-108		A



	Print Name	Signature	Company	Date	Time
<b>Sampled by</b>	Client				
<b>Relinquished by</b>	Airport Drop Box				

Office Use Only	Print Name	Signature	Company	Date	Time
<b>Received by</b>	Emily Schubert		NVL	5/25/18	1155
<b>Analyzed by</b>	Lauren Wetzel		NVL	5/26/18	
<b>Results Called by</b>					
<input type="checkbox"/> Faxed <input type="checkbox"/> Emailed					

**Special** 1 courier charge  
**Instructions:**

1809961



# ASBESTOS CHAIN OF CUSTODY

### Turn Around Time

- 1 Hour
- 24 Hours
- 4 Days
- 2 Hours
- 2 Days
- 5 Days
- 4 Hours
- 3 Days
- 10 Days

Please call for TAT less than 24 Hours

Company Environmental Management, Inc.  
 Address 206 E Fireweed Ln, Suite 201  
Anchorage, AK 99503  
 Phone (907) 272-9336

Project Manager Glenn Hasburgh  
 Cell ( ) -  
 Email ghasburgh@emi-alaska.com  
 Fax (907) 272 - 4159

Project Name/Number <u>17909</u>	Project Location <u>WH-06</u>
----------------------------------	-------------------------------

- PCM Air (NIOSH 7400)
- PLM (EPA 600/R-93-116)
- PLM Gravimetry (600/R-93-116)
- Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- TEM (NIOSH 7402)
- EPA 400 Points (600/R-93-116)
- Asbestos in Vermiculite (EPA 600/R-04/004)
- Other
- TEM (AHERA)
- TEM (EPA Level II Modified)
- EPA 1000Points (600/R-93-116)
- Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions

Call ( ) -  Fax ( ) -  Email acoulson@emi-alaska.com  
ghasburgh@emi-alaska.com

Total Number of Samples 4

Sample ID	Description	A/R
1	<u>17909-105</u>	
2	<u>17909-106</u>	
3	<u>17909-107</u>	
4	<u>17909-108</u>	
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		

*penetration fill*  
*carpet and mastic*  
*exterior wall material*  
*carpet mastic*

*AC 5/23/16*

Print Name	Signature	Company	Date	Time
Sampled by <u>Andy Coulson</u>	<i>Andy Coulson</i>	<u>EMI</u>	<u>23 May 2016</u>	<u>13:30</u>
Relinquish by <u>Andy Coulson</u>		<u>EMI</u>		

**Office Use Only**

Print Name	Signature	Company	Date	Time
Received by <u>Emily S</u>	<i>Emily S</i>	<u>NVL</u>	<u>5/25/16</u>	<u>1155</u>
Analyzed by				
Called by				
Faxed/Email by				

*AOB*

# HAZARDOUS MATERIALS ASSESSMENT

## WRANGELL MEDICAL CENTER EVALUATION

### WRANGELL, ALASKA

**Surveyed**  
**September 15, 17, 18, 2020**

**Report Date**  
**February 9, 2021**

EHS, ALASKA, INC.  
ENGINEERING, HEALTH & SAFETY CONSULTANTS  
11901 BUSINESS BLVD., SUITE 208  
EAGLE RIVER, ALASKA 99577-7701

**HAZARDOUS MATERIALS ASSESSMENT  
WRANGELL MEDICAL CENTER EVALUATION**

**WRANGELL, ALASKA**

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## HAZARDOUS MATERIALS ASSESSMENT WRANGELL MEDICAL CENTER EVALUATION

### WRANGELL, ALASKA

#### OVERVIEW

The Wrangell Medical Center, located in Wrangell, Alaska, was surveyed for the presence of asbestos-containing materials (ACM), and other potentially hazardous materials as a part of the design services for the Wrangell Medical Center Evaluation Project for the Wrangell Facilities Department. The survey also provided a “good faith” inspection for hazardous materials that may be disturbed during renovation, construction, or demolition. The proposed work will likely include the disturbance, demolition, removal and disposal of lead-containing paints and/or lead-containing materials that is incidental to the renovation, remodeling or demolition project. Mr. Brandon W. Hill, and Mr. Robert A. French, P.E. of EHS-Alaska, Inc. (EHS-Alaska) conducted the inspections in September 2020. It will be the contractor’s responsibility to take this baseline data, and to conduct hazardous materials removal in compliance with all regulatory requirements.

#### A. GENERALIZED REQUIREMENTS FOR HAZARDOUS MATERIALS

Potentially hazardous materials have been identified in Wrangell Medical Center that will affect both ongoing maintenance operations, as well as possible future renovations or demolition. Those materials include asbestos, lead, polychlorinated bi-phenyls (PCBs), mercury, and radioactive materials. Not all materials were tested for potentially hazardous components, other potentially hazardous materials, including those exterior to the building, such as contamination from underground fuel tanks may be present, but are not part of this report.

Buildings or portions of buildings that were constructed prior to 1978 which are residences, or contain day care facilities, kindergarten classes or other activities frequently visited by children under 6 years of age are classified as *child occupied facilities*. All work classified as “renovations” or disturbing more than 6 square feet of lead-based painted surfaces per room for interior activities or more than 20 square feet for exterior activities in child occupied facilities must comply with the requirements of 40 CFR 745. Portions of this building may be classified as a *child occupied facility* if children under 6 years of age spend long lengths of time in the facility, and it is the Owner’s responsibility to ensure the requirements of 40 CFR 745 are met. See lead testing results for locations of lead-based paints present in the project areas.

Only the materials that will be directly affected or disturbed are subject to OSHA and EPA regulations. It will be the Owner’s responsibility to take this baseline data to coordinate and fully develop a hazardous materials removal design that will identify the presence, locations and quantities of asbestos and/or other hazardous materials that will be affected by future projects. The removal and disposal of potentially hazardous materials are highly regulated, and it is anticipated that removal and disposal of asbestos, lead and chemical hazards will be conducted by a subcontractor to the general contractor who is qualified for such removal. It is anticipated that the general contractor and other trades will be able to conduct their work using engineering controls and work practices to control worker exposure and to keep airborne contaminants out of occupied areas of the building.

Settled and concealed dusts in areas not subject to routine cleaning are present throughout the building, including the roof, and inside and on top of architectural, mechanical, electrical, and structural elements, and those dusts are assumed to contain regulated air contaminants. This should not be read to imply that there is an existing hazard to building occupants (normal occupants of the building as opposed to construction workers working in the affected areas). However, depending on the specific work items involved and on the means and methods employed when working in the affected areas, construction workers could be exposed to regulated air contaminants from those dusts in excess of the OSHA Permissible Exposure Limits (PELs).



The settled and concealed dusts were examined by an EPA Certified Building Inspector but were not sampled. The inspector determined that the dusts are not "asbestos debris" from an asbestos-containing building material (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts are unlikely to contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM). Reference 40 CFR 763.83.

NOTE: Asbestos-containing debris was noted from damaged pipe insulation, damaged joint compound of the gypsum wall board, and damaged roofing materials in the attic areas, and above the suspended ceiling system in the 1964 and 1974 eras, and it is likely that the dusts in these areas may contain more than one percent (1%) asbestos by weight, and therefore would be classified as an asbestos-containing material (ACM). Reference 40 CFR 763.83. The dirt floor of the crawl space under the 1974 portion of the building was also contaminated by debris from damaged pipe insulation, and the soil is considered to be contaminated.

"Awareness training" (typically 2 hours) and possibly respiratory protection will be required for all Contractor Personnel who will be disturbing the dusts. The extent of the training and protective measures will depend upon the airborne concentrations measured during air monitoring of the contractors work force, which depends on the means and methods employed to control the dusts. The air monitoring may be discontinued following a "negative exposure assessment" showing that worker exposures are below the OSHA permissible exposure limits for the type of work and means and methods employed. Previous air monitoring from similar jobs with similar conditions may be used as historical data to establish a "negative exposure assessment".

## **B. BUILDING DESCRIPTION**

The Wrangell Medical Center was originally constructed in many different phases with many different renovations through the years. It is important to understand the boundaries and materials of each era of construction, as many materials have been removed or covered over by subsequent renovations.

The single story original portion was built in 1967 and includes much of the service functions of the building, as well as Operating rooms, etc. The original portion had a dirt floored crawl space with concrete foundation walls that were supported on what appeared to be driven steel piles. The original building was mainly of wood framed construction, with a slightly pitched, built-up roofing (beneath the metal roof) that contained asbestos.

The two story 1974 era consists of the current long-term care wing, with a lower level that mainly had storage, laundry, mortuary, and other service functions. The lower level had a slab-on grade foundation with truss joist framing supporting the main floor and a slightly sloped plywood roof deck with built-up roofing (beneath the metal roof) that contained asbestos.

A large addition and renovation was constructed in 1988 that was mostly of a modular construction that wrapped around the original core of the building. The "as-built" drawings from that construction are inconsistent, and appear to have a fair amount of errors, or undocumented changes. The 1988 work included renovations to areas of the original construction and 1974 wing. The 1988 renovation included installing a pitched metal roof over the entire building. The existing roofs were mostly left in place, with a large attic structure over the top of the existing structures, which also included an existing shallow attic over the original portion of the building. The 1988 addition also included an Exterior Insulation Finish Systems (EIFS) around the entire building. The 1988 addition had a dirt floored crawl space with concrete perimeter foundation walls and glue-laminated beams, supported by creosote piles, in a similar fashion to the original construction.

There was a maintenance/storage addition that was constructed sometime between 1992 and 1995, with the dates not being entirely clear. The 1992 addition was a pre-engineered metal building supported on concrete pads supported by piers, with a metal skirting around the perimeter of the building.

There were a couple of "infill" or "addition" rooms that were installed at an unknown date.

A Magnetic Resonance Imaging (MRI) instrument was located in a moveable trailer to the north of the main building. The MRI trailer was on lease, and was not inspected as part of this project.

The Building is built on a site that slopes down to the south, and is reported to be built on “muskeg” which has resulted in soil settling in several locations, most notable at the perimeter of the original construction and at the 1992 addition.

Interior portions of the building typically consisted of the following:

- Floor finishes: vinyl composition floor tiles, carpeting, sheet vinyl, ceramic mosaic floor tiles, laminate floors, and bare concrete. Most of the older portions had more than one layer of flooring present, and had wood substrates with multiple layers of plywood or particle board subflooring.
- Wall finishes: gypsum wall board, decorative ceramic wall tiles, and fiber reinforced plastic wall panels. It appeared that many walls in the older portions would have concealed materials beneath the current finish.
- Ceiling finishes: gypsum wall board, lay-in ceiling tiles, glued-on ceiling tiles, and exposed structure. The ceiling systems in the older portions often had concealed materials.

Heating and ventilation at the building is provided by various air handling systems, with hydronic heating, and oil fired boilers.

## **C. SAMPLING AND ANALYSIS**

### **1. Asbestos-Containing Materials**

The survey included sampling of suspect ACM materials that had not been sampled in prior asbestos surveys, or samples of materials where previous sampling had been inconsistent. The design has relied heavily on previous sampling conducted in the building, especially in areas that were closed to this survey due to COVID-19 restrictions. Refer to the previous asbestos survey report, available for review in the Wrangell Medical Center offices, for information on previous sampling which is not included in this report. Additional testing of materials pertinent to the project, including asbestos and lead was conducted and is included in this report.

The samples were analyzed for the presence of asbestos by polarized light microscopy (PLM), the method of analysis recommended by the U.S. Environmental Protection Agency (EPA) to determine the composition of suspected asbestos-containing materials (EPA method 600/M4-82-020). Only materials containing more than 1% total asbestos were classified as “asbestos-containing” based on EPA and the Occupational Safety and Health Administration (OSHA) criteria. Samples that were analyzed to have less than 10% asbestos were “point-counted” by the laboratory for more accuracy. Samples that are listed as having a “Trace by Point Count” had asbestos fibers found in the material, but the fibers were not present at the counting grids. Table 1 in Part D below contains a summary list of the asbestos bulk samples and the applicable results.

The Bulk Asbestos samples were analyzed for asbestos content by International Asbestos Testing Laboratories (IATL), Mt. Laurel, New Jersey a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory.

EPA regulations under 40 CFR 763 requires the use of Polarized Light Microscopy (PLM) to determine whether or not a material contains asbestos. While PLM analysis does a good job for most materials, it does have some limitations, both in the size of the fibers that are visible under a standard optical microscope, and because the organic matrix that the fibers are bound within can obscure the fibers. At the discretion of the building inspector and the client, some types of samples may be analyzed or re-analyzed by what is called TEM NOB, or Transmission Electron Microscopy for Non-Friable Organically Bound materials, for “asbestos in bulk building materials by TEM Gravimetry”. TEM NOB is the definitive method for determining if asbestos is present, but TEM NOB use is not required by the EPA. TEM NOB analysis was not done for this project.

Field survey data sheets and laboratory reports of the bulk samples are included in Appendix A. Drawings showing sample locations are included as Appendix C.

## 2. Lead-Containing Materials

Nearly all surfaces in the building were coated with paint and most surfaces had been repainted. EHS-Alaska tested representative paints throughout the affected areas of the building using an Heuresis Pb200i X-Ray Fluorescence (XRF) lead paint analyzer (Serial # 1770 with software version 4.0-21). The lead testing conducted was not a Lead-Based Paint Inspection or Screening as defined by HUD or EPA regulations, but was done to test surfaces that may be representative of those likely to be affected by this project. If surfaces and materials other than those tested are identified, it is presumed that additional testing may be appropriate. Refer to the Lead Analyzer Test Results Table in Appendix B that identifies the surfaces tested, and the results. All surfaces affected by this project may not have been tested and therefore additional sampling may be required to refute the presence of lead-based paints in child occupied facilities regulated by 40 CFR 745. The Lead Test Locations are shown in Appendix C.

EPA and the Department of Housing and Urban Development (HUD) have defined lead-based paint as any paint or other surface coating that contains lead equal to or in excess of 1.0 milligram per square centimeter (mg/cm<sup>2</sup>) or 0.5 percent by weight. XRF results are classified as positive (lead is present at 1.0 mg/cm<sup>2</sup> or greater), negative (less than 1.0 mg/cm<sup>2</sup> of lead was present) or inconclusive (the XRF could not make a conclusive positive or negative determination). Tests that were invalid due to operator error are shown as void tests.

A Performance Characteristic Sheet (PCS) for the Heuresis Pb200i is available upon request. This PCS data provides supplemental information to be used in conjunction with Chapter 7 of the "HUD Guidelines". Performance parameters provided in the PCS are applicable when operating the instrument using the manufacturer's instructions and the procedures described in Chapter 7 of the "HUD Guidelines". The instrument was operated in accordance with manufacturer's instructions and Chapter 7 of the HUD Guidelines. No substrate correction is required for this instrument. There is no inconclusive classification for this instrument when using the 1.0 mg/cm<sup>2</sup> threshold.

## D. SURVEY RESULTS

### 1. Asbestos-Containing Materials

The following Table 1A lists the samples taken in September 2020, and the results of the laboratory analysis. Asbestos field survey data sheets and laboratory reports are included as Appendix A. Refer to Appendix C for sample locations.

**TABLE 1A**

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
<b>WMS0920-A01</b>	<b>White, Chalky "Hard Fitting" insulation</b>	<b>Attic Fan room in 1967 Era. On white pipe above fan unit near Hatch. Photo B72</b>	<b>3.2% chrysotile, 2.2% crocidolite, 1% amosite</b>
<b>WMS0920-A02</b>	<b>White, Chalky "Hard Fitting" insulation</b>	<b>Attic Fan room in 1967 Era. On loose yellow painted insulation in plastic box near Hatch. Photo B73</b>	<b>3.4% chrysotile, 2.4% crocidolite, 1.2% amosite</b>
<b>WMS0920-A03</b>	<b>White, Chalky "Hard Fitting" insulation</b>	<b>Attic Fan room in 1967 Era. Broken elbow near fan-coil. Photo B74</b>	<b>30% chrysotile, 6% amosite</b>

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
<b>WMS0920-A04</b>	<b>Gray sticky sealant in HVAC Unit</b>	<b>Attic Fan room in 1967 Era. Filter bank chamber downstream of the Heat Recovery Wheel. Photo R575</b>	<b>3.4% chrysotile</b>
<b>WMS0920-A05</b>	<b>Joint compound at Ceiling</b>	<b>Attic Fan room in 1967 Era. Ceiling above Fan Unit Photo B75</b>	<b>1.6% chrysotile</b>
WMS0920-A06	GCT-1; 12x12 Ceiling tiles with dark brown mastic	Attic Fan room in 1967 Era. Loose, stored tiles "in case they are needed". Photo B76	None Detected, both layers
WMS0920-A07	GCT-1; 12x12 Ceiling tiles with dark brown mastic	Attic Fan room in 1967 Era. Loose, stored tiles "in case they are needed". Photo B77	None Detected, both layers
<b>WMS0920-A08</b>	<b>Gray sticky sealant in HVAC Unit</b>	<b>Attic Fan room in 1967 Era. Filter bank chamber downstream of the Heat Recovery Wheel. No photo</b>	<b>3.2% chrysotile</b>
<b>WMS0920-A09</b>	<b>Gray sticky sealant at ductwork</b>	<b>Attic Fan room in 1967 Era. At shiny ducts of Kitchen Exhaust Fan. Photo B78</b>	<b>3.4% chrysotile</b>
<b>WMS0920-A10</b>	<b>Gray sticky sealant in HVAC Unit</b>	<b>Attic Fan room in 1967 Era. Filter bank chamber for Fan 10016. Photos R601, 602</b>	<b>3.4% chrysotile</b>
WMS0920-A11	Dark Brown mastic for TJI Wood joists. Ignore wood layer!	Attic, Joists of the 1988 roof structure. Near peak of the roof above the 1967 era. Photo B88	None Detected
WMS0920-A12	Dark Brown mastic for TJI Wood joists. Ignore wood layer!	Attic, Joists of the 1988 roof structure. Near peak of the roof above the 1967 era. Photo B89	None Detected
WMS0920-A13	Joint Compound	Attic. On exterior "wall" of the 1967 fan rom, but likely installed in 1988. Photo B90	None Detected
WMS0920-A14	Tar Paper under 1988 metal Roof	Attic, at hole for Boiler stack through the 1988 roof. Photo R 639	None Detected
<b>WMS0920-A15</b>	<b>Brown hard insulation of "Van Packer" boiler stack</b>	<b>Attic. Appears to be original 1967 stack. Photo R 640 &amp; 41</b>	<b>40% chrysotile</b>
<b>WMS0920-A16</b>	<b>White fabric and Black Tar sealant</b>	<b>Attic above PT. Remnant of temporary roof over 1988 modular buildings. At Duct penetration. Photo B91</b>	<b>3.4% chrysotile</b>
WMS0920-A17	White fabric and Black Tar sealant	Attic above PT. Remnant of temporary roof over 1988 modular buildings. At Duct penetration. Photo R655 & 656	None Detected
WMS0920-A18	GCT 12x12 Ceiling tiles with dark brown mastic. "PyROTECT on back.	Attic above PT. Loose, stored tiles "in case they are needed". Photo B95	None Detected, both layers

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMS0920-A19	GCT 12x12 Ceiling tiles with dark brown mastic. "PyROTECT on back.	Attic above PT. Loose, stored tiles "in case they are needed". Photo B97	None Detected, both layers
<b>WMS0920-A20</b>	<b>Black tarry coating inside old Pace Exhaust Fan</b>	<b>Attic above boiler room. Fan appears to be abandoned. Photo R633 &amp; 638</b>	<b>5.2% chrysotile</b>
WMS0920-A21	Cream Window Frame Sealant, between frame and (missing) siding (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R670	4.1% chrysotile
WMS0920-A22	Cream Window Frame Sealant, between frame and (missing) siding (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R670	3.8% chrysotile
WMS0920-A23	Lighter yellow-white window glazing compound at edge of glass (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R671 & 2	1.3% chrysotile
WMS0920-A24	Gray sticky window glazing compound at edge of glass (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R671 & 2	2.4% chrysotile
WMS0920-A25	Cream, hard window glazing compound at edge of glass (10" x 7'-8")	Attic above PT. Loose stored glass. Photo R676 & 7	4.2% chrysotile
WMS0920-A26	White sealant at round adjustable duct.	Attic above PT. Loose stored duct. Photo R678	None Detected
WMS0920-A27	White sealant at round adjustable duct.	Attic above Reception Area. Active Duct. Photo B100	None Detected
<b>WMS0920-A28</b>	<b>Chalky white hard fitting insulation</b>	<b>Attic above Surgery Area. Debris on Ceiling. Photo B101</b>	<b>15% chrysotile, 5% amosite</b>
WMS0920-A29	Tarry craft paper from behind cedar shingle siding	Attic. Former exterior wall of 1974 era. Photo B102	None Detected
<b>WMS0920-A30</b>	<b>Red duct sealant</b>	<b>Attic above 1967 era. Loose duct in attic space. Photo R734</b>	<b>4.4% chrysotile</b>
WMC920-A31	Gray-green mastic of Stainless Corner Guard	Attic near 1974 era. Loose stored corner guard. Photo B103	None Detected
<b>WMC920-A32</b>	<b>Built-up Roofing of 1974 era flat roof, with brown perlite board insulation</b>	<b>Attic of 1974 era. Under loose fiberglass at exhaust duct penetration through old roof into attic. Photo B104</b>	<b>20% chrysotile in BUR, None Detected in perlite</b>
WMC920-A33	Tarry vapor barrier and tar and fesco board	Attic of 1974 era. Bottom of roof assembly at exhaust duct penetration through old roof into attic. Photo R745 & 746	None Detected, both layers

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMC920-A34	Probably hot mop and fesco board	Attic of 1974 era. Middle layer of fesco board insulation at exhaust duct penetration through old roof into attic. Photo R747	None Detected, both layers
<b>WMC920-A35</b>	<b>Built-up Roofing of 1974 era flat roof</b> with brown perlite board insulation	<b>Attic of 1974 era. Under loose fiberglass at supply duct penetration through old roof into attic. Photo R749</b>	<b>20% chrysotile in 3 of the BUR layers</b> , None Detected in perlite
WMC920-A36	Tarry vapor barrier and tar and fesco board	Attic of 1974 era. Bottom of roof assembly at supply duct penetration through old roof into attic. Photo R750	None Detected
<b>WMC920-A37</b>	<b>ATCO Roof patch tar</b>	<b>Attic near 1974 era. Loose 5 gal. can of Part # 1823. Photo R733</b>	<b>6.2% chrysotile</b>
WMC920-A38	Tar paper under T&G Siding	Attic at "exterior" side of original 1967 Fan Room. Photo R762	None Detected
WMC920-A39	Tar paper and GWB sheathing under T&G Siding	Attic at "exterior" side of original 1967 Fan Room. Photo R763 & 4	None Detected all three layers
WMC920-A40	White silicone sealant at roofing	Metal Roof under valley flashing canopy near main entrance. Photo R782 & 783	None Detected
WMC920-A41	Gray rubbery roof sealant	Metal Roof sealant under edge flashing, near main entrance. Photo R782 & 783	None Detected
WMC920-A42	Clear silicone sealant at fascia of roofing	Metal Roof at lap joint of metal drip ledge over EFIS. Photo R787	None Detected
WMC920-A43	Clear yellow sealant at roofing	Metal Roof, sealant between roofing and metal angle edge flashing into gutter. Photo R786	None Detected
WMC920-A44	Tar paper under metal roofing	Metal roof, under main roof, over decking. Photo R789	None Detected
WMC920-A45	Foam Robber filler at roofing	Metal roof, at edge box of roofing. B105	None Detected
WMC920-A46	Gray sticky putty sealant at roofing	Under metal roof, at edge flashing. B106	None Detected
WMC920-A47	EFIS Stucco & sealant	At column of main entrance drive-through. Photo B109	None Detected, both layers
WMC920-A48	GWB of Soffit	At water damaged at underside of soffit at main entrance drive-through. Photo R791-793	None Detected
WMC920-A49	Joint compound of soffit	At water damaged at underside of soffit at main entrance drive-through. Photo R791-793	None Detected

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMC920-A50	Concrete Sacking	Exterior Foundation wall of 1974 Addition, At snap-tie hole. Photo B110	None Detected
WMC920-A51	Gypsum wall board, joint compound & tape	Ceiling of exterior soffit of walkway going to "morgue door". Photo R807	None Detected, both layers
WMC920-A52	Gray sticky sealant with black foam backer rod	Between door frame and concrete of "morgue door" to 1974 era. Photos R805 & 806	None Detected, both layers
WMC920-A53	White window frame sealant	Between window frame and EFIS. Photo B111	None Detected
WMC920-A54	Harder cream sealant	Sealant at plywood of boarded up window around Air Conditioning Unit. Photo B112 & 113	None Detected
WMC920-A55	Black Tarry Waterproofing at foundation	In crawl space. At former exterior wall of 1974 addition. Photo R836 & 837	None Detected
<b>WMC920-A56</b>	<b>Cement asbestos pipe</b>	<b>In crawl space. At capped pipe coming out of soil. Photo B114, R832</b>	<b>10% chrysotile, 10% crocidolite</b>
<b>WMC920-A57</b>	<b>Cement asbestos pipe</b>	<b>In crawl space. At active sewer pipe. Photo B118, R841</b>	<b>12% chrysotile, 8% crocidolite</b>
<b>WMC920-A58</b>	<b>Hard Fitting insulation</b>	<b>In crawl space. Probably on a hot water pipe. Photo R843 &amp; 845</b>	<b>0.5% chrysotile, 1.2% crocidolite</b>
<b>WMC920-A59</b>	<b>Hard Fitting insulation</b>	<b>In crawl space, on ground. Photo R855</b>	<b>20% chrysotile, 1.5% crocidolite</b>
WMC920-A60	Black Tarry Waterproofing at foundation	At exterior wall of 1974 addition. Photo R885	None Detected
WMC920-A61	Sticky cream sealant at EFIS	At EFIS over 1974 addition. Between metal frame of louver & EFIS. Photo B119	None Detected
WMC920-A62	Sticky cream sealant at EFIS	At EFIS over 1988 addition. Between metal frame of window & EFIS. Photo R1674 & 1675	None Detected
<b>WMC920-A63</b>	<b>Black rubbery glazing at alum windows</b>	<b>Aluminum framed window of 1988 addition. Photo R1674 &amp; 1675</b>	<b>4.5 % chrysotile</b>
WMC920-A64	Sticky cream sealant at EFIS	At EFIS over 1988 addition. Between GWB soffit & EFIS. Photo R1677	None Detected
WMC920-A65	Whiter caulking at EFIS	At EFIS over 1988 addition. Between metal generator louver & EFIS. Photo R1678	None Detected
WMC920-A66	Pinkish caulking	At 1988 addition. Between metal generator louver & louver frame. Photo R1679	None Detected

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMC920-A67	EFIS Stucco & fiberglass mesh	At 1988 addition. At drip edge of EFIS. Photo R1692	None Detected
WMC920-A68	Clear sealant at window	At 1992 addition. At wood frame to plastic window joint. Photo R1693	None Detected
WMC920-A69	White sealant at siding	At 1992 addition. At vent pipe penetration of metal siding. Photo R1719	None Detected
WMC920-A70	White sealant at soffit fascia	At 1992 addition. At lap joint of lower soffit flashing. Photo R1721	None Detected
WMC920-A71	White sealant at standing seam roof.	At 1992 addition. At folded top seam of rib joints. Photo R1722	None Detected
WMC920-A72	Tar paper under metal roofing	At 1992 addition. Under main metal roofing. Photo R1724	None Detected
WMC920-A73	Gray sealant at metal roofing	At 1992 addition. At flashing between metal siding and transition flashing over vestibule roof. Photo R1725	None Detected
WMC920-A74	Sticky cream sealant at EFIS	At EFIS over 1988 addition. At Fire Dept. Connection. Photo R1680 R 1726 and B223	None Detected
WMC920-A75	Sticky cream sealant at EFIS	At EFIS over 1967 Orig. Between GWB soffit & EFIS. Photo B224	None Detected
WMC920-A76	Gypsum board & Joint compound	1992 Addition. Corner of Rm 25, Bulk Storage. Photo R1850	None Detected all three layers
WMC920-A77	CB-1, 4" gray cove base with cream mastic, joint compound and gypsum wall board	1992 Addition. Corner of Rm 29, Vestibule. Photo R1859	None Detected all five layers
WMC920-A78	Gypsum wall board & joint compound	1967 era, Sprinkler Room 30, but wall supposedly built with 1988 addition. Photo R1870	None Detected all three layers
<b>WMC920-A79</b>	<b>Gypsum wall board &amp; joint compound</b>	<b>1967 era, Sprinkler Room 30, 1967 exterior wall. Photo R1871</b>	None Detected in gypsum bd, <b>2.8% chrysotile in joint</b>
WMC920-A80	CB-2, 4" green (painted) cove base with dark brown mastic.	1967 era, Sprinkler Room 30, 1967 exterior wall. Appears original. Photo R1871	None Detected, both layers
<b>WMC920-A81</b>	<b>Hard fitting insulation</b>	<b>1967 era, Boiler Rm. 108. On yellow boiler supply pipe. Photo R1918</b>	<b>10% chrysotile</b>
<b>WMC920-A82</b>	<b>Hard fitting insulation</b>	<b>1967 era, Boiler Rm. 108. On yellow boiler supply pipe. Photo R1919</b>	<b>10% chrysotile, trace amosite</b>



## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMC920-A83	Hard fitting insulation	1967 era, Boiler Rm. 108. On blue cold water supply. Photos R1908 & 1925	10% chrysotile, trace amosite
WMC920-A84	Black tarry coating inside ceiling speaker box	1988 era. Staff Lounge, 115. Inside red speaker box. Photos R1940 & 1941	None Detected
WMC920-A85	LCT-2, 2' x 4' "Galaxy" pattern suspended ceiling tile. Random small fissures	1988 era. Staff Lounge, 115. Main tile in room. Photo R1938	None Detected
WMC920-A86	CB-2, 4" green (painted) cove base with dark brown mastic & old (on back of CB) & newer Joint Compound (on face of CB)	1967 era, Elec Rm 34, Possible 1988 wall, but appears original. Photo B229	None Detected in three layers, 2.6% chrysotile in joint compound
WMC920-A87	LCT-1, 2' x 4' shallow directional fissures, 1/16" & 1/8" holes	1967 era, but newer tile. Hallway to 1992 addition. Photo B230	None Detected
WMC920-A88	SV-1, cream sheet vinyl with white shading and tiny brown specks	1967 era, but newer flooring. Hallway to 1992 addition. Photo B231	None Detected, both layers
WMC920-A89	CB-3, Gray 4" cove base with light tan mastic	1988 addition, Janitor Closet 109. Photo R1958 & 1959	None Detected, both layers
WMC920-A90	SV-2, Cream with small 3/8" & smaller light tan & gray chips, tan mastic	1988 addition, Janitor Closet 109. Photo R1959	None Detected, both layers
WMC920-A91	"Ventglas" Black neoprene duct flexible connector	1967 Penthouse Fan Rm. At exhaust fan #10019. Photo B232 & 233	None Detected
WMC920-A92	"Ventglas" Black neoprene duct flexible connector	1967 Penthouse Fan Rm. At central AHU. Photo B234	None Detected
WMC920-A93	SV-1, cream sheet vinyl with white shading and tiny brown specks, brown mastic	1967 era, but newer flooring. Store Rm 102. Photo R1966	None Detected, both layers
WMC920-A94	Leveling compound or "Float" over concrete	1967 era. Store Rm 102. Appears to be 1/2" thick over painted concrete. Photo R1966 & 1967	None Detected
WMC920-A95	Tar paper between layers of plywood (ignore wood)	1967 era. At hatch in Janitor Closet 38. Appears to be original slip-sheet between plywood subfloor and plywood underlayment. Photo R1975	None Detected
WMC920-A96	Tar mastic? under particle board (ignore wood)	1967 era. At hatch in Janitor Closet 38. Appears to be original black mastic under particle board underlayment. Photo R1975	4.1% chrysotile

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
WMC920-A97	SV-1, cream sheet vinyl with white shading and tiny brown specks, brown mastic, particle board (ignore wood)	1967 era. At hatch in Janitor Closet 38. Top layer over particle board. Photo R1975	None Detected, both layers
WMC920-A98	SV-3, fake wood sheet flooring, white leveling compound, sticky brown contact cement	1988 era, PT Room, 132. At in-floor duct grille by entrance. Photo R1992	None Detected all three layers
WMC920-A99	White leveling compound, brown mastic	1988 era, PT Room, 132. At in-floor duct grille by entrance. Photo R1992	None Detected, both layers
WMC920-A100	Brown mastic on side of metal duct	1988 era, PT Room, 132. Probably original flooring mastic. At in-floor duct grille by entrance. Photo R1993	None Detected
WMC920-A101	White seal at ductwork	1988 era, PT Room, 132. At opposed blade damper in relief. Photo R1998	None Detected
WMC920-A102	Gypsum wall board and joint compound	1988 era, PT Room, 132. At wall above ceiling grid. Nailed on. Photo R2001	None Detected, both layers
WMC920-A103	SV-2, Cream with small 3/8" & smaller light tan & gray chips, tan mastic (ignore wood)	1988 era, Closet 143. At hatch to crawl space. Photo R2052, 2062	None Detected, both layers
WMC920-A104	CB-3, Gray 4" cove base with cream mastic.	1988 era, Exam Rm 151. Photo R2090	None Detected, both layers
WMC920-A105	Yellow carpet mastic	1988 era, Hallway outside Restroom 142. Photo R2091	None Detected
WMC920-A106	Yellow carpet mastic & gray leveling compound	1988 Era, Waiting Area 81, by vestibules. Photo B260	None Detected, both layers
WMC920-A107	Joint compound	1988 Era, Waiting Area 81, by corner near Admin 79. Photo B261	None Detected
WMC920-A108	Gypsum wall board	1988 Era, Waiting Area 81, by corner near Admin 79. Photo B262	None Detected, both layers
WMC920-A109	Exterior stucco of EFIS at added walls around Dining/Activity 69	Unknown date, reportedly within the past 10 years. Photo B263	None Detected, both layers
WMC920-A110	Exterior stucco, red sealant of EFIS at added walls around Dining/Activity 69	Unknown date, reportedly within the past 10 years. Photo R2251	None Detected
WMC920-A111	Black rubber stair tread with brown mastic	1974 era. Base of stairs. Photo R2262	None Detected, both layers
<b>WMC920-A112</b>	<b>Black rubber stair stringer with brown mastic</b>	<b>1974 era. Base of stairs. Photo R2263</b>	<b>1% chrysotile in rubber, None Detected in mastic</b>

## HAZARDOUS MATERIALS ASSESSMENT

<b>SAMPLE NUMBER</b>	<b>MATERIAL</b>	<b>LOCATION</b>	<b>ASBESTOS CONTENT</b>
<b>WMC920-A113</b>	<b>Black Sink undercoating</b>	<b>1974 era. Break Rm. 9 Stainless steel sink. Photo R2272</b>	<b>2.6% chrysotile</b>
<b>WMC920-A114</b>	<b>“Marlite” and brown mastic</b>	<b>1974 era. Restroom 12. At cleanout. Photo R2277</b>	None detected in marlite, <b>trace chrysotile in mastic</b>
<b>WMC920-A115</b>	<b>White, chalky fire door insulation</b>	<b>1974 era. Door between back hallway and Laundry 15. UL listed 1.5 hour rating. Photo R2279</b>	<b>60% chrysotile</b>
<b>WMC920-A116</b>	<b>Red duct sealant</b>	<b>1974 era. Mech/fan Rm. 3 on Mixing side of plenum wall. Photo R2289</b>	<b>5.2% chrysotile</b>
<b>WMC920-A117</b>	<b>Red duct sealant</b>	<b>1974 era. Mech/fan Rm. 3 at bare steel flange. Photo B264</b>	<b>5% chrysotile</b>
WMC920-A118	Gray sealant at Fan sections	1974 era. Mech/fan Rm. 3. Fan 10013. Photo R2290	None Detected
WMC920-A119	“Ventglas” Black neoprene duct flexible connector	1974 era. Mech/fan Rm. 3. Outlet side of Squirrel cage fan. Photo R2291	None Detected
WMC920-A120	Gray ceramic tile grout	1974 era. Restroom 12. Loose grout in crack in base by door Photo R2278	None Detected
WMC920-A121	GCT-1, 12” x 12” Glued on ceiling tile, groove for concealed grid, directional medium fissures, 1/16” holes, Brown mastic	1974 era. Hallway 6, at Speaker box. Photo B265 & 266	None Detected, both layers
WMC920-A122	Black tarry lining of red speaker box.	1974 era. Hallway 6, at Speaker box. Photo B266 & R 2296	None Detected
The testing method used (polarized light microscopy [PLM]) is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation should be made by quantitative transmission electron microscopy (TEM).			

A previous limited survey for asbestos-containing materials was conducted in the Wrangell Medical Center in 2018, and this assessment by EHS-Alaska supplemented that previous survey. Many of the samples taken in the 2018 survey were not able to be located, because of the poor quality of the sample location drawings. The following materials have been found to contain asbestos in this or previous surveys, or were assumed to contain asbestos.

1. Built-Up Roofing materials of the original 1967 building (confirmed asbestos)
2. Built-Up Roofing materials of the original 1974 building (confirmed asbestos)
3. Remnants of the temporary roofing materials over the modular buildings of the 1988 addition (confirmed asbestos).
4. Loose container of ATCO roof patching tar found in attic (confirmed asbestos).
5. Patching tars of 1988 metal roofing and 1992 metal roofing (assumed asbestos).
6. Gray sealants at the ductwork of the original 1967 building (confirmed asbestos).
7. Gray, sticky putty-like sealants at joints between sections of AHU's in 1967 building.
8. Red sealant at ductwork. Found in attic above 1967 building, and in 1974 era (confirmed asbestos).

9. Pale green caulking of windows of original 1967 construction (confirmed asbestos).
10. Sealant around stored window frame (appears to be similar to 1974 era windows, confirmed asbestos).
11. Glazing compound of stored windows (appears to be similar to 1974 era windows, confirmed asbestos).
12. Black rubber glazing (likely original from manufacturer) in aluminum windows of 1988 era (confirmed asbestos).
13. Joint compound in gypsum wallboard systems on the ceilings and walls of the original 1967 and 1974 long-term care addition (confirmed asbestos).
14. Black sink undercoatings (confirmed asbestos).
15. Cement asbestos pipe at exterior near 1974 long-term care addition (confirmed asbestos).
16. Cement asbestos pipe abandoned in crawl space under original 1967 building (confirmed asbestos).
17. Cement asbestos waste pipe in crawl space under original 1967 building (confirmed asbestos).
18. Cement asbestos board (CAB) soffits shown on as-built drawings of the 1967 original construction. Not found, but possibly present in multiple layers of concealed and abandoned roof areas (assumed asbestos and assumed to still be present).
19. Cement asbestos board (CAB) siding shown on as-built drawings of the 1967 building and the 1974 long-term care addition but is currently covered by EIFS siding (assumed asbestos and assumed to still be present).
20. Hard and chalky insulation at pipe valves and fittings of original 1967 (confirmed asbestos) and 1974 long-term care addition (assumed asbestos).
21. Debris from the hard and chalky insulation mixed into the soil of the original 1967 crawl space (confirmed asbestos).
22. Boiler gaskets and sealants in original 1967 era Boiler Room (assumed asbestos).
23. Flange gaskets on piping of all eras (assumed asbestos).
24. "Van-Packer" Boiler Stack in original 1967 era Boiler Room (confirmed asbestos).
25. Tarry sound absorption lining of abandoned exhaust fan in attic space (confirmed asbestos).
26. Carpeting mastics (found to be contaminated from original black mastic from vinyl tile, 1967 era and 1974 era).
27. Black rubber stair stringer coving of 1974 era (confirmed asbestos)
28. Various colors of 12" x 12" Floor tiles in 1967 era (some tiles confirmed asbestos, non-asbestos tiles contaminated by black mastic).
29. Mastic to "Marlite" paneling of 1974 restroom (trace of chrysotile found, possible contamination from joint compound of gypsum wall board)
30. Hard and chalky insulation in original wooden fire doors of 1974 era (confirmed asbestos).
31. Insulation board lining of attic access hatches in original 1967 era (assumed asbestos).

The effects of the above asbestos-containing materials on the proposed renovation are discussed below.

#### **Built-Up Roofing of 1967 and 1974 Buildings**

The original, near flat roof of the 1967 and 1974 buildings remain underneath the slanted metal roofing installed in 1988. Those roofs have been partially removed in places for new construction or new penetrations, but the existing built-up roofing has been found to contain asbestos, and is non-friable except where cut and damaged. The original vapor barriers at the bottom of the roof assembly are assumed to also contain asbestos. Roofing disturbance or removal is Class II asbestos work, but may be left in place during demolition if the entire roof structure is disposed of as asbestos waste.

#### **Remnants of Roofing Material in 1988 Modular Building**

Much of the 1988 portion of the building was of modular construction. Those modules were temporarily covered with a waterproof membrane that was subsequently removed. The original membrane and patching tars were left in place, mostly around duct penetrations and at the joints between modules, and the patching tars were found to contain asbestos. These materials are not friable. Roofing disturbance or removal is Class II asbestos work, but may be left in place during demolition if the entire roof structure is disposed of as asbestos waste, but these materials are likely to be able to be removed separately from the plywood module roof structure.

**Patching Tars of 1988 Pitched Metal Roofing and 1992 metal roofing**

The entire building (except the 1992 addition) was covered with a pitched metal roof installed in 1988. The roofing was inspected only at the perimeter, due to the lack of fall protection available. The metal roof over the 1992 addition was similar, but not accessible. It is assumed that there are some patching tars that have been used on the roofs, and those patching tars are assumed to contain asbestos. These materials are not friable. Roofing disturbance or removal is Class II asbestos work, but may be left in place during demolition if the entire roof structure is disposed of as asbestos waste, but the patching tars are likely to be able to be removed separately from the metal roofing.

**Gray Duct Sealants**

Gray Sealants at the joints of the site-built fan plenums, as well as on some larger ducts in the 1967 portion of the building was found to contain asbestos. A similar, but still soft and sticky, gray putty-like sealant was found at the joints between the fan unit sections in the 1967 attic fan room. The sealants were in good condition and were not friable. Any disturbance or removal is Class II asbestos work, but the sealants may be left in place during demolition if the ductwork is disposed of as asbestos waste.

**Red Duct Sealants**

Red Sealants at the ducts of the 1974 portion of the building was found to contain asbestos. Several loose sections of ductwork with a similar red sealant was found stored in the "attic" above the 1967 portion of the building. The sealant was in good condition and was not friable. Any disturbance or removal is Class II asbestos work, but the sealants may be left in place during demolition if the demolition if the materials they are attached to are disposed of as asbestos waste.

**Door, Window and Penetration Sealants and Window Glazing Compounds**

The "pale green caulking" at the interior of the windows of the 1967 construction was found by the previous EMI inspection to contain asbestos. It is not clear if that was a glazing compound holding the glass into the frame, or a sealant around the window frame. Both the glazing compounds and the frame sealants were found to contain asbestos in samples taken from loose, stored windows found in the attic space over the 1988 portion of the building. Those loose windows were similar to the windows of the 1974 era, and are assumed to have been removed from that area. The rubber molding between the aluminum window frame and the glass of the 1988 era windows were found to contain asbestos, although the sealants between the window frames and the EIFS siding did not contain asbestos. It is assumed that older sealants at penetrations through the outer walls had an asbestos-containing sealant, including around door and window frames, as well as other penetrations, which, in the 1967 and 1974 eras of construction are covered over by the EIFS of the 1988 construction. Window glazing compounds are assumed to contain asbestos. The sealants are assumed to be not friable and in good condition. Any disturbance or removal is Class II asbestos work, but the sealants and glazing may be left in place during demolition if the materials they are attached to are disposed of as asbestos waste.

**Gypsum Board Joint Compound**

Gypsum board joint compound in the original walls and ceilings of the 1967 and 1974 portions of the building was asbestos-containing. No asbestos has been detected in the gypsum board. Joint compound was in good condition and is not considered friable unless damaged. There have been fairly extensive renovations in the 1967 portion of the building, with fewer renovations in the 1974 portion, and those newer renovations had gypsum board without asbestos-containing joint compound. Those newer renovations are presumed to have covered over older gypsum board materials with asbestos-containing joint compound where newer finishes were installed at original wall or ceiling locations. Any disturbance or removal is Class II asbestos work, but the joint compound and gypsum board may be left in place during demolition if the gypsum board wastes are disposed of as asbestos waste.

**Sink Undercoating**

Stainless steel sinks mostly in the 1967 and 1974 portions of the building, but possibly in other areas were coated on the underside with a black spray-applied material containing asbestos. Other white and green sink undercoatings were noted, sampled and found to not contain asbestos. This material was in good condition and is not considered friable. Any disturbance is Class II asbestos work, but the sinks may be

left in place during demolition if the waste stream they are included within, are disposed of as asbestos waste.

### **Cement Asbestos Piping**

Cement asbestos piping, also known as "Transite" piping was commonly used in sewer, roof drain, and low pressure water piping. There was cement asbestos waste piping found in the crawl space under the 1967 portion of the building that was still in use. There was abandoned cement asbestos piping also found within that same crawl space, as well as a possibly abandoned cement asbestos vent or clean-out pipe noted near the east side of the 1974 building. The cement asbestos piping was typically in good condition and was not friable, but is likely to become friable during demolition or removal. Any disturbance or removal is Class II asbestos work, and would be recommended to be removed prior to demolition, with proper care taken during excavation.

### **Cement Asbestos Board Soffit**

The soffit beneath the overhang of the original 1967 roof was called out to be covered with cement asbestos board. That CAB soffit paneling was not found, but is possibly present in the multiple layers of concealed and abandoned roof areas. Any disturbance or removal is Class II asbestos work, and would be recommended to be removed prior to demolition, with proper care taken when doing pre-demolition exploration for concealed materials.

### **Cement Asbestos Siding**

Portions of the siding of the original 1967 and the 1974 eras of the building were called out on original as-built drawings as cement asbestos board. That CAB siding was not found, but is assumed to be present underneath the EIFS siding which was installed in 1988. Any disturbance or removal is Class II asbestos work, and would be recommended to be removed prior to demolition, with proper care taken when doing pre-demolition exploration for concealed materials.

### **Pipe Fitting Insulation**

Piping concealed above the ceilings, in walls, in the attic, and in mechanical spaces of the 1967 and 1974 eras is insulated at fittings with asbestos-containing insulation. The insulation is generally in good condition but is considered friable. It is recommended that pre-demolition exploration for concealed asbestos-containing insulation be conducted, including multiple "attics" and concealed spaces in the 1967 and 1974 eras. If any concealed piping is found to have hard and chalky or other insulation suspected of containing asbestos, those materials shall be sampled or assumed to contain asbestos prior to disturbance. Any disturbance or removal of pipe insulation is Class I asbestos work, and the asbestos-containing pipe insulation is required to be removed prior to demolition.

### **Contaminated Soil of 1967 Crawl Space**

The domestic water and heating piping in the crawl space of the 1967 era had significant damage to the asbestos-containing insulation. The dirt floor of the crawl space had debris from that pipe insulation mixed into the soil, and the raised dusts pose a significant hazard to personnel crawling through the crawl space to perform maintenance. The corrective action in the crawl space could change depending on whether renovation or demolition of the building is proposed, but it is likely that a minimum of two to four inches of the soil would need to be removed to abate the contaminated soils. Removal of the soil is considered Class I asbestos work.

### **Boiler Gaskets and Sealants**

The boilers appeared to have been replaced in 1999. Due to their age, gaskets and sealants on the boilers are assumed to be asbestos-containing. These materials are difficult to sample without disassembly of equipment and no sampling was performed. These materials were in good condition but may become friable during removal for replacement. The gaskets and sealants could be removed and disposed of intact with the rest of the boilers as Class IV asbestos work.

### **Flange Gaskets and Valve Packing**

Due to their age, gaskets and valve packing on mechanical equipment throughout the building, but mostly in mechanical and fan rooms are assumed to be asbestos-containing. These materials are difficult to

sample without disassembly of equipment and no sampling was performed. These materials were in good condition but may become friable during removal for replacement. The gaskets and packings could be removed and disposed of intact with the rest of the piping as Class IV asbestos work.

### **Boiler Stack Insulation**

What appeared to be the original 1967 "Van-Packer" boiler stack was insulated with asbestos-containing insulation. The hard and chalky insulation was covered with a metal jacket, but would become friable if removed or demolished. Removal or demolition of the boiler stack is Class I asbestos work and would be required to be removed prior to demolition of the building.

### **Exhaust Fan Coatings**

Sound dampening coatings on an older, abandoned roof mounted exhaust fan in the attic space contained asbestos. The exhaust fan can be removed as Class IV asbestos work, if it is removed intact. This material was in good condition and was not friable and may be left in place during demolition if the intact fan is disposed of as asbestos waste.

### **Floor Tiles and Black Mastic, Including Contamination of Newer Flooring**

The original as-builts of the 1967 and 1974 eras called for vinyl asbestos floor tiles, or "conductive vinyl tile". Only some of those tiles were still present, and where tested, both the floor tiles and black mastic did contain asbestos. The 1988 renovation appeared to have covered over much of the original flooring on the main floor of the 1967 and 1974 eras. This investigation found the asbestos-containing black flooring mastic underneath both a particle board subflooring, as well as an ~1/2" thick cementitious leveling compound in the 1967 era, as well as a black mastic contamination of carpeting or replacement floor tiles where the original flooring was removed, but the asbestos-containing mastic was left behind during a previous renovation. The newer welded seam sheet vinyl flooring that was located in most areas of the 1967 era and those subfloors covered over the original asbestos black mastic, which are assumed to be present throughout the original 1967 era, except in a few rooms that were called out in the original as-builts to have bare floors, such as the boiler room, generator room, janitor closet and storage rooms. The tile and mastic was typically not friable, and any disturbance or removal would be Class II asbestos work. This material was in good condition and was not friable and may be left in place during demolition if the entire flooring system is disposed of as asbestos waste.

### **Rubber Stair Stringer of 1974 era**

The black rubber stringer of the stairs in the 1974 era contained asbestos, the mastic did not contain asbestos. The rubber stringers were in good condition and were not friable disturbance or removal would be Class II asbestos work. The stringer may be left in place during demolition if the stairs and attached components are disposed of as asbestos waste.

### **Marlite Mastics**

One sample of a mastic used to secure "Marlite" paneling to a bathroom wall in a restroom in the 1974 era contained asbestos. That asbestos could have been in the mastic itself, or could have been a contamination from the asbestos-containing joint compound of that era. Because the "Marlite" mastic is attached to the joint compound, it typically would be removed as Class II asbestos work. Mastics were in good condition and were not friable and the mastics may be left in place during demolition if the gypsum board / Marlite wastes are disposed of as asbestos waste.

### **Door Insulation**

Interior wood doors in the 1974 era were insulated with asbestos. Insulated wood doors were typically located in hallways at entrances to storage rooms or at fire rated walls. Door insulation is considered non friable if completely sealed within the door skin. Damaged doors are considered friable. The doors can be removed as Class IV asbestos work, if the doors remain intact. The doors would be required to be removed prior to demolition.

### **Access Hatch Insulation Board Lining**

A metal ceiling hatch in the 1967 era for the Fan Room access was assumed to be insulated with asbestos. Insulated metal hatch was typically small and provided access to mechanical spaces. Hatch insulation is

considered non friable if completely sealed within the metal skin. Damaged doors are considered friable. The doors can be removed as Class IV asbestos work, if the doors remain intact. The doors would be required to be removed prior to demolition.

## **2. Asbestos in Dusts**

The settled and concealed dusts were examined by an EPA Certified Building Inspector but no samples for asbestos in dusts were authorized for this project. Based on their visual inspection and experience from similar buildings, the inspector determined that the typical settled and concealed dusts are not “asbestos debris” from an asbestos-containing building material (ACBM). Based on similar sampling from similar buildings, the inspector also determined that the dusts are unlikely to contain more than one percent (1%) asbestos by weight, and therefore are not an asbestos-containing material (ACM).

## **3. Lead-Containing Materials**

### **Lead-Testing**

EHS-Alaska tested paint and other materials throughout the accessible areas of the building using a Heuresis XRF lead paint analyzer. Lead in paints tested varied from a trace amount to 0.36 mg/cm<sup>2</sup>. Lead in other materials tested varied from a trace amount to 21.34 mg/cm<sup>2</sup>. Refer to the Lead Analyzer Test Results Table in Appendix B that identifies the surfaces tested, and the results. The Lead Test Locations are shown in the Drawings in Appendix C.

### **Paints**

There were varying lead contents found in the paints, based on what surfaces they are on, with most surfaces containing little lead (but are still classified as lead-containing materials by OSHA). The highest levels of lead were found on doors, walls, structural members and miscellaneous steel, with lower levels on walls and other painted surfaces, and lowest levels on pre-finished materials.

Lead based paints (paint containing more than 1.0 mg/cm<sup>2</sup> of lead) were not identified. It is anticipated that other items, including older structural steels which are hidden, concealed, or otherwise not tested may be painted with lead-based paint. Lead was detected at very low levels in most of the painted floor, wall and ceiling surfaces. XRF testing is not able to “prove” that “no” lead exists in the paint. Low levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead. However, these paints may not present a hazard to occupants or workers performing renovation or demolition if lead-safe work practices are followed.

### **Ceramic Wall Tile and Glazing**

Relatively high concentrations of lead were found in the glazing of ceramic plumbing fixtures. The glazing of bathroom sinks, toilets, etc. contained high lead levels. The concentrations of lead in ceramic glazing compounds should not be compared to lead-based paint criteria, as the glazing is inherently less likely to cause lead to be present in dusts or on surfaces, where it can be ingested. Lead in ceramic tile glazing may not pose a hazard to occupants, or workers performing renovation or demolition if lead-safe work practices are followed. All ceramic tiles and fixtures in the facility should be assumed to contain lead.

### **Plastic Components**

Relatively high concentrations of lead were found in plastic components, such as “Formica” plastic laminate panels. The concentrations of lead in plastic compounds should not be compared to lead-based paint criteria. Lead in plastic compounds may have surface deterioration and if not cleaned regularly, lead may be present in dusts or on surfaces, where it can be ingested. Lead in plastic compounds may not pose a hazard to occupants, or workers performing renovation or demolition if good work practices are followed.



**Metallic Lead in X-Ray Shielding, Batteries, Pipe Solder and Flashing**

Metallic lead items identified in the building included sheet lead x-ray shielding around x-ray rooms, including at doors, and high-lead content window glass, lead soldering at the sheet metal roof flashings, lead solder at copper piping, and poured lead sealants at bell and spigot joints of waste and vent piping and lead acid batteries in emergency lights and other battery backup equipment. If removed during renovation or demolition they should be recycled or disposed of as hazardous waste.

**Settled and Concealed Dust**

The settled and concealed dusts were examined but no samples for lead in dusts were authorized for this project. Based on their visual inspection and similar sampling from similar buildings, the inspector also determined that the dusts are likely to have measurable concentrations of lead in the dusts.

**4. PCB-Containing Materials****Light Ballasts**

Older fluorescent lights typically have PCB-containing ballasts. PCB-containing ballasts in fluorescent lights were banned in 1978, but manufacturers were allowed to use up existing stocks, and lights may have been reused from other facilities. The survey included examination of what were considered to be representative light fixtures, but not all fixtures were able to be accessed. All lights shall be inspected during removal or relocation. Unless ballasts were marked "No PCBs," they must be assumed to contain PCBs and must be disposed of as a hazardous waste when removed for disposal. Fluorescent light fixtures with PCB-containing ballasts are assumed to be present in the building in the older portions. If removed during renovation or demolition, the fluorescent light fixtures will need to be inspected for PCB-containing ballasts or contamination, and disposed of accordingly.

Older HID lights may have PCB-containing ballasts. Due to height restrictions and sealed ballast enclosures, the HID fixtures were not able to be accessed. All HID lights shall be inspected during removal or relocation. If ballasts are not marked "No PCBs," we suggest contacting the manufacturer of the lights to determine if the ballasts contain PCB's, or assume that they contain PCB's and be disposed of as a hazardous waste. If removed during renovation or demolition, the HID Lights will need to be inspected for PCB-containing ballasts or contamination, and disposed of accordingly.

**Bulk Products**

Some older paints, sealants and other building materials may contain measurable amounts of PCB's. PCB use in paints and sealants was supposed to have been discontinued in 1979. The EPA does not require the sampling of bulk products, and no sampling of "Bulk Products" were authorized for this project.

**5. Mercury-Containing Materials****Fluorescent Lamps**

Fluorescent lamps use mercury to excite the phosphor crystals that coat the inside of the lamp. These lamps contain from 15 to 48 milligrams of mercury depending on their age and manufacturer. If removed during renovation or demolition, the mercury-containing compact or linear tube lamps should be disposed of as Universal Wastes.

**Thermostats**

Older thermostats or other electrical switches that may contain mercury were noted in the building.

**High Intensity Discharge Lamps**

High Intensity Discharge (HID) lamps use mercury and sodium vapors in the lamp, and also typically have lead-containing solders at the bases. These lamps contain varying amounts of mercury depending on their age and manufacturer. If removed during renovation or demolition, the mercury-containing HID lamps should be disposed of as Universal Wastes..

All mercury-containing items being removed by this project are required to be disposed of as hazardous waste or recycled.

## 6. Other Hazardous Materials

### Self-Illuminating Exit Signs and Smoke Detectors

Several radioactive, self-illuminating exit signs and smoke detectors were found in the building. If any radioactive items are removed, they are required be disposed of as hazardous waste or recycled.

### Hydraulic Lifts

There was one hydraulic elevator in the 1974 portion. The hydraulic fluids shall be removed and properly disposed of prior to disposal of the metallic portions, or the entire unit may be reused or recycled by the contractor.

### Household Chemicals

Common household chemicals, including quantities of construction repair materials, acids, paint products, paint thinners, caustics, cleaners, pesticides, herbicides, disinfectants, poisons, printing and photographic chemicals, , or s (antifreeze), floor or furniture wax, furniture or paint strippers, solvents, fuel, new or used lubrication products, wood preservatives, old medications, resins, adhesives were present in the building. It cannot be determined what will be the fate of those materials at this time.

### Soil Contamination

The scope of work for EHS-Alaska, Inc. did not include investigation of soils for petroleum or other contaminations. The dirt soil of the crawl space under the original portion of the building was noted to be contaminated by asbestos debris from the asbestos-containing pipe insulation.

### Refrigerants

Refrigerators, freezers, ice machines, and water coolers were identified in the building that may contain ozone depleting refrigerants. Air conditioning units may also be present. Ozone depleting substances (ODS) are regulated by the EPA and must be removed by certified technicians prior to equipment disposal.

### Heat Transfer Fluids

The existing heating and cooling system is assumed to contain heat transfer fluids, including glycol or other boiler treatment chemicals. Any heat transfer fluids removed from the heating system shall be recovered and properly disposed of or recycled.

## E. REGULATORY CONSTRAINTS

### 1. Asbestos-Containing Materials

The Federal Occupational Safety and Health Administration (29 CFR 1926.1101) and the State of Alaska Department of Labor (8 AAC 61) have promulgated regulations requiring testing for airborne asbestos fibers; setting allowable exposure limits for workers potentially exposed to airborne asbestos fibers; establishing contamination controls, work practices, and medical surveillance; and setting worker certification and protection requirements. These regulations apply to all workplace activities involving asbestos-containing materials.

The EPA regulations, issued as Title 40 of the Code of Federal Regulations, Part 61 (40 CFR 61), Subpart M under the National Emission Standards for Hazardous Air Pollutants (NESHAP), established procedures for handling ACM during asbestos removal and waste disposal. It is recommended that clearance sampling which complies with the EPA's Asbestos Hazard Emergency Response Act (AHERA) protocol be required following removal of asbestos-containing materials to document that the asbestos has been properly removed.

The EPA regulations require an owner (or the owner's contractor) to notify the EPA of asbestos removal operations and to establish responsibility for the removal, transportation, and disposal of asbestos-containing materials.

The disposal of asbestos waste is regulated by the EPA, the Alaska Department of Environmental Conservation, and the disposal site operator. Wastes being transported to the disposal site must be sealed in leak tight containers prior to disposal and must be accompanied by disposal permits and waste manifests.

## **2. Dusts with Asbestos**

Settled and concealed dusts above ceilings, and at other areas that are not routinely cleaned (such as inside ducts and at roofs, etc.) are assumed to have measurable concentrations of asbestos. Based on sampling of similar settled and concealed dusts at similar buildings, those dusts are assumed to contain less than 1 percent asbestos. Normal settled and concealed dusts are distinct and treated differently from debris resulting from damaged asbestos-containing materials.

Background levels of asbestos in dusts for a particular location will depend on many factors, including whether or not asbestos occurs naturally in soils in the area.

### **Likely sources of asbestos in dusts include natural occurrences of asbestos**

The types of asbestos found in settled and concealed dusts often contain actinolite, anthophyllite and tremolite forms of asbestos which are not commonly found in bulk samples taken of materials from buildings. Those forms of asbestos may come from natural occurrences of asbestos in an outside source, such as rock or ore deposits, which appear to be common in Alaska.

Because the type of disturbance, concentration of asbestos in the dusts, cohesiveness of the dusts and room sizes will change, the airborne asbestos levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of asbestos in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard". All dusts will likely be required to be removed from the areas where asbestos-containing materials are being removed (abatement areas) in order to achieve clearances. The dusts in the other areas are to be controlled so as to limit worker exposures and prevent contamination of occupied areas of the building.

There is no established correlation between settled or adhered dusts with measurable concentrations of asbestos and airborne concentrations. The definition in the OSHA regulations of asbestos-containing materials as those materials that contain 1 percent or more asbestos by weight, apply to cohesive materials and not to dusts. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

## **3. Lead-Containing Materials**

The EPA Standard 40 CFR 745, Lead-Based Paint Poisoning Prevention in Certain Residential Structures, defines lead-based paint hazards and regulates lead based paint activities in target housing and child-occupied facilities. The requirements of this regulation include training certification, pre-work notifications, work practice standards and record keeping. Areas typically classified as child occupied facilities may include but are not limited to: day care facilities, preschools, kindergarten classrooms, restrooms, multipurpose rooms, cafeterias, gyms, libraries and other areas routinely used by children under 6 years of age. Training requirements for Firms (Contractors) and Renovators (Workers) became effective on April 22, 2010. The building is not classified as a child occupied facility, therefore the requirements of 40 CFR 745 do not apply.

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead. The disturbance of any surfaces painted with lead-containing paint requires lead-trained personnel, personnel protective procedures, and air monitoring until exposure levels can be determined. If initial monitoring verifies that the work practices being used are not exposing workers, monitoring and protection procedures may be relaxed. Experience has shown that some paints in most buildings will contain low concentrations of lead and disturbance of those paints are still regulated under the OSHA lead standard, 29 CFR 1926.62. Low

levels of lead found by XRF testing does not mean that the paints are free of lead, the paints may contain lead, and OSHA regulations apply anytime measurable amounts of lead are present in paints.

Settled and concealed dust above ceilings, and at other areas that are not routinely cleaned are assumed to have measurable concentrations of lead. Background levels of lead in dusts for a particular location will depend on many factors, including whether or not engines utilizing leaded gasoline were run in or near a building, and upon the age of the building, and thus the age of the dusts. Because the type of disturbance, quantity of lead dusts, cohesiveness of the dusts and room sizes will change, the airborne lead levels expected during the project will depend on the contractor's means and methods of conducting the work. The mere presence of lead in the dusts does not necessarily imply that a "hazard" exists which would require the use of specially trained workers to "abate" the "hazard".

There is no established correlation between settled or adhered lead dust concentrations and airborne concentrations. The OSHA regulations are essentially "performance based", if workers are exposed above the permissible exposure limits, then all of the requirements in the regulations become effective.

The EPA requires that actual construction or demolition debris that contains lead or lead-containing paint or other heavy metals be tested using the TCLP test to determine if the waste must be treated as hazardous waste. All federal, state and local standards regulating lead and lead-containing wastes are required to be followed during the renovation or demolition of portions of this building.

If the TCLP tests done on the waste stream(s) that are produced by the contractor are found to be classified as hazardous wastes, then those waste stream(s) will have to be packaged for shipping and disposal in accordance with hazardous waste and transportation regulations. Because there are no hazardous waste landfills in Alaska, this report assumes that disposal will take place in Seattle or elsewhere in the Pacific Northwest.

#### **4. PCB-Containing Materials**

The EPA has promulgated regulations (40 CFR Part 761) that cover the proper handling and disposal of PCB-containing materials. PCB-containing equipment was found by this survey, and any removed PCB-containing equipment is required to be disposed of at fully permitted hazardous waste facilities. The EPA regulates liquid PCBs differently from non-liquid materials. Workers who remove or handle PCB-containing or PCB-contaminated materials or who transport or dispose of PCB wastes must be trained and certified in hazardous waste operations and emergency response (HAZWOPER) as required by 29 CFR 1910.120 and the State of Alaska Department of Labor (8 AAC 61). The Department of Transportation under 49 CFR Parts 100-199 regulates the marking, packaging, handling and transportation of hazardous materials. All federal, state and local standards regulating PCBs and PCB waste must be followed during this project.

#### **5. Mercury-Containing Materials**

Thermostats and mercury-containing lamps are classified by the EPA as Universal Wastes. The EPA encourages that all Universal Wastes be recycled in accordance with 40 CFR 273. Mercury and mercury-containing products are considered hazardous waste if TCLP testing of the waste for mercury confirms the mercury content to be greater than the EPA criteria of 0.2 mg/l.

#### **6. Other Hazardous Materials**

##### **Refrigerants**

Refrigerators, freezers, ice machines, and water coolers were present in the building. Air conditioning systems were also present. Typically, refrigeration and air conditioning systems with ODS shall be maintained in order to prevent discharge of ODS. Systems that are to be removed, or dismantled shall have refrigerants containing ODS recovered and disposed of or recycled in accordance with 40 CFR 82.

##### **Chemical Hazards**

The EPA has promulgated regulations (40 CFR Parts 260 to 299 amongst others) that cover the proper handling and disposal of waste chemicals, including listed wastes, which are ignitable, corrosive, reactive, toxic, or an acute hazardous waste or wastes that exhibit the characteristics of toxicity. All construction workers who are required to remove or handle chemical hazards or to transport or dispose of chemical wastes shall be trained and certified as required by the U.S. Department of Labor (29 CFR 1910.120) and the State of Alaska Department of Labor (8 AAC 61). Transportation of chemical hazards are regulated by Department of Transportation regulations under 49 CFR Parts 171 to 178 amongst others.

Waste heat transfer fluids (such as used heating/cooling system glycol or other circulating heating/cooling fluids) are a potentially hazardous waste and are required to be TCLP tested prior to disposal to determine if the fluids are classified as hazardous or non-hazardous waste per the EPA's RCRA regulations governing hazardous wastes. According to a study performed by the University of Northern Iowa, standard TCLP analysis using ICP SW 6010 testing procedures commonly report levels of Arsenic and Selenium over regulatory thresholds due to interferences in the matrix. That report concluded that additional analysis should be performed to refute the presence of Arsenic or Selenium over the regulatory levels by either mass spectrometry using method SW 6020, or by graphite furnace using method SW 7060. Some heat transfer fluids may also contain potentially hazardous additives that modify the properties of the fluids for use in a particular system. It is recommended that the contractor consult with the persons responsible for maintaining the system to determine if any additives that may be potentially hazardous were used in the system to further determine disposal requirements.

### **Radioactive Materials**

Self-luminous products that contain Tritium, Krypton-85, or Promethium-147 are considered radioactive. There are special disposal requirements for products that contain Tritium, Krypton-85, or Promethium-147 that are generally licensed. Data from the Nuclear Regulatory Commission (NRC) indicates that most all Tritium powered exit signs are generally licensed and therefore must be disposed of at a licensed disposal facility or returned to the manufacturer/distributor for disposal. Licensed radioactive products are regulated by Nuclear Regulatory Commission standard 10 CFR 20 and 10 CFR 32. Smoke detectors were present in the project area that may contain a radioactive material. If the detectors are of the ionization type they typically contain a small amount of Americium. If removed during renovation, the detectors should be returned to the owner for reuse or returned to the manufacturer for disposal or recycling. There are no licensed disposal facilities for radioactive wastes in Alaska.

## **F. RECOMMENDATIONS**

Disposal of hazardous materials is often difficult and expensive in Rural Alaska. It is possible to obtain a one-time permit to dispose of non-friable, non-RACM asbestos materials from the Alaska Department of Environmental Conservation, however that process is neither fast nor inexpensive, and is highly dependent on getting permission for an asbestos monofill from a landowner, and may not be financially feasible at many locations. Because Wrangell receives barge services, it is likely to be less expensive to barge out asbestos materials. Lead-containing materials, if they are not also asbestos-containing materials are often possible to dispose of locally, but in general, painted materials, with lead at measurable concentrations, are not allowed to be burned. Lead-containing materials which have been classified as hazardous waste, and chemical hazards are required to be disposed of at permitted landfills, which will require air freight or barge for disposal.

### **1. Asbestos-Containing Materials**

The asbestos-containing materials identified in the building are typically in intact condition and are classified as both friable and non-friable ACM. All asbestos-containing materials that will be disturbed by the planned renovation work are required to be removed by trained asbestos workers.

### **2. Dusts with Asbestos**

Dusts with measurable concentrations of asbestos are assumed to be present, but are not classified as asbestos-containing materials, or as debris from asbestos-containing materials. Workers disturbing dusts

are required to have hazard communication training in accordance with OSHA regulations, but are not required to receive 40 hours of training, which is required for asbestos workers. The contractor will need to choose means and methods to control worker exposures to airborne contaminants. At least an initial exposure assessment or data from previous air monitoring is needed to show that worker exposures are maintained below the OSHA permissible exposure limits (PELs).

### **3. Lead-Containing Materials**

Federal OSHA (29 CFR 1926.62) and the State of Alaska (8 AAC Chapter 61) have promulgated regulations that apply to all construction work where employees may be exposed to lead, including disturbance of paints with low concentrations of lead.

Worker exposure to lead may be able to be controlled below the OSHA permissible exposure limit if proper engineering controls and procedures are used during renovation. Lead is a potentially hazardous waste and the EPA requires that all wastes that contains lead be tested to determine if they must be treated as hazardous waste. A TCLP test of the waste stream(s) produced by the Contractor's means and methods are required to be performed to determine if those wastes will be classified as hazardous or non-hazardous.

### **4. PCB-Containing Materials**

PCB-containing ballasts scheduled for removal or replacement will need to be removed, handled, packaged and disposed of in accordance with all regulations. If any PCB-containing ballasts are discovered, and they are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations.

### **5. Mercury-Containing Materials**

If any mercury-containing materials are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations. If mercury-containing lamps and thermostats are handled and disposed of in accordance with the Universal Waste Regulations, no TCLP test is required. If the Contractor chooses to perform a TCLP test of fluorescent lamps, the test shall be conducted in accordance with the requirements of ANSI/NEMA Standard Procedure for Fluorescent Lamp Sample Preparation and Toxicity Characteristic Leaching Procedure, C78.LL 1256-2003 or latest version.

### **6. Other Hazardous Materials**

If any radioactive materials are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations.

If any ODS are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations.

If any hydraulic fluids are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations.

If any heat transfer fluids are removed or replaced, they will need to be removed, handled, packaged and disposed of in accordance with all regulations.

## **G. LIMITATIONS**

The conclusions and recommendations contained in this report are based upon professional opinions with regard to the subject matter. These opinions have been arrived at in accordance with currently accepted environmental consulting and engineering standards and practices and are subject to the following inherent limitations:

**1. Accuracy of Information**

The laboratory reports utilized in this assessment were provided by the accredited laboratories cited in this report. Although the conclusions, opinions, and recommendations are based in part, on such information, our services did not include the verification of accuracy or authenticity of such reports. Should such information provided be found to be inaccurate or unreliable, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

**2. Site Conditions**

This limited survey did not include investigation of the entire site and may not be valid outside the survey area. The intent of this survey was to identify common hazardous materials that may be disturbed during routine maintenance or renovations. This survey is not intended to be utilized as the sole design document for abatement. This survey was conducted while the site was occupied. All inspections were performed with furniture, equipment and/or stored items in place. The scope of work for this survey did not include identification of all potentially hazardous materials that may be present at this site, and was limited to the scope of work agreed upon with our client. Although a concerted effort was made to identify those common hazardous materials likely to be affected by this project, some hazardous materials may have been hidden by furniture, equipment or stored items and may not have been identified. The survey investigated representative materials and items, such as lights and mechanical components. Variations may occur between materials and items that appear to be the same, but are actually of different construction or materials. Other asbestos-containing or potentially hazardous materials may be present in the facilities that were concealed by structural members, walls, ceilings or floor coverings, or in materials where testing was not conducted.

**3. Changing Regulatory Constraints**

The regulations concerning hazardous materials are constantly changing, including the interpretations of the regulations by the local and national regulating agencies. Should the regulations or their interpretation be changed from our current understanding, EHS-Alaska, Inc. reserves the right to amend or revise its conclusions, opinions, and/or recommendations.

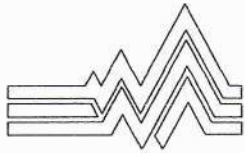
# **APPENDIX A**

## **Asbestos Bulk Sample Field Survey Data Sheets and Laboratory Reports**



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**EHS ALASKA**  
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EHS-Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

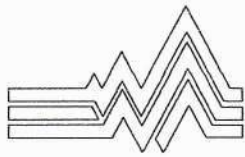
PROJECT NO: <b>7795-03</b>	PROJECT NAME: <b>Wrangell Medical Center</b>	FACILITY: <b>Wrangell Medical Center</b>	COLLECTION DATE: <b>09-14-2020</b>
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**CHAIN OF CUSTODY RECORD**

ANALYSIS REQUESTED:	<input type="checkbox"/> PLM BULK <input type="checkbox"/> LEAD DUST <input type="checkbox"/> TEM MICROVAC DUST (ASTM 5756)	<input type="checkbox"/> PLM DUST <input type="checkbox"/> LEAD TCLP	<input type="checkbox"/> TEM BULK <input type="checkbox"/> LEAD PPM	TYPE:	TURNAROUND:	DISPOSAL:	QUANTITY:
				<input type="checkbox"/> ASBESTOS <input type="checkbox"/> LEAD	2 DAYS	NORMAL	<del>100</del> 30
COLLECTED BY (signature)  Robert A. French PRINTED NAME 1564 88IMP-0028 CERT# / AHERA# Fed Ex SHIPPING METHOD 7716 1864 9898 COURIER (signature) DATE/TIME		IATL SELECTED LABORATORY  SAMPLES ACCEPTED BY DATE/TIME SEP 25 2020 ANALYST'S SIGNATURE  DATE 9/25/20		SPECIAL INSTRUCTIONS / COMMENTS: LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC. See sample location drawing for more detailed explanation of exact locations. 70 Asbestos			

**FIELD SURVEY DATA**

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION. (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
WMS0920-A01 7067217	White, Chalky "Hard Fitting" insulation	Attic Fan room in 1967 Era. On white pipe above fan unit near Hatch. Photo B72	3.2% Chrysotile 2.2% Crocidolite 1% amosite
WMS0920-A02 7067218	White, Chalky "Hard Fitting" insulation	Attic Fan room in 1967 Era. On loose yellow painted insulation in plastic box near Hatch. Photo B73	3.4% Chrysotile 2.4% Crocidolite 1.2% amosite
WMS0920-A03 7067219	White, Chalky "Hard Fitting" insulation	Attic Fan room in 1967 Era. Broken elbow near fan-coil. Photo B74	3.0% Chrysotile 6% amosite
WMS0920-A04 7067220	Gray sticky sealant in HVAC Unit	Attic Fan room in 1967 Era. Filter bank chamber downstream of the Heat Recovery Wheel. Photo R575	3.4% Chrysotile
WMS0920-A05 7067221	Joint compound at Ceiling	Attic Fan room in 1967 Era. Ceiling above Fan Unit Photo B75	1.6% Chrysotile
WMS0920-A06 7067222	GCT-1; 12x12 Ceiling tiles with dark brown mastic	Attic Fan room in 1967 Era. Loose, stored tiles "in case they are needed". Photo B76	None Detected both layers
WMS0920-A07 7067223	GCT-1; 12x12 Ceiling tiles with dark brown mastic	Attic Fan room in 1967 Era. Loose, stored tiles "in case they are needed". Photo B77	None Detected both layers
WMS0920-A08 7067224	Gray sticky sealant in HVAC Unit	Attic Fan room in 1967 Era. Filter bank chamber downstream of the Heat Recovery Wheel. No photo	3.2% Chrysotile
WMS0920-A09 7067225	Gray sticky sealant at ductwork	Attic Fan room in 1967 Era. At shiny ducts of Kitchen Exhaust Fan. Photo B78	3.4% Chrysotile



**EHS ALASKA**  
INCORPORATED

EHS Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

PROJECT NO: <b>7795-03</b>	PROJECT NAME: <b>Wrangell Medical Center</b>	FACILITY: <b>Wrangell Medical Center</b>	COLLECTION DATE: <b>09-14-2020</b>
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<b>FIELD SURVEY DATA</b>			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
WMS0920-A10 <b>7067226</b>	Gray sticky sealant in HVAC Unit	Attic Fan room in 1967 Era. Filter bank chamber for Fan 10016. Photos R601, 602	<i>3.4% Chrysotile</i>
WMS0920-A11 <b>7067227</b>	Dark Brown mastic for TJI Wood joists Ignore wood layer!	Attic, Joists of the 1988 roof structure. Near peak of the roof above the 1967 era. Photo B88	<i>None Detected</i>
WMS0920-A12 <b>7067228</b>	Dark Brown mastic for TJI Wood joists Ignore wood layer!	Attic, Joists of the 1988 roof structure. Near peak of the roof above the 1967 era. Photo B89	<i>None Detected</i>
WMS0920-A13 <b>7067229</b>	Joint Compound	Attic. On exterior "wall" of the 1967 fan rom, but likely installed in 1988. Photo B90	<i>None Detected</i>
WMS0920-A14 <b>7067230</b>	Tar Paper under 1988 metal Roof	Attic, at hole for Boiler stack through the 1988 roof. Photo R 639	<i>None Detected</i>
WMS0920-A15 <b>7067231</b>	Brown hard insulation of "Van Packer" boiler stack	Attic. Appears to be original 1967 stack. Photo R 640 & 41	<i>40% Chrysotile</i>
WMS0920-A16 <b>7067232</b>	White fabric and Black Tar sealant	Attic above PT. Remnant of temporary roof over 1988 modular buildings. At Duct penetration. Photo B91	<i>3.4% Chrysotile</i>
WMS0920-A17 <b>7067233</b>	White fabric and Black Tar sealant	Attic above PT. Remnant of temporary roof over 1988 modular buildings. At Duct penetration. Photo R655 & 656	<i>None Detected</i>
WMS0920-A18 <b>7067234</b>	GCT 12x12 Ceiling tiles with dark brown mastic. "PyROTECT on back.	Attic above PT. Loose, stored tiles "in case they are needed". Photo B95	<i>None Detected both layers</i>
WMS0920-A19 <b>7067235</b>	GCT 12x12 Ceiling tiles with dark brown mastic. "PyROTECT on back.	Attic above PT. Loose, stored tiles "in case they are needed". Photo B97	<i>None Detected both layers</i>
WMS0920-A20 <b>7067236</b>	Black tarry coating inside old Pace Exhaust Fan	Attic above boiler room. Fan appears to be abandoned. Photo R633 & 638	<i>5.2% Chrysotile</i>
WMS0920-A21 <b>7067237</b>	Cream Window Frame Sealant, between frame and (missing) siding (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R670	<i>4.1% Chrysotile</i>
WMS0920-A22 <b>7067238</b>	Cream Window Frame Sealant, between frame and (missing) siding (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R670	<i>3.8% Chrysotile</i>
WMS0920-A23 <b>7067239</b>	Lighter yellow-white window glazing compound at edge of glass (21" x 5'-6")	Attic above PT. Loose stored windows. Likely to be from the 1974 Dayroom. Photo R671 & 2	<i>1.6% Chrysotile</i>

*Asbestos*

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY


<b>Lab No.:</b> 7067217 <b>Client No.:</b> WMS0920-A01	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> White, Chalky "Hard Fitting" Insulation	<b>Location:</b> Attic Fan Room in 1967 Era. On White Pipe Above Fan Unit Near Hatch. - Photo B72 <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 63.6
<u>Percent Asbestos:</u> <b>PC 3.2 Chrysotile</b> <b>PC 2.2 Crocidolite</b> <b>PC 1 Amosite</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Fibrous Glass	

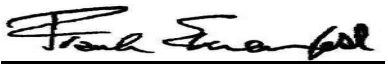
<b>Lab No.:</b> 7067218 <b>Client No.:</b> WMS0920-A02	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> White, Chalky "Hard Fitting" Insulation	<b>Location:</b> Attic Fan Room in 1967 Era. On Loose Yellow Painted Insulation in Plastic Box Near Hatch. - Photo B7 <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 63
<u>Percent Asbestos:</u> <b>PC 3.4 Chrysotile</b> <b>PC 2.4 Crocidolite</b> <b>PC 1.2 Amosite</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Fibrous Glass	

<b>Lab No.:</b> 7067219 <b>Client No.:</b> WMS0920-A03	<b>Analyst Observation:</b> White/Yellow Insulation <b>Client Description:</b> White, Chalky "Hard Fitting" Insulation	<b>Location:</b> Attic Fan Room in 1967 Era. Broken Elbow Near Fan-Coil. - Photo B74 <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 34
<u>Percent Asbestos:</u> <b>30 Chrysotile</b> <b>PC 6 Amosite</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Fibrous Glass	

<b>Lab No.:</b> 7067220 <b>Client No.:</b> WMS0920-A04	<b>Analyst Observation:</b> Grey/Black Caulk <b>Client Description:</b> Grey Sticky Sealant In HVAC Unit	<b>Location:</b> Attic Fan Room in 1967 Era. Filter Bank Chamber Downstream of the Heat Recovery Wheel. - Photo R575 <b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 94.6
<u>Percent Asbestos:</u> <b>PC 3.4 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Talc	

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Date Received: 9/25/2020  
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Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 9/25/2020  
Report No.: 620075 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-03

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7067221      **Analyst Observation:** White Joint Compound  
**Client No.:** WMS0920-A05      **Client Description:** Joint Compound at Ceiling  
**Location:** Attic Fan Room in 1967 Era.  
Ceiling Above Fan Unit. - Photo B75  
**Facility:**  
**Percent Asbestos:**      **Percent Non-Asbestos Fibrous Material:**  
*PC 1.6 Chrysotile*      None Detected      **Percent Non-Fibrous Material:**  
98.4


**Lab No.:** 7067222      **Analyst Observation:** Beige Ceiling Tile  
**Client No.:** WMS0920-A06      **Client Description:** GCT-1; 12x12 Ceiling Tiles With Dark  
Brown Mastic  
**Location:** Attic Fan Room in 1967 Era.  
Loose Stored Tiles "In Case They Are  
Needed". - Photo B77  
**Facility:**  
**Percent Asbestos:**      **Percent Non-Asbestos Fibrous Material:**  
*None Detected*      50 Fibrous Glass      **Percent Non-Fibrous Material:**  
30 Cellulose      20

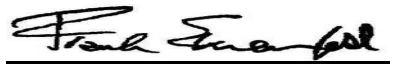
**Lab No.:** 7067222(L2)      **Analyst Observation:** Brown Mastic  
**Client No.:** WMS0920-A06      **Client Description:** GCT-1; 12x12 Ceiling Tiles With Dark  
Brown Mastic  
**Location:** Attic Fan Room in 1967 Era.  
Loose Stored Tiles "In Case They Are  
Needed". - Photo B77  
**Facility:**  
**Percent Asbestos:**      **Percent Non-Asbestos Fibrous Material:**  
*None Detected*      2 Fibrous Glass      **Percent Non-Fibrous Material:**  
98

**Lab No.:** 7067223      **Analyst Observation:** Beige Ceiling Tile  
**Client No.:** WMS0920-A07      **Client Description:** GCT-1; 12x12 Ceiling Tiles With Dark  
Brown Mastic  
**Location:** Attic Fan Room in 1967 Era.  
Loose Stored Tiles "In Case They Are  
Needed". - Photo B77  
**Facility:**  
**Percent Asbestos:**      **Percent Non-Asbestos Fibrous Material:**  
*None Detected*      50 Fibrous Glass      **Percent Non-Fibrous Material:**  
30 Cellulose      20

**Lab No.:** 7067223(L2)      **Analyst Observation:** Brown Mastic  
**Client No.:** WMS0920-A07      **Client Description:** GCT-1; 12x12 Ceiling Tiles With Dark  
Brown Mastic  
**Location:** Attic Fan Room in 1967 Era.  
Loose Stored Tiles "In Case They Are  
Needed". - Photo B77  
**Facility:**  
**Percent Asbestos:**      **Percent Non-Asbestos Fibrous Material:**  
*None Detected*      2 Fibrous Glass      **Percent Non-Fibrous Material:**  
98

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 9/25/2020  
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Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


CERTIFICATE OF ANALYSIS

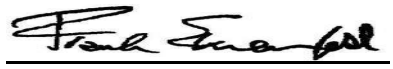
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7067224 <b>Client No.:</b> WMS0920-A08	<b>Analyst Observation:</b> Grey Sealant <b>Client Description:</b> Grey Sticky Sealant In HVAC Unit	<b>Location:</b> Attic Fan Room in 1967 Era. Filter Bank Chamber Downstream of the Heat Recovery Wheel. - No Photo <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 96.8
<u>Percent Asbestos:</u> <b>PC 3.2 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067225 <b>Client No.:</b> WMS0920-A09	<b>Analyst Observation:</b> Grey Sealant <b>Client Description:</b> Grey Sticky Sealant at Duct Work	<b>Location:</b> Attic Fan Room in 1967 Era. At Shiny Ducts of Kitchen Exhaust Fan. - Photo B78 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 96.6
<u>Percent Asbestos:</u> <b>PC 3.4 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067226 <b>Client No.:</b> WMS0920-A10	<b>Analyst Observation:</b> Grey Sealant <b>Client Description:</b> Grey Sticky Sealant in HVAC Unit	<b>Location:</b> Attic Fan Room in 1967 Era. Filter Bank Chamber for Fam 10016. - Photo's R601, 602 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 96.6
<u>Percent Asbestos:</u> <b>PC 3.4 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067227 <b>Client No.:</b> WMS0920-A11	<b>Analyst Observation:</b> Dk Brown Mastic <b>Client Description:</b> Dark Brown Mastic for TJI Wood Joists (Ignore Wood Layer))	<b>Location:</b> Attic Joists of the 1988 Roof Structure. Near Peak of the Roof Above the 1967 Era. - Photo B88 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <b>None Detected</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067228 <b>Client No.:</b> WMS0920-A12	<b>Analyst Observation:</b> Dk Brown Mastic <b>Client Description:</b> Dark Brown Mastic for TJI Wood Joists (Ignore Wood Layer))	<b>Location:</b> Attic Joists of the 1988 Roof Structure. Near Peak of the Roof Above the 1967 Era. - Photo B88 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <b>None Detected</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

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Laboratory Director


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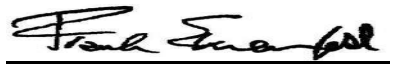
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7067229 <b>Client No.:</b> WMS0920-A13	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> Joint Compound	<b>Location:</b> Attic. On Exterior "Wall" of the 1967 Fan Room, But Likely Installed in 1988. - Photo B90 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067230 <b>Client No.:</b> WMS0920-A14	<b>Analyst Observation:</b> Black Tar Paper <b>Client Description:</b> Tar Paper Under 1988 Metal Roof	<b>Location:</b> Attic, at Hole for Boiler Stack Through the 1988 Roof. - Photo R639 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 70
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose	
<b>Lab No.:</b> 7067231 <b>Client No.:</b> WMS0920-A15	<b>Analyst Observation:</b> Grey/Tan Insulation <b>Client Description:</b> Brown Hard Insulation of "Van Packer" Boiler Stack	<b>Location:</b> Attic, Appears to be Original 1967 Stack. - Photo 640 & 41 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 60
<u>Percent Asbestos:</u> <i>40 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067232 <b>Client No.:</b> WMS0920-A16	<b>Analyst Observation:</b> Black/White Sealant <b>Client Description:</b> White Fabric and Black Tar Sealant	<b>Location:</b> Attic, Above PT. Remnant of Temporary Roof Over 1988 Modular Buildings. At Duct Penetration. - Photo <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 96.6
<u>Percent Asbestos:</u> <i>PC 3.4 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7067233 <b>Client No.:</b> WMS0920-A17	<b>Analyst Observation:</b> Black Sealant <b>Client Description:</b> White Fabric and Black Tar Sealant	<b>Location:</b> Attic, Above PT. Remnant of Temporary Roof Over 1988 Modular Buildings. At Duct Penetration. - Photo <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 98
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	

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Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7067234 <b>Client No.:</b> WMS0920-A18	<b>Analyst Observation:</b> White/Tan Ceiling Tile <b>Client Description:</b> GCT 12x12 Ceiling Tiles With Dark Brown Mastic "PyROTECT" on Back	<b>Location:</b> Attic, Above PT. Loose Stored Tiles "In Case They Are Needed". - Photo B95
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<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 80 Cellulose	<b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 20
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<b>Lab No.:</b> 7067234(L2) <b>Client No.:</b> WMS0920-A18	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> GCT 12x12 Ceiling Tiles With Dark Brown Mastic "PyROTECT" on Back	<b>Location:</b> Attic, Above PT. Loose Stored Tiles "In Case They Are Needed". - Photo B95
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<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 5 Talc	<b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 95
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<b>Lab No.:</b> 7067235 <b>Client No.:</b> WMS0920-A19	<b>Analyst Observation:</b> White/Tan Ceiling Tile <b>Client Description:</b> GCT 12x12 Ceiling Tiles With Dark Brown Mastic "PyROTECT" on Back	<b>Location:</b> Attic, Above PT. Loose Stored Tiles "In Case They Are Needed". - Photo B97
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<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 80 Cellulose	<b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 20
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<b>Lab No.:</b> 7067235(L2) <b>Client No.:</b> WMS0920-A19	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> GCT 12x12 Ceiling Tiles With Dark Brown Mastic "PyROTECT" on Back	<b>Location:</b> Attic, Above PT. Loose Stored Tiles "In Case They Are Needed". - Photo B97
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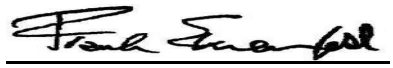
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 5 Talc	<b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 95
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<b>Lab No.:</b> 7067236 <b>Client No.:</b> WMS0920-A20	<b>Analyst Observation:</b> Black Tar <b>Client Description:</b> Black Tarry Coating Inside Old Pace Exhaust Fan	<b>Location:</b> Attic Above Boiler Room. Fan Appears to be Abandoned. - Photo R633 & 638
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<u>Percent Asbestos:</u> <b>PC 5.2 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<b>Facility:</b> <u>Percent Non-Fibrous Material:</u> 94.8
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Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7067237 <b>Client No.:</b> WMS0920-A21	<b>Analyst Observation:</b> Off-White Sealant <b>Client Description:</b> Cream Window Frame Sealant, Between Frame and (Missing) Siding (21" x 5' - 6")	<b>Location:</b> Attic Above PT. Loose Stored Windows. Likely to be From the 1974 Dayroom. - Photo R670
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<u>Percent Asbestos:</u> <b>PC 4.1 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.9
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<b>Lab No.:</b> 7067238 <b>Client No.:</b> WMS0920-A22	<b>Analyst Observation:</b> Off-White Sealant <b>Client Description:</b> Cream Window Frame Sealant, Between Frame and (Missing) Siding (21" x 5' - 6")	<b>Location:</b> Attic Above PT. Loose Stored Windows. Likely to be From the 1974 Dayroom. - Photo R670
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<u>Percent Asbestos:</u> <b>PC 3.8 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 96.2
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<b>Lab No.:</b> 7067239 <b>Client No.:</b> WMS0920-A23	<b>Analyst Observation:</b> Off-White Glazing <b>Client Description:</b> Lighter Yellow-White Window Glazing Compound at Edge of Glass (21" x 5'-6")	<b>Location:</b> Attic Above PT. Loose Stored Windows. Likely to be From the 1974 Dayroom. - Photo R671 & 2
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<u>Percent Asbestos:</u> <b>PC 1.6 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 98.4
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<b>Lab No.:</b> 7067240 <b>Client No.:</b> WMS0920-A24	<b>Analyst Observation:</b> Grey/White Glazing <b>Client Description:</b> Grey Sticky Window Glazing Compound at Edge of Glass (21" x 5'-6")	<b>Location:</b> Attic Above PT. Loose Stored Windows. Likely to be From the 1974 Dayroom. - Photo R671 & 2
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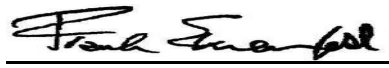
<u>Percent Asbestos:</u> <b>PC 2.4 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.6
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<b>Lab No.:</b> 7067241 <b>Client No.:</b> WMS0920-A25	<b>Analyst Observation:</b> Off-White Glazing <b>Client Description:</b> Cream, Hard Window Glazing Compound at Edge of Glass (21" x 7'-8")	<b>Location:</b> Attic Above PT. Loose Stored Glass. - Photo R676 & 7
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<u>Percent Asbestos:</u> <b>PC 4.2 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.8
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Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director



CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 9/25/2020 Report No.: 620075 - PLM Project: Wrangell Medical Center Project No.: 7795-03
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7067242 <b>Client No.:</b> WMS0920-A26	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Sealant at Round Adjustable Duct	<b>Location:</b> Attic Above PT. Loose Stored Duct. - Photo R678 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 10 Talc	<b>Percent Non-Fibrous Material:</b> 90


<b>Lab No.:</b> 7067243 <b>Client No.:</b> WMS0920-A27	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Sealant at Round Adjustable Duct	<b>Location:</b> Attic Above Reception Area. Active Duct. - Photo B100 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 10 Talc	<b>Percent Non-Fibrous Material:</b> 90

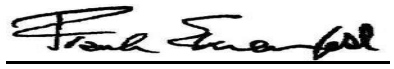
<b>Lab No.:</b> 7067244 <b>Client No.:</b> WMS0920-A28	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> Chalky White Hard Fitting Insulation	<b>Location:</b> Attic Above Surgery Area. Debris on Ceiling. - Photo B101 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>15 Chrysotile PC 5 Amosite</i>	<b>Percent Non-Asbestos Fibrous Material:</b> None Detected	<b>Percent Non-Fibrous Material:</b> 80

<b>Lab No.:</b> 7067245 <b>Client No.:</b> WMS0920-A29	<b>Analyst Observation:</b> Black Tar Paper <b>Client Description:</b> Tarry Craft Paper From Behind Cedar Shingle Siding	<b>Location:</b> Attic. Former Exterior Wall of 1974 Era. - B102 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 30 Cellulose	<b>Percent Non-Fibrous Material:</b> 70

<b>Lab No.:</b> 7067246 <b>Client No.:</b> WMS0920-A30	<b>Analyst Observation:</b> Red Sealant <b>Client Description:</b> Red Duct Sealant	<b>Location:</b> Attic Above 1967 Era. Loose Duct in Attic Space. - Photo R734 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>PC 4.4 Chrysotile</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 3 Talc	<b>Percent Non-Fibrous Material:</b> 92.6

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 9/25/2020  
Date Analyzed: 09/25/2020  
Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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CERTIFICATE OF ANALYSIS

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 9/25/2020  
Report No.: 620075 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-03

Client: EHS511

## Appendix to Analytical Report

**Customer Contact:** Cali Swatowski

**Method:** 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, and USEPA 600, R93-116 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com

**iATL Office Manager:** wchampion@iatl.com

**iATL Account Representative:** Semih Kocahasan

**Sample Login Notes:** See Batch Sheet Attached

**Sample Matrix:** Bulk Building Materials

**Exceptions Noted:** See Following Pages

### General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at [www.iATL.com](http://www.iATL.com) and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

### Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

### Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

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CERTIFICATE OF ANALYSIS

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11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 9/25/2020  
Report No.: 620075 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-03

Client: EHS511

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)  
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

### Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at [customerservice@iatl.com](mailto:customerservice@iatl.com).

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

### Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov), United States Geological Survey (USGS) [www.minerals.usgs.gov/minerals/](http://www.minerals.usgs.gov/minerals/), US EPA [www.epa.gov/asbestos](http://www.epa.gov/asbestos). The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite ([https://www.wadsworth.org/sites/default/files/WebDoc/I198\\_8\\_02\\_2.pdf](https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf))

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116  
**Requirements/Comments:** Minimum of 0.1 g of sample. ~0.25% for most samples.

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CERTIFICATE OF ANALYSIS

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Client: EHS511

Report Date: 9/25/2020  
Report No.: 620075 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-03

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Suspension" only.  
\*With advance notice and confirmation by the laboratory.

\*\*Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).



**EHS ALASKA**  
INCORPORATED

EHS Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

PROJECT NO: <b>7795-03</b>	PROJECT NAME: <b>Wrangell Medical Center</b>	FACILITY: <b>Wrangell Medical Center</b>	COLLECTION DATE: <b>09-17-2020</b>
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**CHAIN OF CUSTODY RECORD**

ANALYSIS REQUESTED:	<input checked="" type="checkbox"/> PLM BULK	<input type="checkbox"/> PLM DUST	<input type="checkbox"/> TEM BULK	TYPE:	TURNAROUND:	DISPOSAL:	QUANTITY:
	<input type="checkbox"/> LEAD DUST	<input type="checkbox"/> LEAD TCLP	<input type="checkbox"/> LEAD PPM	<input checked="" type="checkbox"/> ASBESTOS	3 DAYS	NORMAL	92
	<input type="checkbox"/> TEM MICROVAC DUST (ASTM 5756)			<input type="checkbox"/> LEAD			

COLLECTED BY (signature) <i>Robert A. French</i>	SELECTED LABORATORY <b>IATL</b>	SPECIAL INSTRUCTIONS / COMMENTS:  <b>LAB: RETURN A SIGNED COPY OF THIS FORM WITH THE FINAL REPORT TO EHS-ALASKA, INC.</b>  See sample location drawing for more detailed explanation of exact locations.  <i>90 Asbestos None Detected = ND</i>
PRINTED NAME <b>Robert A. French.</b>	SAMPLES ACCEPTED BY	
CERT# / AHERA# <b>1564 88IMP-0028</b>	DATE/TIME	
SHIPPING METHOD <b>Fed Ex</b>	ANALYST'S SIGNATURE	
COURIER (signature) <b>7716 9397 3267</b>	DATE	

**FIELD SURVEY DATA**

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A31 7072792	Gray-green mastic of Stainless Corner Guard	Attic near 1974 era. Loose stored corner guard. Photo B103	None Detected
WMC920-A32 7072793	Built-up Roofing of 1974 era flat roof, with brown perlite board insulation	Attic of 1974 era. Under loose fiberglass at exhaust duct penetration through old roof into attic. Photo B104	20% chrysotile ND in Perlite
WMC920-A33 7072794	Tarry vapor barrier and tar and fesco board	Attic of 1974 era. Bottom of roof assembly at exhaust duct penetration through old roof into attic. Photo R745 & 746	None Detected Both layers
WMC920-A34 7072795	Probably hot mop and fesco board	Attic of 1974 era. Middle layer of fesco board insulation at exhaust duct penetration through old roof into attic. Photo R747	None Detected both layers
WMC920-A35 7072796	Built-up Roofing of 1974 era flat roof with brown perlite board insulation	Attic of 1974 era. Under loose fiberglass at supply duct penetration through old roof into attic. Photo R749	20% Chrysotile in 3 BUR layers. ND in perlite
WMC920-A36 7072797	Tarry vapor barrier and tar and fesco board	Attic of 1974 era. Bottom of roof assembly at supply duct penetration through old roof into attic. Photo R750	None Detected
WMC920-A37 7072798	ATCO Roof patch tar	Attic near 1974 era. Loose 5 gal can of Part # 1823. Photo R733	6.2% chrysotile
WMC920-A38 7072799	Tar paper under T&G Siding	Attic at "exterior" side of original 1967 Fan Room. Photo R762	None Detected
WMC920-A39 7072800	Tar paper and GWB sheathing under T&G Siding	Attic at "exterior" side of original 1967 Fan Room. Photo R763 & 4	None Detected Three layers



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INCORPORATED

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11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7795-03	Wrangell Medical Center	Wrangell Medical Center	09-17-2020
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A40 7072801	White silicone sealant at roofing	Metal Roof under valley flashing canopy near main entrance. Photo R782 & 783	None Detected
WMC920-A41 7072802	Gray rubbery roof sealant	Metal Roof sealant under edge flashing, near main entrance. Photo R782 & 783	None Detected
WMC920-A42 7072803	Clear silicone sealant at fascia of roofing	Metal Roof at lap joint of metal drip ledge over EFIS. Photo R787	None Detected
WMC920-A43 7072804	Clear yellow sealant at roofing	Metal Roof, sealant between roofing and metal angle edge flashing into gutter. Photo R786	None Detected
WMC920-A44 7072805	Tar paper under metal roofing	Metal roof, under main roof, over decking. Photo R789	None Detected
WMC920-A45 7072806	Foam Robber filler at roofing	Metal roof, at edge box of roofing. B105	None Detected
WMC920-A46 7072807	Gray sticky putty sealant at roofing	Under metal roof, at edge flashing. B106	None Detected
WMC920-A47 7072808	EFIS Stucco & sealant	At column of main entrance drive-through. Photo B109	None Detected Both layers
WMC920-A48 7072809	GWB. of Soffit	At water damaged at underside of soffit at main entrance drive-through. Photo R791-793	None Detected
WMC920-A49 7072810	Joint compound of soffit	At water damaged at underside of soffit at main entrance drive-through. Photo R791-793	None Detected
WMC920-A50 7072811	Concrete Sacking	Exterior Foundation wall of 1974 Addition, At snap-tie hole. Photo B110	None Detected
WMC920-A51 7072812	Gypsum wall board, joint compound & tape	Ceiling of exterior soffit of walkway going to "morgue door". Photo R807	None Detected Both layers
WMC920-A52 7072813	Gray sticky sealant	Between door frame and concrete of "morgue door" to 1974 era. Photos R805 & 806	None Detected Both layers



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PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7795-03	Wrangell Medical Center	Wrangell Medical Center	09-17-2020
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A53 7072814	White window frame sealant	Between window frame and EFIS. Photo B111	None Detected
WMC920-A54 7072815	Harder cream sealant	Sealant at plywood of boarded up window around Air Conditioning Unit. Photo B112 & 113	None Detected
WMC920-A55 7072816	Black Tarry Waterproofing at foundation	In crawl space. At former exterior wall of 1974 addition. Photo R836 & 837	None Detected
WMC920-A56 7072817	Cement asbestos pipe	In crawl space. At capped pipe coming out of soil. Photo B114, R832	10% Chrysotile 10% Crocidolite
WMC920-A57 7072818	Cement asbestos pipe	In crawl space. At active sewer pipe. Photo B118, R841	12% Chrysotile 8% Crocidolite
WMC920-A58 7072819	Hard Fitting insulation	In crawl space. Probably on a hot water pipe. Photo R843 & 845	0.5% Chrysotile 1.2% Crocidolite ND in yellow fiberglass
WMC920-A59 7072820	Hard Fitting insulation	In crawl space, on ground. Photo R855	20% Chrysotile 1.5% Crocidolite
WMC920-A60 7072821	Black Tarry Waterproofing at foundation	At exterior wall of 1974 addition. Photo R885	None Detected
WMC920-A61 7072822	Sticky cream sealant at EFIS	At EFIS over 1974 addition. Between metal frame of louver & EFIS. Photo B119	None Detected
WMC920-A62 7072823	Sticky cream sealant at EFIS	At EFIS over 1988 addition. Between metal frame of window & EFIS. Photo R1674 & 1675	None Detected
WMC920-A63 7072824	Black rubbery glazing at alum windows	Aluminum framed window of 1988 addition. Photo R1674 & 1675	4.5% Chrysotile
WMC920-A64 7072825	Sticky cream sealant at EFIS	At EFIS over 1988 addition. Between GWB soffit & EFIS. Photo R1677	None Detected
WMC920-A65 7072826	Whiter caulking at EFIS	At EFIS over 1988 addition. Between metal generator louver & EFIS. Photo R1678	None Detected



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7795-03	Wrangell Medical Center	Wrangell Medical Center	09-17-2020
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION, (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A66 7072827	Pinkish caulking	At 1988 addition. Between metal generator louver & louver frame. Photo R1679	None Detected
WMC920-A67 7072828	EFIS Stucco & fiberglass mesh	At 1988 addition. At drip edge of EFIS. Photo R1692	None Detected
WMC920-A68 7072829	Clear sealant at window	At 1992 addition. At wood frame to plastic window joint. Photo R1693	None Detected
WMC920-A69 7072830	White sealant at siding	At 1992 addition. At vent pipe penetration of metal siding. Photo R1719	None Detected
WMC920-A70 7072831	White sealant at soffit fascia	At 1992 addition. At lap joint of lower soffit flashing. Photo R1721	None Detected
WMC920-A71 7072832	White sealant at standing seam roof.	At 1992 addition. At folded top seam of rib joints. Photo R1722	None Detected
WMC920-A72 7072833	Tar paper under metal roofing	At 1992 addition. Under main metal roofing. Photo R1724	None Detected
WMC920-A73 7072834	Gray sealant at metal roofing	At 1992 addition. At flashing between metal siding and transition flashing over vestibule roof. Photo R1725	None Detected
WMC920-A74 7072835	Sticky cream sealant at EFIS	At EFIS over 1988 addition. At Fire Dept. Connection. Photo R1680 R 1726 and B223	None Detected
WMC920-A75 7072836	Sticky cream sealant at EFIS	At EFIS over 1967 Orig. Between GWB soffit & EFIS. Photo B224	None Detected
WMC920-A76 7072837	Gypsum board & Joint compound	1992 Addition. Corner of Rm 25, Bulk Storage. Photo R1850	None Detected Three layers
WMC920-A77 7072838	CB-1, 4" gray cove base with cream mastic, joint compound and gypsum wall board	1992 Addition. Corner of Rm 29, Vestibule. Photo R1859	None Detected Five layers
WMC920-A78 7072839	Gypsum wall board & joint compound	1967 era, Sprinkler Room 30, but wall supposedly built with 1988 addition. Photo R1870	None Detected Three layers





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7795-03	Wrangell Medical Center	Wrangell Medical Center	09-17-2020
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION. (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A79 7072840	Gypsum wall board & joint compound	1967 era, Sprinkler Room 30, 1967 exterior wall. Photo R1871 <i>Composite 0.25%</i>	ND in GWB 2.8% chrysotile in JC
WMC920-A80 7072841	CB-2, 4" green (painted) cove base with dark brown mastic.	1967 era, Sprinkler Room 30, 1967 exterior wall. Appears original. Photo R1871	None Detected both layers
WMC920-A81 7072842	Hard fitting insulation	1967 era, Boiler Rm. 108. On yellow boiler supply pipe. Photo R1918	10% Chrysotile
WMC920-A82 7072843	Hard fitting insulation	1967 era, Boiler Rm. 108. On yellow boiler supply pipe. Photo R1919	10% Chrysotile, trace Amosite
WMC920-A83 7072844	Hard fitting insulation	1967 era, Boiler Rm. 108. On blue cold water supply. Photos R1908 & 1925	10% Chrysotile, Trace Amosite
WMC920-A84 7072845	Black tarry coating inside ceiling speaker box	1988 era. Staff Lounge, 115. Inside red speaker box. Photos R1940 & 1941	None Detected
WMC920-A85 7072846	LCT-2, 2' x 4' "Galaxy" pattern suspended ceiling tile. Random small fissures	1988 era. Staff Lounge, 115. Main tile in room. Photo R1938	None Detected
WMC920-A86 7072847	CB-2, 4" green (painted) cove base with dark brown mastic & old (on back of CB) & newer Jo(on face of CB) int Compound	1967 era, Elec Rm 34, Possible 1988 wall, but appears original. Photo B229	ND - 3 layers 2.6% chrysotile in joint Comp.
WMC920-A87 7072848	LCT-1, 2' x 4' shallow directional fissures, 1/16" & 1/8" holes	1967 era, but newer tile. Hallway to 1992 addition. Photo B230	None Detected
WMC920-A88 7072849	SV-1, cream sheet vinyl with white shading and tiny brown specks	1967 era, but newer flooring. Hallway to 1992 addition. Photo B231	None Detected both layers
WMC920-A89 7072850	CB-3, Gray 4" cove base with light tan mastic.	1988 addition, Janitor Closet 109. Photo R1958 & 1959	None Detected both layers
WMC920-A90 7072851	SV-2, Cream with small 3/8" & smaller light tan & gray chips, tan mastic	1988 addition, Janitor Closet 109. Photo R1959	None Detected both layers
WMC920-A91 7072852	"Ventglas" Black neoprene duct flexible connector	1967 Penthouse Fan Rm. At exhaust fan #10019. Photo B232 & 233	None Detected
WMC920-A92 7072853	"Ventglas" Black neoprene duct flexible connector	1967 Penthouse Fan Rm. At central AHU. Photo B234	None Detected



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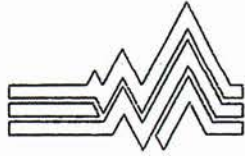
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(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

PROJECT NO:	PROJECT NAME:	FACILITY:	COLLECTION DATE:
7795-03	Wrangell Medical Center	Wrangell Medical Center	09-17-2020
FIELD SURVEY DATA			
EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION. (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/XREF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A93 7072854	SV-1, cream sheet vinyl with white shading and tiny brown specks, brown mastic	1967 era, but newer flooring. Store Rm 102. Photo R1966	None Detected both layers
WMC920-A94 7072855	Leveling compound or "Float" over concrete	1967 era. Store Rm 102. Appears to be 1/2" thick over painted concrete. Photo R1966 & 1967	None Detected
WMC920-A95 7072856	Tar paper between layers of plywood (ignore wood)	1967 era. At hatch in Janitor Closet 38. Appears to be original slipsheet between plywood subfloor and plywood underlayment. Photo R1975	None Detected
WMC920-A96 7072857	Tar mastic? under particle board (ignore wood)	1967 era. At hatch in Janitor Closet 38. Appears to be original black mastic under particle board underlayment. Photo R1975	4.1% Chrysotile
WMC920-A97 7072858	SV-1, cream sheet vinyl with white shading and tiny brown specks, brown mastic, particle board (ignore wood)	1967 era. At hatch in Janitor Closet 38. Top layer over particle board. Photo R1975	None Detected both layers
<i>fast</i> → WMC920-A98 7072859	SV-3, fake wood sheet flooring, white leveling compound, sticky brown contact cement	1988 era, PT Room, 132. At in-floor duct grille by entrance. Photo R1992	None Detected Three layers
WMC920-A99 7072860	White leveling compound, brown mastic	1988 era, PT Room, 132. At in-floor duct grille by entrance. Photo R1992	None Detected both layers
WMC920-A100 7072861	Brown mastic on side of metal duct	1988 era, PT Room, 132. Probably original mastic. At in-floor duct grille by entrance. Photo R1993	None Detected
WMC920-A101 7072862	White seal at ductwork	1988 era, PT Room, 132. At opposed blade damper in relief. Photo R1998	None Detected
WMC920-A102 7072863	Gypsum wall board and joint compound	1988 era, PT Room, 132. At wall above ceiling grid. Nailed-on. Photo R2001	None Detected both layers
WMC920-A103 7072864	SV-2, Cream with small 3/8" & smaller light tan & gray chips, tan mastic (ignore wood)	1988 era, Closet 143. At hatch to crawl space. Photo R2052, 2062	None Detected both layers
WMC920-A104 7072865	CB-3, Gray 4" cove base with cream mastic.	1988 era, Exam Rm 151. Photo R2090	None Detected both layers
WMC920-A105 7072866	Yellow carpet mastic	1988 era, Hallway outside Restroom 142. Photo R2091	None Detected
WMC920-A106 7072867	Yellow carpet mastic & gray leveling compound	1988 Era, Waiting Area 81, by vestibules. Photo B260	None Detected both layers



**EHS ALASKA**  
INCORPORATED

EHS Alaska, Inc.

11901 Business Blvd., Suite 208, Eagle River, AK 99577

(907) 694-1383 • (907) 694-1382 fax

e-mail • [ehsak@ehs-alaska.com](mailto:ehsak@ehs-alaska.com)

PROJECT NO: <b>7795-03</b>	PROJECT NAME: <b>Wrangell Medical Center</b>	FACILITY: <b>Wrangell Medical Center</b>	COLLECTION DATE: <b>09-17-2020</b>
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**FIELD SURVEY DATA**

EHS SAMPLE NO. LAB ID NO	SAMPLE DESCRIPTION. (COLOR, MATERIAL TYPE, LAYERS, FRIABILITY)	LOCATION/COMMENTS (INCLUDING PHOTO/REF)	RESULTS FOR EHS-ALASKA USE ONLY
WMC920-A107 7072868	Joint compound	1988 Era, Waiting Area 81, by corner near Admin 79. Photo B261	None Detected
WMC920-A108 7072869	Gypsum wall board <i>and Joint Compound</i>	1988 Era, Waiting Area 81, by corner near Admin 79. Photo B262	None Detected <i>Both layers</i>
WMC920-A109 7072870	Exterior stucco of EFIS at added walls around Dining/Activity 69 <i>w/white foam</i>	Unknown date, reportedly within the past 10 years. Photo B263	None Detected <i>both layers</i>
WMC920-A110 7072871	Exterior stucco, red sealant of EFIS at added walls around Dining/Activity 69	Unknown date, reportedly within the past 10 years. Photo R2251	None Detected
WMC920-A111 7072872	Black rubber stair tread with brown mastic	1974 era. Base of stairs. Photo R2262	None Detected <i>both layers</i>
WMC920-A112 7072873	Black rubber stair stringer with brown mastic	1974 era. Base of stairs. Photo R2263	<i>10% Chrysotile in Stringer ND in Mastic</i>
WMC920-A113 7072874	Black Sink undercoating	1974 era. Break Rm. 9 Stainless steel sink. Photo R2272	<i>2.6% Chrysotile</i>
WMC920-A114 7072875	"Marlite" and brown mastic	1974 era. Restroom 12. At cleanout. Photo R2277	<i>ND in Marlite Trace chrys. in Mastic</i>
WMC920-A115 7072876	White, chalky fire door insulation	1974 era. Door between back hallway and Laundry 15. UL listed 1.5 hour rating. Photo R2279	<i>60% Chrysotile</i>
WMC920-A116 7072877	Red duct sealant	1974 era. Mech/fan Rm. 3 on Mixing side of plenum wall. Photo R2289	<i>5.2% Chrysotile</i>
WMC920-A117 7072878	Red duct sealant	1974 era. Mech/fan Rm. 3 at bare steel flange. Photo B264	<i>5.0% Chrysotile</i>
WMC920-A118 7072879	Gray sealant at Fan sections	1974 era. Mech/fan Rm. 3. Fan 10013. Photo R2290	None Detected
WMC920-A119 7072880	"Ventglas" Black neoprene duct flexible connector	1974 era. Mech/fan Rm. 3. Outlet side of Squirrel fan. Photo R2291	None Detected
WMC920-A120 7072881	Gray ceramic tile grout	1974 era. Restroom 12. Loose grout in crack in base by door Photo R2278	None Detected



CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072792	<b>Analyst Observation:</b> Tan Mastic	<b>Location:</b> Attic Near 1974 Era, Loose Store
<b>Client No.:</b> WMC920-A31	<b>Client Description:</b> Gray-Green Mastic Of Stainless Corner Guard	<b>Corner Guard</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100


<b>Lab No.:</b> 7072793	<b>Analyst Observation:</b> Black Roof Material	<b>Location:</b> Attic Of 1974 Era, Under Loose
<b>Client No.:</b> WMC920-A32	<b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Fiberglass At Exhaust Duct Penetration Through Old Roof Into Attic</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>20 Chrysotile</i>	10 Cellulose	70


<b>Lab No.:</b> 7072793(L2)	<b>Analyst Observation:</b> Brown Roof Material	<b>Location:</b> Attic Of 1974 Era, Under Loose
<b>Client No.:</b> WMC920-A32	<b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Fiberglass At Exhaust Duct Penetration Through Old Roof Into Attic</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	25 Cellulose 10 Fibrous Glass	65

<b>Lab No.:</b> 7072794	<b>Analyst Observation:</b> Black Tar	<b>Location:</b> Attic Of 1974 Era, Bottom Of
<b>Client No.:</b> WMC920-A33	<b>Client Description:</b> Tarry Vapor Barrier And Tar And Fesco Board	<b>Roof Assembly At Exhaust Duct Penetration Through Old Roof Into Attic</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 7072794(L2)	<b>Analyst Observation:</b> Brown Roof Material	<b>Location:</b> Attic Of 1974 Era, Bottom Of
<b>Client No.:</b> WMC920-A33	<b>Client Description:</b> Tarry Vapor Barrier And Tar And Fesco Board	<b>Roof Assembly At Exhaust Duct Penetration Through Old Roof Into Attic</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	30 Cellulose	70

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/06/2020  
Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072795 <b>Client No.:</b> WMC920-A34	<b>Analyst Observation:</b> Black Tar <b>Client Description:</b> Probably Hot Mop And Fesco Board	<b>Location:</b> Attic Of 1974 Era, Middle Layer Of Fesco Board Insulation At Exhaust Duct Penetration Through Old Ro
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<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
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<b>Lab No.:</b> 7072795(L2) <b>Client No.:</b> WMC920-A34	<b>Analyst Observation:</b> Brown Insulation <b>Client Description:</b> Probably Hot Mop And Fesco Board	<b>Location:</b> Attic Of 1974 Era, Middle Layer Of Fesco Board Insulation At Exhaust Duct Penetration Through Old Ro
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<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
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<b>Lab No.:</b> 7072796 <b>Client No.:</b> WMC920-A35	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Location:</b> Attic Of 1974 Era, Under Loose Fiberglass At Supply Duct Penetration Through Old Roof Into Attic
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<u>Percent Asbestos:</u> <i>20 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
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<b>Lab No.:</b> 7072796(L2) <b>Client No.:</b> WMC920-A35	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Location:</b> Attic Of 1974 Era, Under Loose Fiberglass At Supply Duct Penetration Through Old Roof Into Attic
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<u>Percent Asbestos:</u> <i>20 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
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<b>Lab No.:</b> 7072796(L3) <b>Client No.:</b> WMC920-A35	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Location:</b> Attic Of 1974 Era, Under Loose Fiberglass At Supply Duct Penetration Through Old Roof Into Attic
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<u>Percent Asbestos:</u> <i>20 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
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Date Received: 10/5/2020  
Date Analyzed: 10/06/2020  
Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


CERTIFICATE OF ANALYSIS

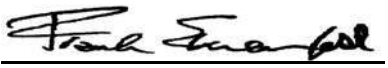
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072796(L4) <b>Client No.:</b> WMC920-A36	<b>Analyst Observation:</b> Brown Roof Material <b>Client Description:</b> Built-Up Roofing Of 1974 Era Flat Roof W/Brown Perlite Board Insulation	<b>Location:</b> Attic Of 1974 Era, Under Loose Fiberglass At Supply Duct Penetration Through Old Roof Into Attic <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
<b>Lab No.:</b> 7072797 <b>Client No.:</b> WMC920-A36	<b>Analyst Observation:</b> Black Roof Material <b>Client Description:</b> Tarry Vapor Barrier And Tar And Fesco Board	<b>Location:</b> Attic Of 1974 Era, Bottom Of Roof Assembly At Supply Duct Penetration Through Old Roof Into Attic <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose	<u>Percent Non-Fibrous Material:</u> 70
<b>Lab No.:</b> 7072798 <b>Client No.:</b> WMC920-A37	<b>Analyst Observation:</b> Black Tar <b>Client Description:</b> ATCO Roof Patch Tar	<b>Location:</b> Attic Near 1974 Era, Loose 5 Gal Can Of Part #1823 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC 6.2 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 91.8
<b>Lab No.:</b> 7072799 <b>Client No.:</b> WMC920-A38	<b>Analyst Observation:</b> Grey Tar Paper <b>Client Description:</b> Tar Paper Under T And G Siding	<b>Location:</b> Attic At Exterior Side Of Original 1967 Fan Rm <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 25 Cellulose	<u>Percent Non-Fibrous Material:</u> 75
<b>Lab No.:</b> 7072800 <b>Client No.:</b> WMC920-A39	<b>Analyst Observation:</b> Grey Tar Paper <b>Client Description:</b> Tar Paper And GWS Sheathing Under T And G Siding	<b>Location:</b> Attic At Exterior Side Of Original 1967 Fan Rm <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 25 Cellulose	<u>Percent Non-Fibrous Material:</u> 75

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Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7072800(L2)      **Analyst Observation:** Black Tar      **Location:** Attic At Exterior Side Of Original  
**Client No.:** WMC920-A39      **Client Description:** Tar Paper And GWB Sheathing Under T      1967 Fan Rm  
And G Siding      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 7072800(L3)      **Analyst Observation:** Tan Drywall      **Location:** Attic At Exterior Side Of Original  
**Client No.:** WMC920-A39      **Client Description:** Tar Paper And GWB Sheathing Under T      1967 Fan Rm  
And G Siding      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      10 Cellulose      90


**Lab No.:** 7072801      **Analyst Observation:** White Sealant      **Location:** Metal Roof Under Valley  
**Client No.:** WMC920-A40      **Client Description:** White Silicone Sealant At Roofing      Flashing Canopy Near Main Entrance  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

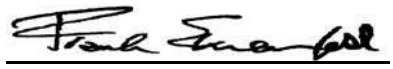
**Lab No.:** 7072802      **Analyst Observation:** Grey Sealant      **Location:** Metal Roof Sealant Under Edge  
**Client No.:** WMC920-A41      **Client Description:** Gray Rubbery Roof Sealant      Flashing, Near Main Entrance  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 7072803      **Analyst Observation:** Clear Sealant      **Location:** Metal Roof At Lap Joint Of  
**Client No.:** WMC920-A42      **Client Description:** Clear Silicone Sealant At Fascia Of      Metal Drip Ledge Over EFIS  
Roofing      **Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 7072804      **Analyst Observation:** Yellow Sealant      **Location:** Metal Roof, Sealant Between  
**Client No.:** WMC920-A43      **Client Description:** Clear Yellow Sealant At Roofing      Roofing And Metal Angle Edge Flashing  
Into Gutter  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

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Date Received: 10/5/2020  
Date Analyzed: 10/06/2020  
Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director



CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7072805      **Analyst Observation:** Black Tar Paper      **Location:** Metal Roof, Under Main Roof,  
**Client No.:** WMC920-A44      **Client Description:** Tar Paper Under Metal Roofing      Over Decking  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      20 Cellulose      80

**Lab No.:** 7072806      **Analyst Observation:** Grey Foam      **Location:** Metal Roof, At Edge Box Of  
**Client No.:** WMC920-A45      **Client Description:** Foam Robber Filler At Roofing      Roofing  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100


**Lab No.:** 7072807      **Analyst Observation:** Grey Sealant      **Location:** Under Metal Roof, At Edge  
**Client No.:** WMC920-A46      **Client Description:** Gray Sticky Putty Sealant At Roofing      Flashing  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

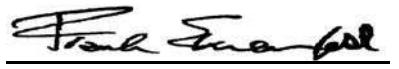
**Lab No.:** 7072808      **Analyst Observation:** Grey Sealant      **Location:** At Column Of Main Entrance  
**Client No.:** WMC920-A47      **Client Description:** EFIS Stucco And Sealant      Drive-Through  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 7072808(L2)      **Analyst Observation:** Tan Stucco      **Location:** At Column Of Main Entrance  
**Client No.:** WMC920-A47      **Client Description:** EFIS Stucco And Sealant      Drive-Through  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      10 Fibrous Glass      90

**Lab No.:** 7072809      **Analyst Observation:** White Drywall      **Location:** At Water Damaged At Underside  
**Client No.:** WMC920-A48      **Client Description:** GWB Of Soffit      Of Soffit At Main Entrance Drive-Through  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      2 Cellulose      90  
8 Fibrous Glass

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/06/2020  
Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7072810      **Analyst Observation:** White Joint Compound  
**Client No.:** WMC920-A49      **Client Description:** Joint Compound Of Soffit      **Location:** At Water Damaged At Underside Of Soffit At Main Entrance Drive-Through  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

**Lab No.:** 7072811      **Analyst Observation:** Grey Concrete  
**Client No.:** WMC920-A50      **Client Description:** Concrete Sacking      **Location:** Exterior Foundation Wall Of 1974 Addition, At Snap-Tie Hole  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100


**Lab No.:** 7072812      **Analyst Observation:** White Joint Compound  
**Client No.:** WMC920-A51      **Client Description:** Gypsum Wallboard/Joint Compound/Tape      **Location:** Ceiling Of Exterior Soffit Of Walkway Going To Morgue Door  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

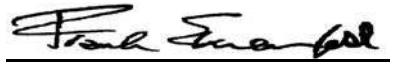
**Lab No.:** 7072812(L2)      **Analyst Observation:** White Tape  
**Client No.:** WMC920-A51      **Client Description:** Gypsum Wallboard/Joint Compound/Tape      **Location:** Ceiling Of Exterior Soffit Of Walkway Going To Morgue Door  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      75 Cellulose      25

**Lab No.:** 7072813      **Analyst Observation:** Grey Sealant  
**Client No.:** WMC920-A52      **Client Description:** Gray Sticky Sealant      **Location:** Between Door Frame And Concrete Of Morgue Door To 1974 To Era  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      2 Cellulose      98

**Lab No.:** 7072813(L2)      **Analyst Observation:** Black Foam  
**Client No.:** WMC920-A52      **Client Description:** Gray Sticky Sealant      **Location:** Between Door Frame And Concrete Of Morgue Door To 1974 To Era  
**Facility:**  
Percent Asbestos:      Percent Non-Asbestos Fibrous Material:      Percent Non-Fibrous Material:  
*None Detected*      None Detected      100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/06/2020  
Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


CERTIFICATE OF ANALYSIS


Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072814 <b>Client No.:</b> WMC920-A53	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Window Frame Sealant	<b>Location:</b> Between Window Frame And EFIS <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072815 <b>Client No.:</b> WMC920-A54	<b>Analyst Observation:</b> Cream Sealant <b>Client Description:</b> Harder Cream Sealant	<b>Location:</b> Sealant At Plywood Of Boarded Up Window Around Air Conditioning Unit <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072816 <b>Client No.:</b> WMC920-A55	<b>Analyst Observation:</b> Black Sealant <b>Client Description:</b> Black Tarry Waterproofing At Foundation	<b>Location:</b> In Crawl Space, At Former Exterior Wall Of 1974 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072817 <b>Client No.:</b> WMC920-A56	<b>Analyst Observation:</b> Grey Cement Product <b>Client Description:</b> Cement Asbestos Pipe	<b>Location:</b> In Crawl Space, At Capped Pipe Coming Out Of Soil <b>Facility:</b>
<u>Percent Asbestos:</u> <b>10 Chrysotile</b> <b>10 Crocidolite</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 80
<b>Lab No.:</b> 7072818 <b>Client No.:</b> WMC920-A57	<b>Analyst Observation:</b> Grey Cement Product <b>Client Description:</b> Cement Asbestos Pipe	<b>Location:</b> In Crawl Space, At Active Sewer Pipe <b>Facility:</b>
<u>Percent Asbestos:</u> <b>12 Chrysotile</b> <b>PC 8 Crocidolite</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 80

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Signature:   
Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072819 <b>Client No.:</b> WMC920-A58	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> In Crawl Space, Probably On A Hot Water Pipe <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 73.3
<b>Percent Asbestos:</b> <i>PC 0.5 Chrysotile</i> <i>PC 1.2 Crocidolite</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 25 Fibrous Glass	


<b>Lab No.:</b> 7072819(L2) <b>Client No.:</b> WMC920-A58	<b>Analyst Observation:</b> Yellow Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> In Crawl Space, Probably On A Hot Water Pipe <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 10
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 90 Fibrous Glass	

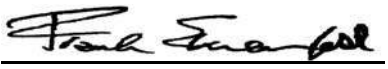
<b>Lab No.:</b> 7072820 <b>Client No.:</b> WMC920-A59	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> In Crawl Space, On Ground <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 65.5
<b>Percent Asbestos:</b> <i>20 Chrysotile</i> <i>PC 1.5 Crocidolite</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 3 Cellulose 10 Fibrous Glass	

<b>Lab No.:</b> 7072821 <b>Client No.:</b> WMC920-A60	<b>Analyst Observation:</b> Black Sealant <b>Client Description:</b> Black Tarry Waterproofing At Foundation	<b>Location:</b> At Exterior Wall Of 1974 Addition <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> None Detected	

<b>Lab No.:</b> 7072822 <b>Client No.:</b> WMC920-A61	<b>Analyst Observation:</b> Cream Sealant <b>Client Description:</b> Sticky Cream Sealant At EFIS	<b>Location:</b> At EFIS Over 1974 Addition, Between Metal Frame Of Louver And EFIS <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> None Detected	

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Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577


Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

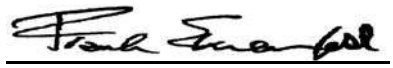
Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072823 <b>Client No.:</b> WMC920-A62	<b>Analyst Observation:</b> Clear Sealant <b>Client Description:</b> Sticky Cream Sealant At EFIS	<b>Location:</b> At EFIS Over 1988 Addition, Between Metal Frame Of Window And EFIS <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072824 <b>Client No.:</b> WMC920-A63	<b>Analyst Observation:</b> Black Glazing <b>Client Description:</b> Black Rubbery Glazing At Alum Windows	<b>Location:</b> Aluminum Framed Window Of 1988 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC 4.5 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.5
<b>Lab No.:</b> 7072825 <b>Client No.:</b> WMC920-A64	<b>Analyst Observation:</b> Cream Sealant <b>Client Description:</b> Sticky Cream Sealant At EFIS	<b>Location:</b> At EFIS Over 1988 Addition, Between GWB Soffit And EFIS <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 3 Talc	<u>Percent Non-Fibrous Material:</u> 97
<b>Lab No.:</b> 7072826 <b>Client No.:</b> WMC920-A65	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> Whiter Caulking At EFIS	<b>Location:</b> At EFIS Over 1988 Addition, Between Metal Generator Louver And EFIS <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072827 <b>Client No.:</b> WMC920-A66	<b>Analyst Observation:</b> Pink Caulk <b>Client Description:</b> Pinkish Caulking	<b>Location:</b> At 1988 Addition, Between Metal Generator Louver And Louver Frame <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072828 <b>Client No.:</b> WMC920-A67	<b>Analyst Observation:</b> Tan/Grey Stucco <b>Client Description:</b> EFIS Stucco And Fiberglass Mesh	<b>Location:</b> At 1988 Addition, At Drip Edge Of EFIS <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose 10 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 88

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Frank E. Ehrenfeld, III  
Laboratory Director


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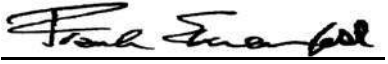
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072829 <b>Client No.:</b> WMC920-A68	<b>Analyst Observation:</b> Clear Sealant <b>Client Description:</b> Clear Sealant At Window	<b>Location:</b> At 1992 Addition, At Wood Frame To Plastic Window Joint <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072830 <b>Client No.:</b> WMC920-A69	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Sealant At Siding	<b>Location:</b> At 1992 Addition, At Vent Pipe Penetration Of Metal Siding <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072831 <b>Client No.:</b> WMC920-A70	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Sealant At Soffit Fascia	<b>Location:</b> At 1992 Addition, At Lap Joint Of Lower Soffit Flashing <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

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Analyst: Sarah Lipiecki

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072832 <b>Client No.:</b> WMC920-A71	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Sealant At Standing Seam Roof	<b>Location:</b> At 1992 Addition, At Folded Top Seam Of Rib Joints <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	


<b>Lab No.:</b> 7072833 <b>Client No.:</b> WMC920-A72	<b>Analyst Observation:</b> Black Tar Paper <b>Client Description:</b> Tar Paper Under Metal Roofing	<b>Location:</b> At 1992 Addition, Under Main Metal Roofing <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 35
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 65 Cellulose	


<b>Lab No.:</b> 7072834 <b>Client No.:</b> WMC920-A73	<b>Analyst Observation:</b> Grey Sealant <b>Client Description:</b> Gray Sealant At Metal Roofing	<b>Location:</b> At 1992 Addition, At Flashing Between Metal Siding And Transition Flashing Over Vestibule Roof <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

<b>Lab No.:</b> 7072835 <b>Client No.:</b> WMC920-A74	<b>Analyst Observation:</b> Off-White Sealant <b>Client Description:</b> Sticky Cream Sealant At EFIS	<b>Location:</b> At EFIS Over 1988 Addition, At Fire Dept Connection <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

<b>Lab No.:</b> 7072836 <b>Client No.:</b> WMC920-A75	<b>Analyst Observation:</b> Off-White Sealant <b>Client Description:</b> Sticky Cream Sealant At EFIS	<b>Location:</b> AT EFIS Over 1967 Orig, Between GWB Soffit And EFIS <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

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Signature:   
Analyst: Rebecca Hargrove

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


CERTIFICATE OF ANALYSIS


Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072837 <b>Client No.:</b> WMC920-A76	<b>Analyst Observation:</b> Pink/Tan Drywall <b>Client Description:</b> Gypsum Board And Joint Compound	<b>Location:</b> 1992 Addition, Corner Of Rm 25, Bulk Storage <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 65
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 35 Cellulose Trace Fibrous Glass	
<b>Lab No.:</b> 7072837(L2) <b>Client No.:</b> WMC920-A76	<b>Analyst Observation:</b> Off-White Joint Compound <b>Client Description:</b> Gypsum Board And Joint Compound	<b>Location:</b> 1992 Addition, Corner Of Rm 25, Bulk Storage <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7072837(L3) <b>Client No.:</b> WMC920-A76	<b>Analyst Observation:</b> Composite <b>Client Description:</b> Gypsum Board And Joint Compound	<b>Location:</b> 1992 Addition, Corner Of Rm 25, Bulk Storage <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 68
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 32 Cellulose Trace Fibrous Glass	
<b>Lab No.:</b> 7072838 <b>Client No.:</b> WMC920-A77	<b>Analyst Observation:</b> Pink/Tan Drywall <b>Client Description:</b> CB-1-4" Gray Cove Base With Cream Mastic/Joint Compound And Gypsum Wallboard	<b>Location:</b> 1992 Addition, Corner Of Rm 29, Vestibule <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 63
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 35 Cellulose 2 Fibrous Glass	
<b>Lab No.:</b> 7072838(L2) <b>Client No.:</b> WMC920-A77	<b>Analyst Observation:</b> Off-White Joint Compound <b>Client Description:</b> CB-1-4" Gray Cove Base With Cream Mastic/Joint Compound And Gypsum Wallboard	<b>Location:</b> 1992 Addition, Corner Of Rm 29, Vestibule <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

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Analyst: Rebecca Hargrove

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director



CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072838(L3)	<b>Analyst Observation:</b> Composite	<b>Location:</b> 1992 Addition, Corner Of Rm 29, Vestibule
<b>Client No.:</b> WMC920-A77	<b>Client Description:</b> CB-1-4" Gray Cove Base With Cream Mastic/Joint Compound And Gypsum Wallboard	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 68

<b>Lab No.:</b> 7072838(L4)	<b>Analyst Observation:</b> Grey Cove Base	<b>Location:</b> 1992 Addition, Corner Of Rm 29, Vestibule
<b>Client No.:</b> WMC920-A77	<b>Client Description:</b> CB-1-4" Gray Cove Base With Cream Mastic/Joint Compound And Gypsum Wallboard	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

<b>Lab No.:</b> 7072838(L5)	<b>Analyst Observation:</b> Tan Mastic	<b>Location:</b> 1992 Addition, Corner Of Rm 29, Vestibule
<b>Client No.:</b> WMC920-A77	<b>Client Description:</b> CB-1-4" Gray Cove Base With Cream Mastic/Joint Compound And Gypsum Wallboard	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

<b>Lab No.:</b> 7072839	<b>Analyst Observation:</b> White/Tan Drywall	<b>Location:</b> 1967 Era, Sprinkler Rm 30, But Wall Supposedly Built With 1988 Addition
<b>Client No.:</b> WMC920-A78	<b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 78

<b>Lab No.:</b> 7072839(L2)	<b>Analyst Observation:</b> Off-White Joint Compound	<b>Location:</b> 1967 Era, Sprinkler Rm 30, But Wall Supposedly Built With 1988 Addition
<b>Client No.:</b> WMC920-A78	<b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

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Laboratory Director

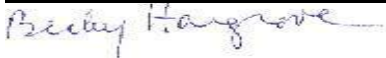
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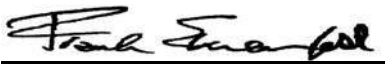
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072839(L3) <b>Client No.:</b> WMC920-A78	<b>Analyst Observation:</b> Composite <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1967 Era, Sprinkler Rm 30, But Wall Supposedly Built With 1988 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 20 Cellulose 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 78
<b>Lab No.:</b> 7072840 <b>Client No.:</b> WMC920-A79	<b>Analyst Observation:</b> White/Tan Drywall <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1967 Era, Sprinkler Rm 30, 1967 Exterior Wall <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 25 Cellulose	<u>Percent Non-Fibrous Material:</u> 75
<b>Lab No.:</b> 7072840(L2) <b>Client No.:</b> WMC920-A79	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1967 Era, Sprinkler Rm 30, 1967 Exterior Wall <b>Facility:</b>
<u>Percent Asbestos:</u> <b>PC 2.8 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.2
<b>Lab No.:</b> 7072840(L3) <b>Client No.:</b> WMC920-A79	<b>Analyst Observation:</b> Composite <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1967 Era, Sprinkler Rm 30, 1967 Exterior Wall <b>Facility:</b>
<u>Percent Asbestos:</u> <b>PC 0.25 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 23 Cellulose	<u>Percent Non-Fibrous Material:</u> 76.75
<b>Lab No.:</b> 7072841 <b>Client No.:</b> WMC920-A80	<b>Analyst Observation:</b> Green Cove Base <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic	<b>Location:</b> 1967 Era, Sprinkler Rm 30, 1967 Exterior Wall <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072841(L2) <b>Client No.:</b> WMC920-A80	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic	<b>Location:</b> 1967 Era, Sprinkler Rm 30, 1967 Exterior Wall <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

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Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072842 <b>Client No.:</b> WMC920-A81	<b>Analyst Observation:</b> Tan Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> 1967 Era, Boiler Rm 108, On Yellow Boiler Supply Pipe <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>10 Chrysotile</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 40 Fibrous Glass	<b>Percent Non-Fibrous Material:</b> 50

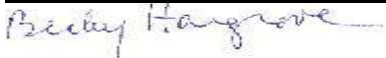
<b>Lab No.:</b> 7072843 <b>Client No.:</b> WMC920-A82	<b>Analyst Observation:</b> Tan Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> 1967 Era, Boiler Rm 108, On Yellow Boiler Supply Pipe <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>10 Chrysotile</i> <i>PC Trace Amosite</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 40 Fibrous Glass	<b>Percent Non-Fibrous Material:</b> 50


<b>Lab No.:</b> 7072844 <b>Client No.:</b> WMC920-A83	<b>Analyst Observation:</b> Off-White Insulation <b>Client Description:</b> Hard Fitting Insulation	<b>Location:</b> 1967 Era, Boiler Rm 108, On Blue Cold Water Supply <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>10 Chrysotile</i> <i>PC Trace Amosite</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 20 Fibrous Glass 20 Cellulose	<b>Percent Non-Fibrous Material:</b> 50

<b>Lab No.:</b> 7072845 <b>Client No.:</b> WMC920-A84	<b>Analyst Observation:</b> Black Coating <b>Client Description:</b> Black Tarry Coating Inside Ceiling Speaker Box	<b>Location:</b> 1988 Era, Staff Lounge, Inside Red Speaker Box <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> None Detected	<b>Percent Non-Fibrous Material:</b> 100

<b>Lab No.:</b> 7072846 <b>Client No.:</b> WMC920-A85	<b>Analyst Observation:</b> Grey/White Ceiling Tile <b>Client Description:</b> LCT-2, 2x4 Galaxy Pattern Suspended Ceiling Tile, Random Small Fisures	<b>Location:</b> 1988 Era, Staff Lounge 115, Main Tile In Rm <b>Facility:</b> <b>Percent Non-Fibrous Material:</b>
<b>Percent Asbestos:</b> <i>None Detected</i>	<b>Percent Non-Asbestos Fibrous Material:</b> 45 Fibrous Glass 40 Cellulose	<b>Percent Non-Fibrous Material:</b> 15

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/07/2020  
Signature:   
Analyst: Rebecca Hargrove

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577


Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

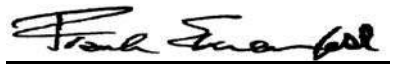
Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072847 <b>Client No.:</b> WMC920-A86	<b>Analyst Observation:</b> Green Cove Base <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic And Old On Back Of CB Newer Jo On Face Of CB	<b>Location:</b> 1967 Era, Elec Rm 34, Possible 1988 Wall, But Appears Original <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072847(L2) <b>Client No.:</b> WMC920-A86	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic And Old On Back Of CB Newer Jo On Face Of CB	<b>Location:</b> 1967 Era, Elec Rm 34, Possible 1988 Wall, But Appears Original <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072847(L3) <b>Client No.:</b> WMC920-A86	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic And Old On Back Of CB Newer Jo On Face Of CB	<b>Location:</b> 1967 Era, Elec Rm 34, Possible 1988 Wall, But Appears Original <b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC 2.6 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.4
<b>Lab No.:</b> 7072847(L4) <b>Client No.:</b> WMC920-A86	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> CB-2, 4" Green Painted Cove Base With Dark Brown Mastic And Old On Back Of CB Newer Jo On Face Of CB	<b>Location:</b> 1967 Era, Elec Rm 34, Possible 1988 Wall, But Appears Original <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072848 <b>Client No.:</b> WMC920-A87	<b>Analyst Observation:</b> Grey/White Ceiling Tile <b>Client Description:</b> LCT-1, 2x4 Shallow Directional Fissures 1/16" And 1/8" Holes	<b>Location:</b> 1967 Era, But Newer Tile, Hallway To 1992 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 50 Fibrous Glass 30 Cellulose	<u>Percent Non-Fibrous Material:</u> 20

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Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577


Report Date: 10/7/2020  
Report No.: 620590 - PLM  
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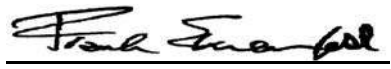
Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072849 <b>Client No.:</b> WMC920-A88	<b>Analyst Observation:</b> Off-White Vinyl Sheet Flooring <b>Client Description:</b> SV-1, Cream Sheet Vinyl With White Shading And Tiny Brown Specks	<b>Location:</b> 1967 Era, But Newer Flooring, Hallway To 1992 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 5 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 95
<b>Lab No.:</b> 7072849(L2) <b>Client No.:</b> WMC920-A88	<b>Analyst Observation:</b> Tan Mastic <b>Client Description:</b> SV-1, Cream Sheet Vinyl With White Shading And Tiny Brown Specks	<b>Location:</b> 1967 Era, But Newer Flooring, Hallway To 1992 Addition <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072850 <b>Client No.:</b> WMC920-A89	<b>Analyst Observation:</b> Grey Cove Base <b>Client Description:</b> CB-3, Gray 4" Cove Base With Light Tan Mastic	<b>Location:</b> 1988 Addition, Janitor Closet 109 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072850(L2) <b>Client No.:</b> WMC920-A89	<b>Analyst Observation:</b> Tan Mastic <b>Client Description:</b> CB-3, Gray 4" Cove Base With Light Tan Mastic	<b>Location:</b> 1988 Addition, Janitor Closet 109 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072851 <b>Client No.:</b> WMC920-A90	<b>Analyst Observation:</b> Off-White Vinyl Sheet Flooring <b>Client Description:</b> SV-2, Cream With Small 3/8" And Smaller Light Tan And Gray Chips, Tan Mastic	<b>Location:</b> 1988 Addition, Janitor Closet 109 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072851(L2) <b>Client No.:</b> WMC920-A90	<b>Analyst Observation:</b> Tan Mastic <b>Client Description:</b> SV-2, Cream With Small 3/8" And Smaller Light Tan And Gray Chips, Tan Mastic	<b>Location:</b> 1988 Addition, Janitor Closet 109 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

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Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director


CERTIFICATE OF ANALYSIS

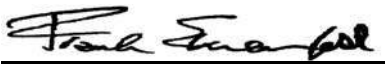
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072852 <b>Client No.:</b> WMC920-A91	<b>Analyst Observation:</b> Black Connector <b>Client Description:</b> Ventglas Black Neoprene Duct Flexible Connector	<b>Location:</b> 1967 Penthouse Fan Rm, At Exhaust Fan #10019 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 40 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 60
<b>Lab No.:</b> 7072853 <b>Client No.:</b> WMC920-A92	<b>Analyst Observation:</b> Black Connector <b>Client Description:</b> Ventglas Black Neoprene Duct Flexible Connector	<b>Location:</b> 1967 Penthouse Fan Rm, At Central AHU <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 40 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 60
<b>Lab No.:</b> 7072854 <b>Client No.:</b> WMC920-A93	<b>Analyst Observation:</b> Off-White Vinyl Sheet Flooring <b>Client Description:</b> SV-1, Cream Sheet Vinyl With White Shading And Tiny Brown Specks, Brown Mastic	<b>Location:</b> 1967 Era, But Newer Flooring, Store Rm 102 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 90
<b>Lab No.:</b> 7072854(L2) <b>Client No.:</b> WMC920-A93	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> SV-1, Cream Sheet Vinyl With White Shading And Tiny Brown Specks, Brown Mastic	<b>Location:</b> 1967 Era, But Newer Flooring, Store Rm 102 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072855 <b>Client No.:</b> WMC920-A94	<b>Analyst Observation:</b> Grey Leveling Compound <b>Client Description:</b> Leveling Compound Or Float Over Concrete	<b>Location:</b> 1967 Era, Store Rm 102, Appears To Be 1/2" Thick Over Painted Concrete <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
<b>Lab No.:</b> 7072856 <b>Client No.:</b> WMC920-A95	<b>Analyst Observation:</b> Black Tar Paper <b>Client Description:</b> Tar Paper Between Layers Of Plywood Ignore Wood	<b>Location:</b> 1967 Era, At Hatch In Janitor Closet 38, Appears To Be Original Slipsheet Between Plywood Subfloor A <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 50 Cellulose	<u>Percent Non-Fibrous Material:</u> 50

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Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072857	<b>Analyst Observation:</b> Black Mastic	<b>Location:</b> 1967 Era, At Hatch In Janitor Closet 38, Appears To Be Original Black Mastic Under Particle Board Un
<b>Client No.:</b> WMC920-A96	<b>Client Description:</b> Tar Mastic Under Particle Board Ignore Wood	<b>Facility:</b>

<u>Percent Asbestos:</u> <b>PC 4.1 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 95.9
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<b>Lab No.:</b> 7072858	<b>Analyst Observation:</b> Tan Vinyl Sheet Flooring	<b>Location:</b> 1967 Era, At Hatch In Janitor Closet 38, Top Layer Over Particle Board
<b>Client No.:</b> WMC920-A97	<b>Client Description:</b> SV-1, Cream Sheet Vinyl With Whit Shading And Tiny Brown Specks, Brown Mastic, Particle Board Ignore	<b>Facility:</b>


<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 5 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 95
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<b>Lab No.:</b> 7072858(L2)	<b>Analyst Observation:</b> Brown Mastic	<b>Location:</b> 1967 Era, At Hatch In Janitor Closet 38, Top Layer Over Particle Board
<b>Client No.:</b> WMC920-A97	<b>Client Description:</b> SV-1, Cream Sheet Vinyl With Whit Shading And Tiny Brown Specks, Brown Mastic, Particle Board Ignore	<b>Facility:</b>

<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
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Analyst: Rebecca Hargrove

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072859	<b>Analyst Observation:</b> Brown Vinyl Sheet Flooring	<b>Location:</b> 1988 Era, Pt Rm 132, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A98	<b>Client Description:</b> SV-3, Fake Wood Sheet Flooring, White Leveling Compound, Sticky Brown Contact Cement	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 7072859(L2)	<b>Analyst Observation:</b> Clear/Yellow Mastic	<b>Location:</b> 1988 Era, Pt Rm 132, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A98	<b>Client Description:</b> SV-3, Fake Wood Sheet Flooring, White Leveling Compound, Sticky Brown Contact Cement	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100


<b>Lab No.:</b> 7072859(L3)	<b>Analyst Observation:</b> Grey/White Leveling Compound	<b>Location:</b> 1988 Era, Pt Rm 132, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A98	<b>Client Description:</b> SV-3, Fake Wood Sheet Flooring, White Leveling Compound, Sticky Brown Contact Cement	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	2 Cellulose	98

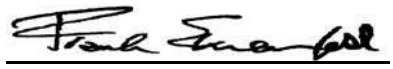
<b>Lab No.:</b> 7072860	<b>Analyst Observation:</b> Grey/White Leveling Compound	<b>Location:</b> 1988 Era, PT Rm 132, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A99	<b>Client Description:</b> White Leveling Compound, Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 7072860(L2)	<b>Analyst Observation:</b> Yellow/Brown Mastic	<b>Location:</b> 1988 Era, PT Rm 132, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A99	<b>Client Description:</b> White Leveling Compound, Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	None Detected	100

<b>Lab No.:</b> 7072861	<b>Analyst Observation:</b> Yellow/Brown Mastic	<b>Location:</b> 1988 Era, PT Rm 132, Probably Original Mastic, At In-Floor Duct Grille By Entrance
<b>Client No.:</b> WMC920-A100	<b>Client Description:</b> Brown Mastic On Side Of metal Duct	<b>Facility:</b>
<u>Percent Asbestos:</u>	<u>Percent Non-Asbestos Fibrous Material:</u>	<u>Percent Non-Fibrous Material:</u>
<i>None Detected</i>	2 Cellulose	98

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Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director




CERTIFICATE OF ANALYSIS

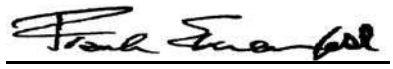
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072862 <b>Client No.:</b> WMC920-A101	<b>Analyst Observation:</b> White Sealant <b>Client Description:</b> White Seal At Ductwork	<b>Location:</b> 1988 Era, PT Rm 132, At Opposed Blade Damper In Relief <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 90
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Talc	
<b>Lab No.:</b> 7072863 <b>Client No.:</b> WMC920-A102	<b>Analyst Observation:</b> White Drywall <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1988 Era, PT Rm 132, At Wall Above Ceiling Grid <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 96
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose 2 Fibrous Glass	
<b>Lab No.:</b> 7072863(L2) <b>Client No.:</b> WMC920-A102	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> Gypsum Wallboard And Joint Compound	<b>Location:</b> 1988 Era, PT Rm 132, At Wall Above Ceiling Grid <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7072864 <b>Client No.:</b> WMC920-A103	<b>Analyst Observation:</b> Cream Vinyl Sheet Flooring <b>Client Description:</b> SV-2, Cream With Small 3/8" And Smaller Light Tan And Gray Chips, Tan Mastic Ignore Wood	<b>Location:</b> 1988 Era, Closet 143, At Hatch To Crawl Space <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	
<b>Lab No.:</b> 7072864(L2) <b>Client No.:</b> WMC920-A103	<b>Analyst Observation:</b> Yellow Mastic <b>Client Description:</b> SV-2, Cream With Small 3/8" And Smaller Light Tan And Gray Chips, Tan Mastic Ignore Wood	<b>Location:</b> 1988 Era, Closet 143, At Hatch To Crawl Space <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 97
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 3 Cellulose	
<b>Lab No.:</b> 7072865 <b>Client No.:</b> WMC920-A104	<b>Analyst Observation:</b> Grey Cove Base <b>Client Description:</b> CB-3, Gray 4" Cove Base With Cream Mastic	<b>Location:</b> 1988 Era, Exam Rm 151 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

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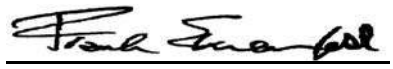
Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072865(L2) <b>Client No.:</b> WMC920-A104	<b>Analyst Observation:</b> Beige Mastic <b>Client Description:</b> CB-3, Gray 4" Cove Base With Cream Mastic	<b>Location:</b> 1988 Era, Exam Rm 151 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100
-----		
<b>Lab No.:</b> 7072866 <b>Client No.:</b> WMC920-A105	<b>Analyst Observation:</b> Yellow Mastic <b>Client Description:</b> Yellow Carpet Mastic	<b>Location:</b> 1988 Era, Hallway Outside Restroom 142 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose Trace Synthetic	<u>Percent Non-Fibrous Material:</u> 98
-----		
<b>Lab No.:</b> 7072867 <b>Client No.:</b> WMC920-A106	<b>Analyst Observation:</b> Grey Leveling Compound <b>Client Description:</b> Yellow Carpet Mastic And Gray Leveling Compound	<b>Location:</b> 1988 Era, Waiting Area 81, By Vestibules <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	<u>Percent Non-Fibrous Material:</u> 98
-----		
<b>Lab No.:</b> 7072867(L2) <b>Client No.:</b> WMC920-A106	<b>Analyst Observation:</b> Clear/Yellow Mastic <b>Client Description:</b> Yellow Carpet Mastic And Gray Leveling Compound	<b>Location:</b> 1988 Era, Waiting Area 81, By Vestibules <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	<u>Percent Non-Fibrous Material:</u> 98
-----		
<b>Lab No.:</b> 7072868 <b>Client No.:</b> WMC920-A107	<b>Analyst Observation:</b> White Joint Compound <b>Client Description:</b> Joint Compound	<b>Location:</b> 1988 Era, Waiting Area 81, By Corner Near Admin 79 <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

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Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

PLM BULK SAMPLE ANALYSIS SUMMARY

**Lab No.:** 7072869 **Analyst Observation:** White Drywall **Location:** 1988 Era, Waiting Area 81, By  
**Client No.:** WMC920-A108 **Client Description:** Gypsum Wallboard **Corner Near Admin 79**

Percent Asbestos: Percent Non-Asbestos Fibrous Material: **Facility:**  
*None Detected* 3 Cellulose Percent Non-Fibrous Material:  
2 Fibrous Glass 95

**Lab No.:** 7072869(L2) **Analyst Observation:** White Joint Compound **Location:** 1988 Era, Waiting Area 81, By  
**Client No.:** WMC920-A108 **Client Description:** Gypsum Wallboard **Corner Near Admin 79**

Percent Asbestos: Percent Non-Asbestos Fibrous Material: **Facility:**  
*None Detected* None Detected Percent Non-Fibrous Material:  
100

**Lab No.:** 7072870 **Analyst Observation:** Grey/Tan Stucco **Location:** Unknown Date, Reportedly  
**Client No.:** WMC920-A109 **Client Description:** Exterior Stucco Of EFIS At Added Walls **Within The Past 10 Years**

Percent Asbestos: Percent Non-Asbestos Fibrous Material: **Facility:**  
*None Detected* 5 Fibrous Glass Percent Non-Fibrous Material:  
95

**Lab No.:** 7072870(L2) **Analyst Observation:** White Foam **Location:** Unknown Date, Reportedly  
**Client No.:** WMC920-A109 **Client Description:** Exterior Stucco Of EFIS At Added Walls **Within The Past 10 Years**

Percent Asbestos: Percent Non-Asbestos Fibrous Material: **Facility:**  
*None Detected* None Detected Percent Non-Fibrous Material:  
100


**Lab No.:** 7072871 **Analyst Observation:** Brown/Grey Sealant **Location:** Unknown Date, Reportedly  
**Client No.:** WMC920-A110 **Client Description:** Exterior Stucco, Red Sealant Of EFIS At **Within The Past 10 Years**

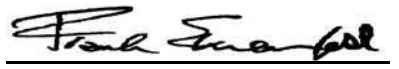
Percent Asbestos: Percent Non-Asbestos Fibrous Material: **Facility:**  
*None Detected* 2 Fibrous Glass Percent Non-Fibrous Material:  
98

**Lab No.:** 7072872 **Analyst Observation:** Black Stair Tread **Location:** 1974 Era, Base Of Stairs  
**Client No.:** WMC920-A111 **Client Description:** Black Rubber Stair Tread With Brown **Facility:**

Percent Asbestos: Percent Non-Asbestos Fibrous Material: Percent Non-Fibrous Material:  
*None Detected* None Detected 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/07/2020  
Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072872(L2)	<b>Analyst Observation:</b> Brown Mastic	<b>Location:</b> 1974 Era, Base Of Stairs
<b>Client No.:</b> WMC920-A111	<b>Client Description:</b> Black Rubber Stair Tread With Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Cellulose	<u>Percent Non-Fibrous Material:</u> 98

<b>Lab No.:</b> 7072873	<b>Analyst Observation:</b> Black Stair Tread	<b>Location:</b> 1974 Era, Base Of Stairs
<b>Client No.:</b> WMC920-A112	<b>Client Description:</b> Black Rubber Stair Stringer With Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC 1 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 99


<b>Lab No.:</b> 7072873(L2)	<b>Analyst Observation:</b> Brown Mastic	<b>Location:</b> 1974 Era, Base Of Stairs
<b>Client No.:</b> WMC920-A112	<b>Client Description:</b> Black Rubber Stair Stringer With Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 3 Talc	<u>Percent Non-Fibrous Material:</u> 97

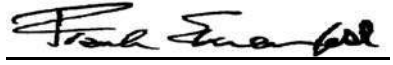
<b>Lab No.:</b> 7072874	<b>Analyst Observation:</b> Black Undercoating	<b>Location:</b> 1974 Era, Break Rm 9, Stainless Steel Sink
<b>Client No.:</b> WMC920-A113	<b>Client Description:</b> Black Sink Undercoating	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC 2.6 Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 97.4

<b>Lab No.:</b> 7072875	<b>Analyst Observation:</b> White/Brown Flooring	<b>Location:</b> 1974 Era, Restroom 12, At Cleanout
<b>Client No.:</b> WMC920-A114	<b>Client Description:</b> Marlite And Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 80 Cellulose	<u>Percent Non-Fibrous Material:</u> 20

<b>Lab No.:</b> 7072875(L2)	<b>Analyst Observation:</b> Brown Mastic	<b>Location:</b> 1974 Era, Restroom 12, At Cleanout
<b>Client No.:</b> WMC920-A114	<b>Client Description:</b> Marlite And Brown Mastic	<b>Facility:</b>
<u>Percent Asbestos:</u> <i>PC Trace Chrysotile</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	<u>Percent Non-Fibrous Material:</u> 100

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/07/2020  
Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072876 <b>Client No.:</b> WMC920-A115	<b>Analyst Observation:</b> White Insulation <b>Client Description:</b> White, Chalky Fire Door Insulation	<b>Location:</b> 1974 Era, Door Between Back Hallway And Laundry 15, UL Listed 1.5 Hour Rating <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 40
<u>Percent Asbestos:</u> <b>60 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

<b>Lab No.:</b> 7072877 <b>Client No.:</b> WMC920-A116	<b>Analyst Observation:</b> Red Sealant <b>Client Description:</b> Red Duct Sealant	<b>Location:</b> 1974 Era, Mech/Fan Rm 3, On Mixing Side Of Plenum Wall <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 84.8
<u>Percent Asbestos:</u> <b>PC 5.2 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Talc	


<b>Lab No.:</b> 7072878 <b>Client No.:</b> WMC920-A117	<b>Analyst Observation:</b> Red Sealant <b>Client Description:</b> Red Duct Sealant	<b>Location:</b> 1974 Era, Mech/Fan Rm 3, At Bar Steel Flange <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 85
<u>Percent Asbestos:</u> <b>PC 5.0 Chrysotile</b>	<u>Percent Non-Asbestos Fibrous Material:</u> 10 Talc	

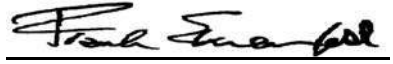
<b>Lab No.:</b> 7072879 <b>Client No.:</b> WMC920-A118	<b>Analyst Observation:</b> Grey Sealant <b>Client Description:</b> Gray Sealant At Fan Sections	<b>Location:</b> 1974 Era, Mech/Fan Rm 3, Fan 10013 <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

<b>Lab No.:</b> 7072880 <b>Client No.:</b> WMC920-A119	<b>Analyst Observation:</b> Black Duct Material <b>Client Description:</b> Ventglas Black Neoprene Duct Flexible Connector	<b>Location:</b> 1974 Era, Mech/Fan Rm 3, Outlet Side Of Squirrel Fan <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 85
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 15 Fibrous Glass	

<b>Lab No.:</b> 7072881 <b>Client No.:</b> WMC920-A120	<b>Analyst Observation:</b> Grey Grout <b>Client Description:</b> Gray Ceramic Tile Grout	<b>Location:</b> 1974 Era, Restroom 12, Loose Grout In Crack In Base By Door <b>Facility:</b> <b>Percent Non-Fibrous Material:</b> 100
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> None Detected	

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/07/2020  
Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: EHS Alaska Incorporated 11901 Business Blvd., Ste 208 Eagle River AK 99577	Report Date: 10/7/2020 Report No.: 620590 - PLM Project: Wrangell Medical Center Project No.: 7795-02
Client: EHS511	

PLM BULK SAMPLE ANALYSIS SUMMARY

<b>Lab No.:</b> 7072882 <b>Client No.:</b> WMC920-A121	<b>Analyst Observation:</b> Tan Ceiling Tile <b>Client Description:</b> GCT-1, 12x12 Glued On Ceiling Tile, Groove For Concealed Grid, Directional Medium Fissures, 1/16" Ho	<b>Location:</b> 1974 Era, Hallway 6, At Speaker Box <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 50 Fibrous Glass 30 Cellulose	<u>Percent Non-Fibrous Material:</u> 20

<b>Lab No.:</b> 7072882(L2) <b>Client No.:</b> WMC920-A121	<b>Analyst Observation:</b> Brown Mastic <b>Client Description:</b> GCT-1, 12x12 Glued On Ceiling Tile, Groove For Concealed Grid, Directional Medium Fissures, 1/16" Ho	<b>Location:</b> 1974 Era, Hallway 6, At Speaker Box <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 2 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 98

<b>Lab No.:</b> 7072883 <b>Client No.:</b> WMC920-A122	<b>Analyst Observation:</b> Black/Red Lining <b>Client Description:</b> Black Tarry Lining Of Red Speaker Box	<b>Location:</b> 1974 Era, Hallway 6, At Speaker Box <b>Facility:</b>
<u>Percent Asbestos:</u> <i>None Detected</i>	<u>Percent Non-Asbestos Fibrous Material:</u> 30 Cellulose 15 Fibrous Glass	<u>Percent Non-Fibrous Material:</u> 55

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 10/5/2020  
Date Analyzed: 10/07/2020  
Signature:   
Analyst: Michael Moore

Approved By:   
Frank E. Ehrenfeld, III  
Laboratory Director

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CERTIFICATE OF ANALYSIS

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

## Appendix to Analytical Report

**Customer Contact:** Cali Swatowski

**Method:** 40 CFR Appendix E to Subpart E of Part 763, interim method for the Determination of Asbestos in Bulk Insulation Samples, and USEPA 600, R93-116 as needed.

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

**iATL Customer Service:** customerservice@iatl.com

**iATL Office Manager:** wchampion@iatl.com

**iATL Account Representative:** Semih Kocahasan

**Sample Login Notes:** See Batch Sheet Attached

**Sample Matrix:** Bulk Building Materials

**Exceptions Noted:** See Following Pages

### General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at [www.iATL.com](http://www.iATL.com) and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

### Information Pertinent to this Report:

Analysis by US EPA 600 93-116: Determination of Asbestos in Bulk Building Materials by Polarized Light Microscopy (PLM).

### Certifications:

- NIST-NVLAP No. 101165-0
- NYSDOH-ELAP No. 11021
- AIHA-LAP, LLC No. 100188

Quantification at <0.25% by volume is possible with this method. (PC) Indicates Stratified Point Count Method performed. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. PC Trace represents a <0.25% amount. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed (ex. analyze until positive instructions). Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, PLM is not consistently reliable in detecting asbestos in non-friable organically bound (NOB) materials. Quantitative transmission electron microscopy (TEM) is currently the only method that can pronounce materials as non-asbestos containing.

Analytical Methodology Alternatives: Your initial request for analysis may not have accounted for recent advances in regulatory requirements or advances in technology that are routinely used in similar situations for other qualified projects. You may have the option to explore additional analysis for further information. Below are a few options, listed as the matrix followed by the appropriate methodology. Also included are links to more information on our website.

Bulk Building Materials that are Non-Friable Organically Bound (NOB) by Gravimetric Reduction techniques employing PLM and TEM: ELAP 198.6 (PLM-NOB), ELAP 198.4 (TEM-NOB)

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CERTIFICATE OF ANALYSIS

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

Client: EHS511

Loose Fill Vermiculite Insulation, Attic Insulation, Zonolite (copyright), etc.: US EPA 600 R-4/004 (multi-tiered analytical process)  
Sprayed On Insulation/Fireproofing with Vermiculite (SOF-V): ELAP 198.8 (PLM-SOF-V)

Soil, sludge, sediment, aggregate, and like materials analyzed for asbestos or other elongated mineral particles (ex. erionite, etc.): ASTM D7521, CARB 435, and other options available

Asbestos in Surface Dust according to one of ASTM's Methods (very dependent on sampling collection technique – by TEM): ASTM D 5755, D5756, or D6480

Various other asbestos matrices (air, water, etc.) and analytical methods are available.

### Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a list with highlighted disclaimers that may be pertinent to this project. For a full explanation of these and other disclaimers, please inquire at [customerservice@iatl.com](mailto:customerservice@iatl.com).

- 1) Note: No mastic provided for analysis.
- 2) Note: Insufficient mastic provided for analysis.
- 3) Note: Insufficient material provided for analysis.
- 4) Note: Insufficient sample provided for QC reanalysis.
- 5) Note: Different material than indicated on Sample Log / Description.
- 6) Note: Sample not submitted.
- 7) Note: Attached to asbestos containing material.
- 8) Note: Received wet.
- 9) Note: Possible surface contamination.
- 10) Note: Not building material. 1% threshold may not apply.
- 11) Note: Recommend TEM-NOB analysis as per EPA recommendations.
- 12) Note: Asbestos detected but not quantifiable.
- 13) Note: Multiple identical samples submitted, only one analyzed.
- 14) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.080%.
- 15) Note: Analyzed by EPA 600/R-93/116. Point Counting detection limit at 0.125%.
- 16) Note: This sample contains >10% vermiculite mineral. See Appendix for Recommendations for Vermiculite Analysis.

### Recommendations for Vermiculite Analysis:

Several analytical protocols exist for the analysis of asbestos in vermiculite. These analytical approaches vary depending upon the nature of the vermiculite mineral being tested (e.g. un-processed gange, homogeneous exfoliated books of mica, or mixed mineral composites). Please contact your client representative for pricing and turnaround time options available.

iATL recommends initial testing using the EPA 600/R-93/116 method. This method is specifically designed for the analysis of asbestos in bulk building materials. It provides an acceptable starting point for primary screening of vermiculite for possible asbestos.

Results from this testing may be inconclusive. EPA suggests proceeding to a multi-tiered analysis involving wet separation techniques in conjunction with PLM and TEM gravimetric analysis (EPA 600/R-04/004).

For New York State customers, NYSDOH requires disclaimers and qualifiers for various vermiculite containing samples that direct analysis via ELAP198.6 and ELAP198.8 for samples that contain >10% vermiculite mineral where ELAP198.6 may be used to evaluate the asbestos content of the material. However, any test result using ELAP198.6 will be reported with the following disclaimer: "ELAP198.6 method does not remove vermiculite and may underestimate the level of asbestos present in a sample containing >10% vermiculite."

Further information on this method and other vermiculite and asbestos issues can be found at the following: Agency for Toxic Substances and Disease Registry (ATSDR) [www.atsdr.cdc.gov](http://www.atsdr.cdc.gov), United States Geological Survey (USGS) [www.minerals.usgs.gov/minerals/](http://www.minerals.usgs.gov/minerals/), US EPA [www.epa.gov/asbestos](http://www.epa.gov/asbestos). The USEPA also has an informative brochure "Current Best Practices for Vermiculite Attic Insulation" EPA 747F03001 May 2003, that may assist the health and remediation professional. NYS customers please follow current NYSDOH ELAP requirements per policy on subject of surfacing and vermiculite, May 6, 2016, Testing Requirements for Surfacing Material Containing Vermiculite ([https://www.wadsworth.org/sites/default/files/WebDoc/I198\\_8\\_02\\_2.pdf](https://www.wadsworth.org/sites/default/files/WebDoc/I198_8_02_2.pdf))

The following is a summary of the analytical process outlines in the EPA 600/R-04/004 Method:

- 1) **Analytical Step/Method:** Initial Screening by PLM, EPA 600R-93/116  
**Requirements/Comments:** Minimum of 0.1 g of sample. ~0.25% for most samples.



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CERTIFICATE OF ANALYSIS

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Client: EHS Alaska Incorporated  
11901 Business Blvd., Ste 208  
Eagle River AK 99577

Client: EHS511

Report Date: 10/7/2020  
Report No.: 620590 - PLM  
Project: Wrangell Medical Center  
Project No.: 7795-02

2)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

3)**Analytical Step/Method:** Wet Separation by PLM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Floats" only.

4)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Sinks" only.

5)**Analytical Step/Method:** Wet Separation by TEM Gravimetric Technique, EPA R-04/004  
**Requirements/Comments:** Minimum 50g\*\* of dry sample. Analysis of "Suspension" only.  
\*With advance notice and confirmation by the laboratory.

\*\*Approximately 1 Liter of sample in double-bagged container (~9x6 inch bag of sample).

## **APPENDIX B**

### **Lead Analyzer Test Results**

LEAD ANALYZER TEST RESULTS

Heuresis Pb200i, Serial No. 1770

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm <sup>2</sup>	+/- ERROR
READINGS PRIOR TO 216 ARE FROM A DIFFERENT FACILITY AND NOT INCLUDED HERE													
216	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 19:14:50	POSITIVE	1	0.1
217	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 19:15:22	POSITIVE	1	0.1
218	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 19:15:35	POSITIVE	1	0.1
219	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	DOOR FRAME	METAL	INTACT	BROWN	5.73	9/17/20 19:23:27	NEGATIVE	0.16	0.12
220	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	DOOR	WOOD	INTACT	BROWN	5.85	9/17/20 19:26:51	NEGATIVE	0.05	0.12
221	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WINDOW CASING	WOOD	INTACT	BROWN	1.57	9/17/20 19:29:17	NEGATIVE	0.35	0.24
222	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	TANK	METAL	INTACT	RED	2.81	9/17/20 19:31:42	NEGATIVE	0.24	0.18
223	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	BOLLARD	METAL	INTACT	YELLOW	5.94	9/17/20 19:32:56	NEGATIVE	0.09	0.12
224	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WALL	METAL	INTACT	RED	5.84	9/17/20 19:34:30	NEGATIVE	0.15	0.12
225	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	DOOR	METAL	INTACT	BROWN	4.33	9/17/20 19:37:28	NEGATIVE	0.03	0.14
226	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	EQUIPMENT	METAL	INTACT	BEIGE	4.79	9/17/20 19:38:37	NEGATIVE	0.1	0.14
227	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	BOLLARD	METAL	INTACT	RED	4.95	9/17/20 19:41:09	NEGATIVE	0.06	0.13
228	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WALL	METAL	INTACT	RED	6.44	9/17/20 19:43:11	NEGATIVE	-0.19	0.12
229	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	EQUIPMENT	METAL	INTACT	WHITE	5.63	9/17/20 19:45:17	NEGATIVE	0.08	0.13
230	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WALL	EFIS	INTACT	DK BROWN	5.96	9/17/20 19:47:35	NEGATIVE	0.11	0.12
231	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WALL	EFIS	INTACT	DK BROWN	5.68	9/17/20 19:49:02	NEGATIVE	0.11	0.13
232	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	DOOR	WOOD	INTACT	DK BROWN	5.95	9/17/20 19:50:06	NEGATIVE	0.12	0.12
233	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	EXTERIOR	WALL	EFIS	INTACT	BEIGE	5.16	9/17/20 19:51:36	NEGATIVE	0.14	0.13
234	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	EXTERIOR	WALL	CONCRETE	INTACT	BEIGE	5.43	9/17/20 19:53:02	NEGATIVE	0.11	0.13
235	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	EXTERIOR	BEAM	WOOD	INTACT	BROWN	6.13	9/17/20 19:55:20	NEGATIVE	0.07	0.12
236	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	EXTERIOR	COLUMN	EFIS	INTACT	BEIGE	5.65	9/17/20 19:58:05	NEGATIVE	0.05	0.13
237	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	EXTERIOR	PIPE	METAL	INTACT	RED	6.01	9/17/20 20:00:56	NEGATIVE	0.09	0.12
238	WRANGELL MEDICAL CENTER	FRENCH	FIRST	95	DOOR FRAME	WOOD	INTACT	VARNISH	5.91	9/17/20 20:03:48	NEGATIVE	0.04	0.12
239	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	WINDOW CASING	METAL	INTACT	BROWN	5.65	9/17/20 20:05:14	NEGATIVE	0.43	0.13
240	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	COLUMN	EFIS	INTACT	BEIGE	5.88	9/17/20 20:07:17	NEGATIVE	0.17	0.12
241	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	DOOR	WOOD	INTACT	BROWN	5.92	9/17/20 20:09:34	NEGATIVE	0.02	0.12
242	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	FASCIA	EFIS	INTACT	BLACK	2.89	9/17/20 20:57:37	NEGATIVE	0.11	0.18
243	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	FASCIA	WOOD	INTACT	BEIGE	6.74	9/17/20 20:59:41	NEGATIVE	0.15	0.12
244	WRANGELL MEDICAL CENTER	FRENCH	FIRST	EXTERIOR	FASCIA	DRYWALL	INTACT	BEIGE	5.86	9/17/20 21:00:46	NEGATIVE	0.13	0.12
245	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 21:04:51	POSITIVE	1	0.1
246	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 21:05:03	POSITIVE	1	0.1
247	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/17/20 21:05:16	POSITIVE	1	0.1
READINGS 248 THRU 280 ARE FROM A DIFFERENT FACILITY AND NOT INCLUDED HERE													
281	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/18/20 12:41:39	POSITIVE	1	0.1
282	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/18/20 12:41:51	POSITIVE	1	0.1
283	WRANGELL MEDICAL CENTER	FRENCH	-	-	CALIBRATION	-	-	GREEN	5	9/18/20 12:42:03	POSITIVE	1	0.1
284	WRANGELL MEDICAL CENTER	FRENCH	FIRST	22	WALL	DRYWALL	INTACT	WHITE	2	9/18/20 12:43:22	NEGATIVE	0.2	0.3
285	WRANGELL MEDICAL CENTER	FRENCH	FIRST	22	CABINET	FORMICA	INTACT	BEIGE	5.49	9/18/20 12:44:22	NEGATIVE	0.13	0.13
286	WRANGELL MEDICAL CENTER	FRENCH	FIRST	22	DOOR FRAME	METAL	INTACT	BEIGE	5.27	9/18/20 12:45:54	NEGATIVE	0.09	0.13
287	WRANGELL MEDICAL CENTER	FRENCH	FIRST	27	DOOR FRAME	METAL	INTACT	GRAY	4.77	9/18/20 12:47:45	NEGATIVE	0.5	0.14
288	WRANGELL MEDICAL CENTER	FRENCH	FIRST	27	DOOR	WOOD	INTACT	VARNISH	5.49	9/18/20 12:48:57	NEGATIVE	0.03	0.13
289	WRANGELL MEDICAL CENTER	FRENCH	FIRST	26	LOCKER	METAL	INTACT	BLUE	5.64	9/18/20 12:51:43	NEGATIVE	0.09	0.13
290	WRANGELL MEDICAL CENTER	FRENCH	FIRST	26	WALL	DRYWALL	INTACT	WHITE	5.82	9/18/20 12:53:12	NEGATIVE	0.22	0.12
291	WRANGELL MEDICAL CENTER	FRENCH	FIRST	23	DOOR	METAL	INTACT	BROWN	6.6	9/18/20 12:55:42	NEGATIVE	0.11	0.12
292	WRANGELL MEDICAL CENTER	FRENCH	FIRST	23	DOOR FRAME	WOOD	INTACT	WHITE	6.02	9/18/20 12:56:12	NEGATIVE	0.1	0.12
293	WRANGELL MEDICAL CENTER	FRENCH	FIRST	24	WALL	DRYWALL	INTACT	WHITE	5.51	9/18/20 12:58:02	NEGATIVE	0.11	0.13
294	WRANGELL MEDICAL CENTER	FRENCH	FIRST	24	FLOOR	CONCRETE	INTACT	GRAY	5.6	9/18/20 12:59:09	NEGATIVE	0.21	0.13
295	WRANGELL MEDICAL CENTER	FRENCH	FIRST	25	DOOR	WOOD	INTACT	YELLOW	3.72	9/18/20 13:01:30	NEGATIVE	0.09	0.16
296	WRANGELL MEDICAL CENTER	FRENCH	FIRST	25	HAND RAIL	WOOD	INTACT	WHITE	6.18	9/18/20 13:03:23	NEGATIVE	0.07	0.12
297	WRANGELL MEDICAL CENTER	FRENCH	FIRST	25	BEAM	METAL	INTACT	WHITE	5.51	9/18/20 13:05:01	NEGATIVE	0.14	0.13
298	WRANGELL MEDICAL CENTER	FRENCH	SECOND	25	WALL	DRYWALL	INTACT	WHITE	5.45	9/18/20 13:06:26	NEGATIVE	0.09	0.13
299	WRANGELL MEDICAL CENTER	FRENCH	SECOND	25	WALL	DRYWALL	INTACT	WHITE	5.48	9/18/20 13:08:20	NEGATIVE	0.13	0.13

LEAD ANALYZER TEST RESULTS

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm <sup>2</sup>	+/- ERROR
300	WRANGELL MEDICAL CENTER	FRENCH	SECOND	29	COUNTERTOP	WOOD	INTACT	GRAY	6.45	9/18/20 13:12:38	NEGATIVE	0.12	0.12
301	WRANGELL MEDICAL CENTER	FRENCH	FIRST	29	DOOR	METAL	INTACT	BLACK	5.3	9/18/20 13:13:53	NEGATIVE	0.36	0.13
302	WRANGELL MEDICAL CENTER	FRENCH	FIRST	29	WALL	DRYWALL	INTACT	WHITE	5.61	9/18/20 13:21:20	NEGATIVE	0.11	0.13
303	WRANGELL MEDICAL CENTER	FRENCH	FIRST	30 (IN HALLWAY)	WALL	DRYWALL	INTACT	WHITE	5.26	9/18/20 13:25:18	NEGATIVE	0.14	0.13
304	WRANGELL MEDICAL CENTER	FRENCH	FIRST	30	WALL	DRYWALL	INTACT	WHITE	6	9/18/20 13:26:52	NEGATIVE	0.16	0.12
305	WRANGELL MEDICAL CENTER	FRENCH	FIRST	30	PIPE	METAL	INTACT	GREEN	5.23	9/18/20 13:27:58	NEGATIVE	0.09	0.13
306	WRANGELL MEDICAL CENTER	FRENCH	FIRST	30	PIPE	METAL	INTACT	BLUE	4.08	9/18/20 13:28:55	NEGATIVE	0.1	0.15
307	WRANGELL MEDICAL CENTER	FRENCH	FIRST	30	PIPE	METAL	INTACT	RED	4.81	9/18/20 13:29:54	NEGATIVE	0.16	0.14
308	WRANGELL MEDICAL CENTER	FRENCH	FIRST	34 (IN HALLWAY)	WALL	DRYWALL	INTACT	GREEN	1.93	9/18/20 13:32:01	NEGATIVE	0.09	0.22
309	WRANGELL MEDICAL CENTER	FRENCH	FIRST	31 (IN HALLWAY)	WALL	DRYWALL	INTACT	WHITE	5.58	9/18/20 13:33:34	NEGATIVE	0.17	0.13
310	WRANGELL MEDICAL CENTER	FRENCH	FIRST	115	RADIATOR	METAL	INTACT	WHITE	5.91	9/18/20 13:35:29	NEGATIVE	0.13	0.12
311	WRANGELL MEDICAL CENTER	FRENCH	FIRST	115	WINDOW CASING	WOOD	INTACT	VARNISH	5.65	9/18/20 13:36:47	NEGATIVE	0	0.13
312	WRANGELL MEDICAL CENTER	FRENCH	FIRST	115	COUNTERTOP	FORMICA	INTACT	BEIGE	5.78	9/18/20 13:37:54	NEGATIVE	0.16	0.12
313	WRANGELL MEDICAL CENTER	FRENCH	FIRST	108	FLOOR	CONCRETE	INTACT	GRAY	5.55	9/18/20 13:41:18	NEGATIVE	0.21	0.13
314	WRANGELL MEDICAL CENTER	FRENCH	FIRST	108	ELECTRICAL PANEL	METAL	INTACT	GRAY	5.55	9/18/20 13:42:07	NEGATIVE	0.14	0.13
<b>315</b>	<b>WRANGELL MEDICAL CENTER</b>	<b>FRENCH</b>	<b>FIRST</b>	<b>109</b>	<b>SINK</b>	<b>CERAMIC</b>	<b>INTACT</b>	<b>WHITE</b>	<b>5.62</b>	<b>9/18/20 13:49:27</b>	<b>POSITIVE</b>	<b>21.34</b>	<b>0.13</b>
316	WRANGELL MEDICAL CENTER	FRENCH	FIRST	109	DOOR	WOOD	INTACT	VARNISH	6.16	9/18/20 13:50:24	NEGATIVE	0.08	0.12
317	WRANGELL MEDICAL CENTER	FRENCH	FIRST	114	WALL	VINYL	INTACT	BEIGE	5.75	9/18/20 14:05:19	NEGATIVE	0.1	0.12
318	WRANGELL MEDICAL CENTER	FRENCH	FIRST	114	COUNTERTOP	FORMICA	INTACT	BEIGE	5.5	9/18/20 14:07:37	NEGATIVE	0.23	0.13
319	WRANGELL MEDICAL CENTER	FRENCH	FIRST	35	COUNTERTOP	FORMICA	INTACT	BEIGE	5.75	9/18/20 14:10:06	NEGATIVE	0.06	0.12
320	WRANGELL MEDICAL CENTER	FRENCH	FIRST	35	WALL	DRYWALL	INTACT	BEIGE	5.7	9/18/2020 14:11	NEGATIVE	0.3	0.13
321	WRANGELL MEDICAL CENTER	FRENCH	FIRST	35	CABINET	FORMICA	INTACT	OFF-WHITE	5.64	9/18/20 14:12:53	NEGATIVE	0.18	0.13
322	WRANGELL MEDICAL CENTER	FRENCH	FIRST	37	WALL	FRP	INTACT	WHITE	5.62	9/18/20 14:15:13	NEGATIVE	0.13	0.13
323	WRANGELL MEDICAL CENTER	FRENCH	FIRST	38	DOOR FRAME	METAL	INTACT	WHITE	5.58	9/18/20 14:16:55	NEGATIVE	0.09	0.13
324	WRANGELL MEDICAL CENTER	FRENCH	FIRST	35 (IN HALLWAY)	LADDER	METAL	INTACT	WHITE	5.57	9/18/20 14:18:25	NEGATIVE	0.21	0.13
325	WRANGELL MEDICAL CENTER	FRENCH	FIRST	38 (IN HALLWAY)	DOOR FRAME	METAL	INTACT	BEIGE	5.71	9/18/20 14:19:51	NEGATIVE	0.11	0.13
326	WRANGELL MEDICAL CENTER	FRENCH	FIRST	103	WALL	METAL	INTACT	WHITE	5.44	9/18/20 14:21:34	NEGATIVE	0.14	0.13
327	WRANGELL MEDICAL CENTER	FRENCH	FIRST	132	WALL	DRYWALL	INTACT	RED	3.3	9/18/20 14:34:18	NEGATIVE	0.3	0.16
328	WRANGELL MEDICAL CENTER	FRENCH	FIRST	125	WALL	DRYWALL	INTACT	BLUE	5.36	9/18/20 14:35:15	NEGATIVE	0.11	0.13
329	WRANGELL MEDICAL CENTER	FRENCH	FIRST	125	DOOR	METAL	INTACT	BLACK	5.63	9/18/20 14:36:10	NEGATIVE	0.07	0.13
330	WRANGELL MEDICAL CENTER	FRENCH	FIRST	136 (IN HALLWAY)	CABINET	FORMICA	INTACT	BEIGE	6.58	9/18/20 14:41:13	NEGATIVE	0.18	0.12
331	WRANGELL MEDICAL CENTER	FRENCH	FIRST	136	WALL	VINYL	INTACT	OFF-WHITE	4.26	9/18/20 14:42:34	NEGATIVE	0.2	0.14
332	WRANGELL MEDICAL CENTER	FRENCH	FIRST	137	RADIATOR	METAL	INTACT	TAN	5.47	9/18/20 14:43:24	NEGATIVE	0.11	0.13
333	WRANGELL MEDICAL CENTER	FRENCH	FIRST	139 (IN HALLWAY)	DOOR	WOOD	INTACT	VARNISH	6.25	9/18/20 14:44:54	NEGATIVE	0.11	0.12
334	WRANGELL MEDICAL CENTER	FRENCH	FIRST	140	SINK	CERAMIC	INTACT	WHITE	5.25	9/18/20 14:46:36	NEGATIVE	0	0.13
335	WRANGELL MEDICAL CENTER	FRENCH	FIRST	135	DOOR FRAME	METAL	INTACT	PINK	4.9	9/18/20 14:48:08	NEGATIVE	0.22	0.14
336	WRANGELL MEDICAL CENTER	FRENCH	FIRST	135	WALL	FORMICA	INTACT	BEIGE	5.69	9/18/20 14:49:45	NEGATIVE	0.12	0.13
<b>337</b>	<b>WRANGELL MEDICAL CENTER</b>	<b>FRENCH</b>	<b>FIRST</b>	<b>131</b>	<b>SINK</b>	<b>CERAMIC</b>	<b>INTACT</b>	<b>WHITE</b>	<b>3.83</b>	<b>9/18/20 14:52:10</b>	<b>POSITIVE</b>	<b>19.26</b>	<b>0.15</b>
338	WRANGELL MEDICAL CENTER	FRENCH	FIRST	128	WALL	VINYL	INTACT	ORANGE	4.43	9/18/20 14:54:50	NEGATIVE	0.09	0.14
339	WRANGELL MEDICAL CENTER	FRENCH	FIRST	143	WALL	DRYWALL	INTACT	WHITE	5.45	9/18/20 14:58:09	NEGATIVE	0.11	0.13
340	WRANGELL MEDICAL CENTER	FRENCH	FIRST	144	WALL	DRYWALL	INTACT	GRAY	5.7	9/18/20 14:59:01	NEGATIVE	0.15	0.13
341	WRANGELL MEDICAL CENTER	FRENCH	FIRST	147	WALL	DRYWALL	INTACT	OFF-WHITE	4.14	9/18/20 15:02:36	NEGATIVE	0.15	0.15
342	WRANGELL MEDICAL CENTER	FRENCH	FIRST	147	DOOR	WOOD	INTACT	VARNISH	5.82	9/18/20 15:03:43	NEGATIVE	0.02	0.12
343	WRANGELL MEDICAL CENTER	FRENCH	FIRST	151	DOOR	METAL	INTACT	BLACK	5.67	9/18/20 15:05:12	NEGATIVE	0.09	0.13
344	WRANGELL MEDICAL CENTER	FRENCH	FIRST	141	CABINET	FORMICA	INTACT	PINK	5.68	9/18/20 15:06:30	NEGATIVE	0.25	0.13
345	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	21 (IN HALLWAY)	DOOR	METAL	INTACT	BEIGE	5.38	9/18/20 15:27:22	NEGATIVE	0.12	0.13
346	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	21	FLOOR	CONCRETE	INTACT	GRAY	5.81	9/18/20 15:41:48	NEGATIVE	0.19	0.12
347	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	1 (IN HALLWAY)	WALL	DRYWALL	INTACT	OFF-WHITE	5.16	9/18/20 15:43:04	NEGATIVE	0.25	0.13
348	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	20 (IN HALLWAY)	DOOR FRAME	METAL	INTACT	WHITE	5.47	9/18/20 15:43:54	NEGATIVE	0.5	0.13
349	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	2	COUNTERTOP	FORMICA	INTACT	BROWN	5.65	9/18/20 15:44:58	NEGATIVE	0.25	0.13
350	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	2	CABINET	FORMICA	INTACT	WHITE	5.47	9/18/20 15:45:34	NEGATIVE	0.18	0.13
351	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	2	WALL	DRYWALL	INTACT	PINK	6.34	9/18/20 15:46:27	NEGATIVE	0.36	0.12
352	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	1	WALL	DRYWALL	INTACT	PINK	6.03	9/18/20 15:48:22	NEGATIVE	0.15	0.12
353	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	167	WALL	MARLITE	INTACT	GREEN	5.97	9/18/20 15:49:44	NEGATIVE	0.19	0.12

LEAD ANALYZER TEST RESULTS

NO.	SITE	INSPECTOR	FLOOR	ROOM	COMPONENT	SUBSTRATE	CONDITION	COLOR	DURATION	TIME	RESULTS		
											LBP	mg/cm <sup>2</sup>	+/- ERROR
354	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	167	FLOOR	CONCRETE	INTACT	GRAY	5.62	9/18/20 15:50:50	NEGATIVE	0.26	0.13
355	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	3	DUCT	METAL	INTACT	PINK	5.44	9/18/20 15:53:42	NEGATIVE	0.11	0.13
356	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	3	DUCT	METAL	INTACT	GRAY	5.42	9/18/20 15:54:16	NEGATIVE	0.06	0.13
357	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	3	PIPE	METAL	INTACT	YELLOW	4.43	9/18/20 15:55:14	NEGATIVE	0.18	0.14
358	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	4	DOOR	METAL	INTACT	GRAY	5.5	9/18/20 15:57:48	NEGATIVE	0.06	0.13
359	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	4	WALL	DRYWALL	INTACT	OFF-WHITE	6.14	9/18/20 15:58:40	NEGATIVE	0.05	0.12
360	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	164	DOOR	WOOD	INTACT	VARNISH	5.85	9/18/20 16:00:28	NEGATIVE	0.04	0.12
361	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	165	WALL	DRYWALL	INTACT	TAN	5.64	9/18/20 16:02:58	NEGATIVE	0.2	0.13
362	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	164	WALL	WOOD	INTACT	OFF-WHITE	5.58	9/18/20 16:04:04	NEGATIVE	0.19	0.13
363	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	5	DOOR FRAME	METAL	INTACT	WHITE	2.68	9/18/20 16:05:26	NEGATIVE	0.13	0.18
364	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	5	WALL	DRYWALL	INTACT	RED	5.21	9/18/20 16:06:45	NEGATIVE	0.15	0.13
365	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	6	WALL	DRYWALL	INTACT	BLUE	3.23	9/18/20 16:08:46	NEGATIVE	0.17	0.17
366	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	7	WALL	DRYWALL	INTACT	BLUE	5.51	9/18/20 16:11:06	NEGATIVE	0.12	0.13
367	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	9	CABINET	FORMICA	INTACT	RED	6.14	9/18/20 16:12:51	NEGATIVE	0.43	0.12
368	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	14	CABINET	FORMICA	INTACT	RED	7.52	9/18/20 16:16:16	NEGATIVE	0.5	0.11
369	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	14	COUNTERTOP	FORMICA	INTACT	BROWN	5.74	9/18/20 16:17:29	NEGATIVE	0.15	0.12
370	WRANGELL MEDICAL CENTER	FRENCH	BASEMENT	37	COUNTERTOP	FORMICA	INTACT	WHITE	4.84	9/18/20 16:18:27	NEGATIVE	0.14	0.14

Table Heading Descriptions:

Duration: This is the nominal time in "source" seconds that each sample was analyzed.

LBP: Results are shown as positive (POS  $\geq$  1.0 mg/cm<sup>2</sup>) or negative (NEG < 1.0 mg/cm<sup>2</sup>). Positive results are shown in bold print.

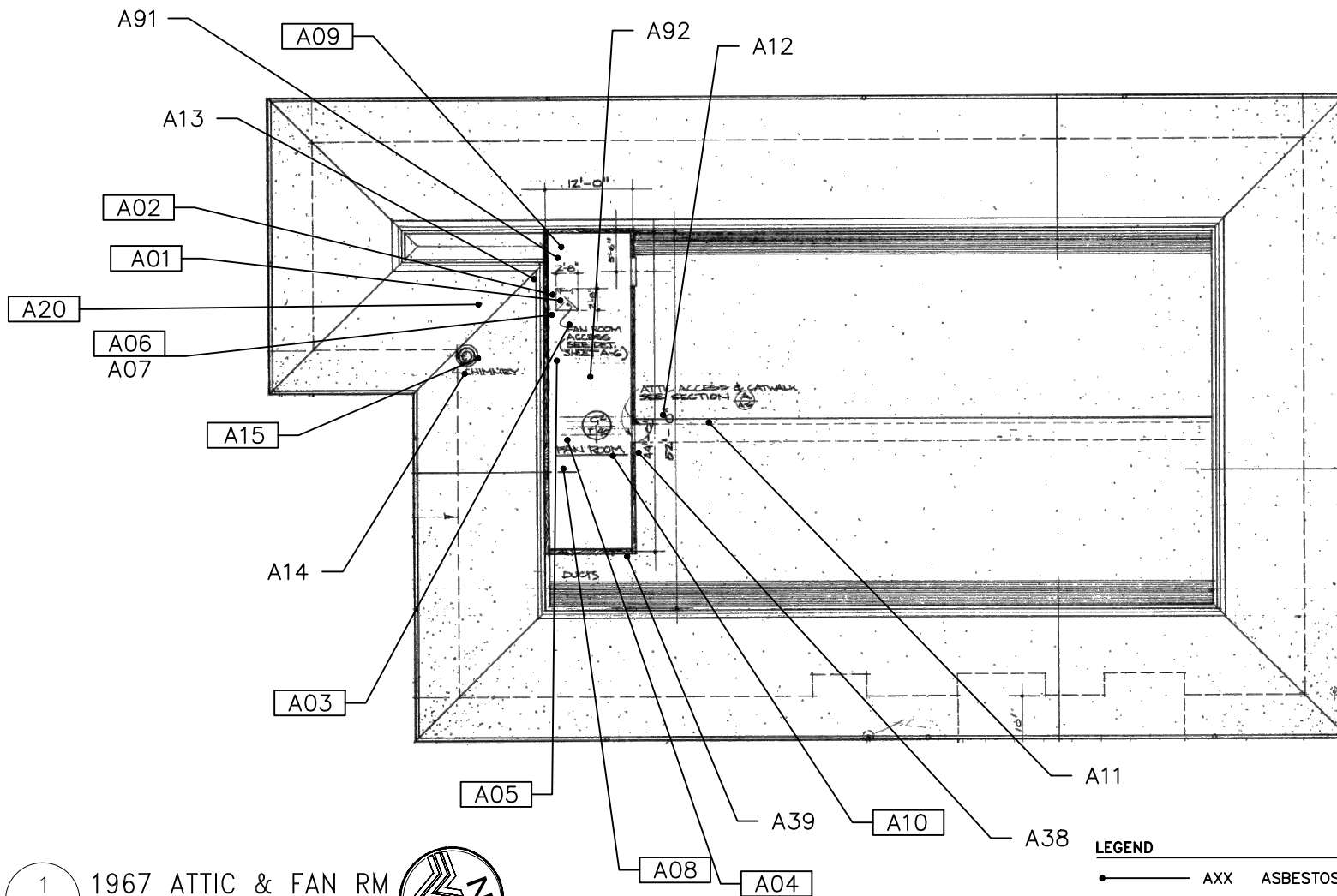
mg/cm<sup>2</sup>: This is the testing results produced by the Heuresis Pb200i instrument in milligrams of lead per square centimeter (mg/cm<sup>2</sup>). The EPA defines lead based paint as paint containing lead at 1.0 mg/cm<sup>2</sup> or greater. A negative number is a result of an internal computation made by the instrument and should be interpreted as zero. Even though paint may be termed negative (less than 1.0 mg/cm<sup>2</sup>) by EPA definition, disturbance of the paint may still be regulated by OSHA under 29 CFR 1926.62. Where lead is present at any level, appropriate engineering controls, work practices and personal protective equipment should be used until a negative exposure assessment can be determined. <LOD indicates that the lead present was less than the limits of detection of the instrument (very little or no lead present).

VOID: This indicates that the test was intentionally terminated by the operator due to operator error (e.g. - operator moved analyzer while testing).

Substrate: Where ceramic is shown as a substrate, lead content is typically from the glazing on the tile unless the tile is painted.

## **APPENDIX C**

### **Drawings of Sample Locations**



1  
C-1

1967 ATTIC & FAN RM  
NTS



**LEGEND**

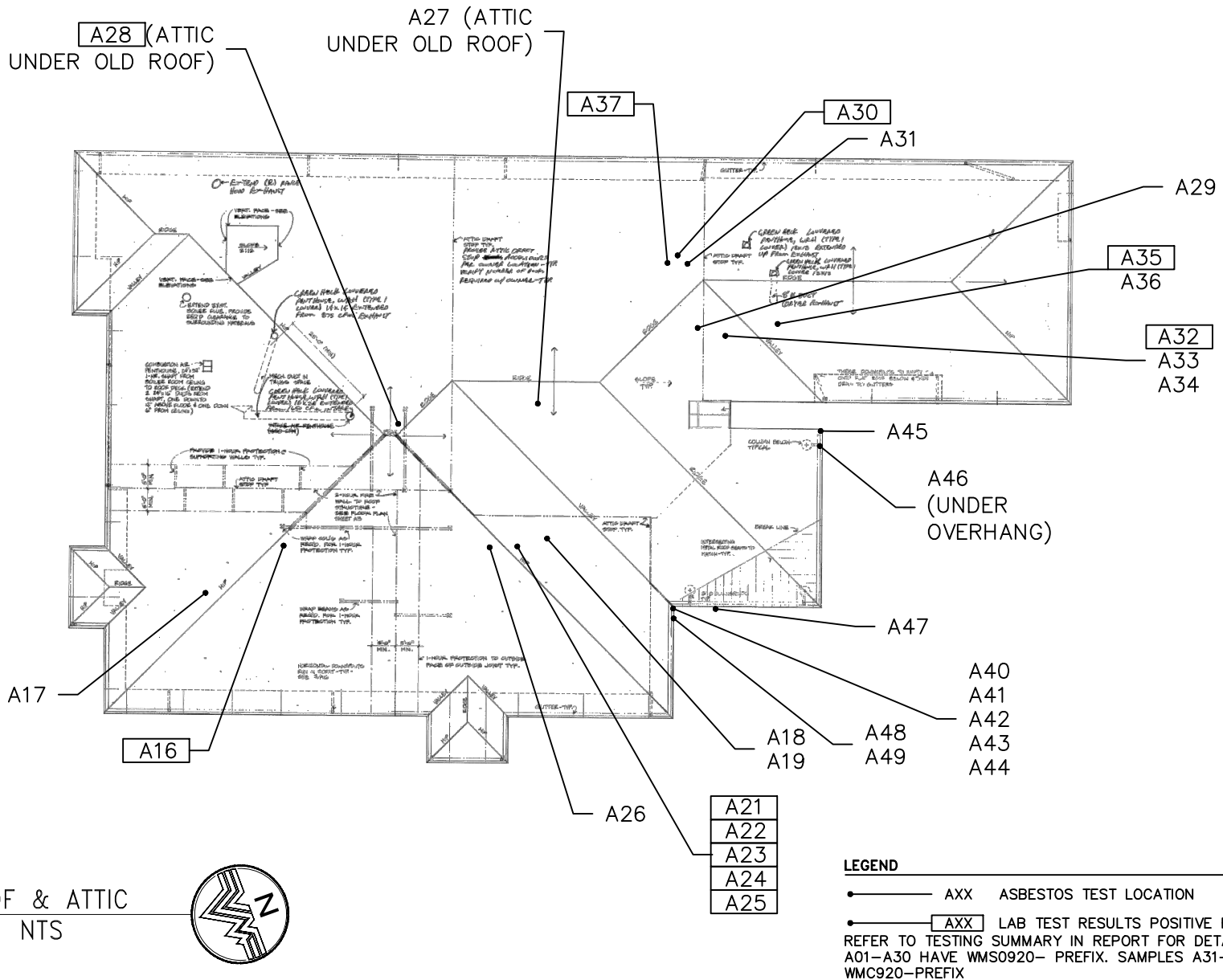
- AXX ASBESTOS TEST LOCATION
  - [AXX] LAB TEST RESULTS POSITIVE FOR ASBESTOS
- REFER TO TESTING SUMMARY IN REPORT FOR DETAILS. SAMPLES A01-A30 HAVE WMS0920- PREFIX. SAMPLES A31-A122 HAVE WMC920-PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/14/2020
CHECK: RAF	
FILE #:	DWG.NO:
7795-03-SL	C-1



1  
C-2

ROOF & ATTIC  
NTS



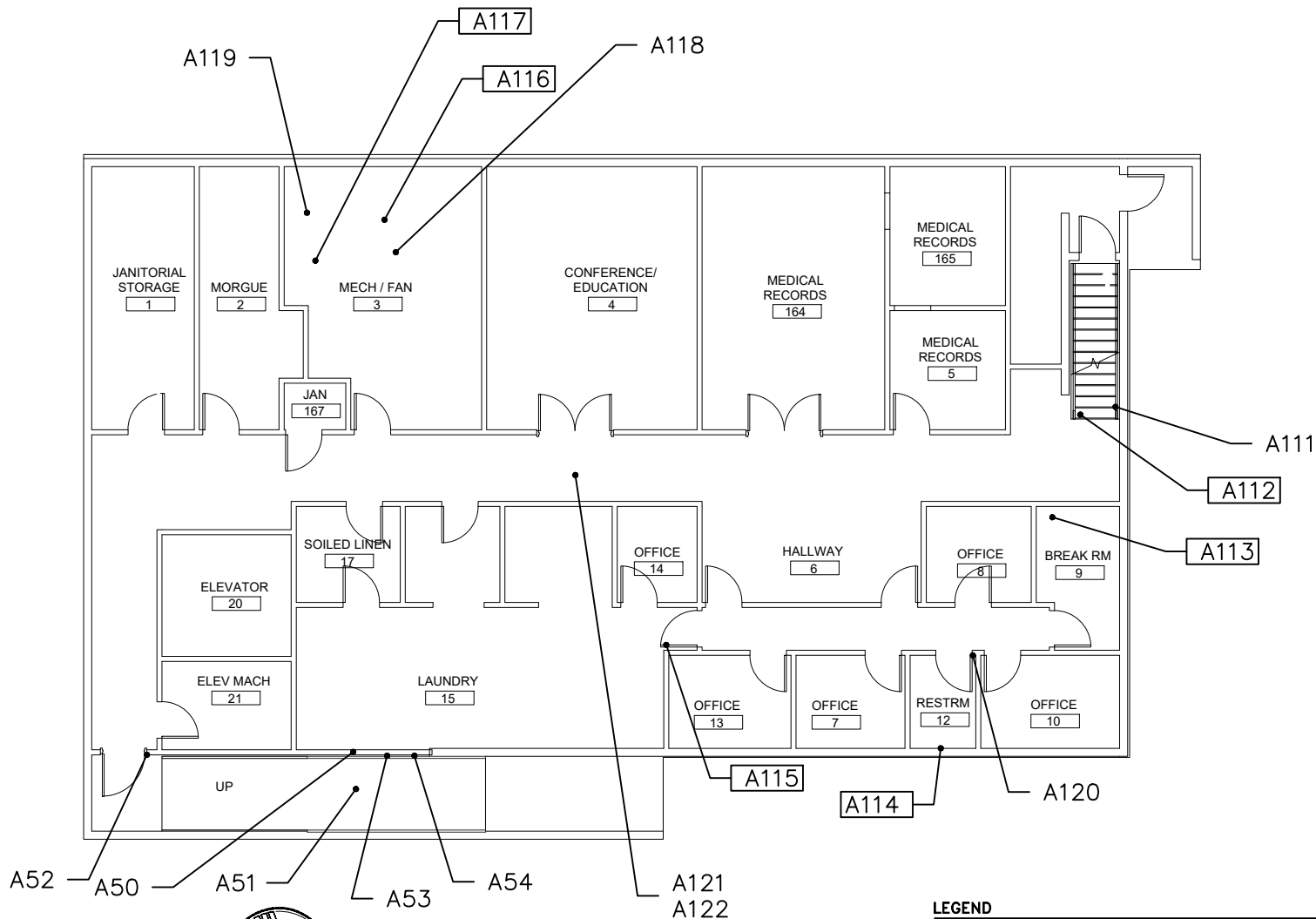
WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/14/2020
CHECK: RAF	
FILE #:	DWG.NO:
7795-03-SL	C-2





1  
C-3

1974 ERA BASEMENT  
NTS



**LEGEND**

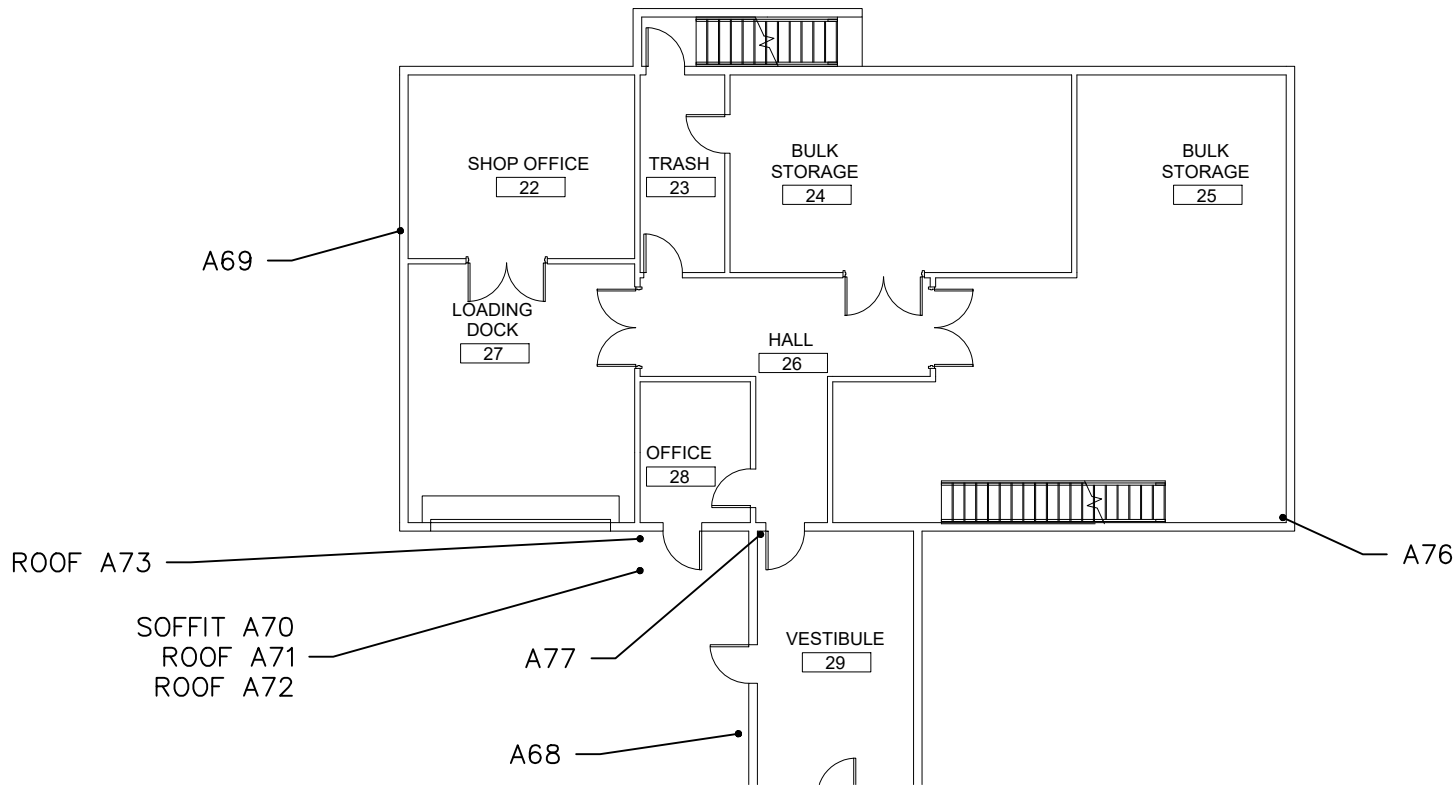
- — AXX ASBESTOS TEST LOCATION
- — [AXX] LAB TEST RESULTS POSITIVE FOR ASBESTOS  
REFER TO TESTING SUMMARY IN REPORT FOR DETAILS. SAMPLES  
A01-A30 HAVE WMS0920- PREFIX. SAMPLES A31-A122 HAVE  
WMC920-PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/14/2020
CHECK: RAF	
FILE #:	DWG.NO:
7795-03-SL	C-3



1  
C-4

1992 ADDITION  
NTS



**LEGEND**

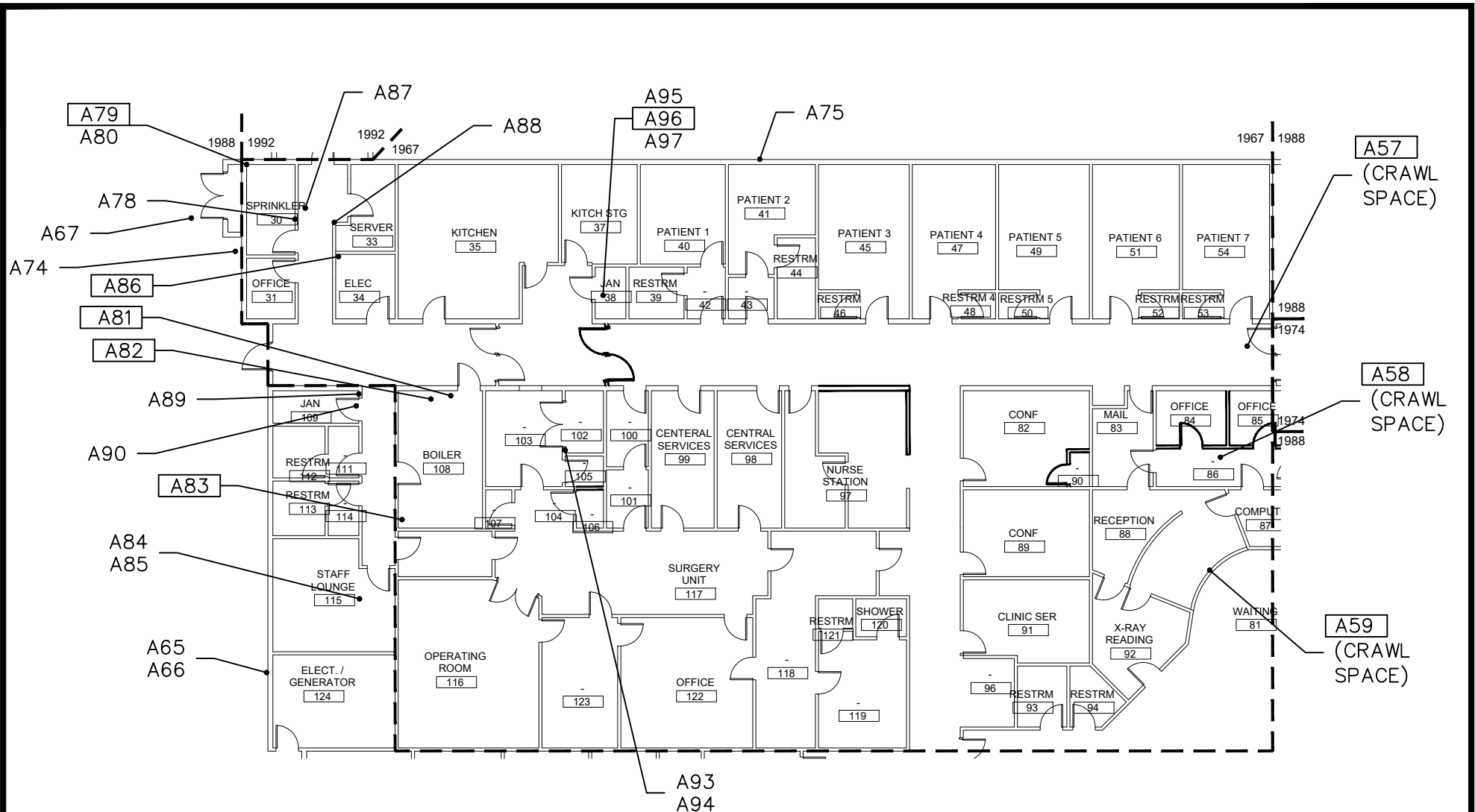
- AXX ASBESTOS TEST LOCATION
- AXX LAB TEST RESULTS POSITIVE FOR ASBESTOS  
REFER TO TESTING SUMMARY IN REPORT FOR DETAILS. SAMPLES  
A01-A30 HAVE WMS0920- PREFIX. SAMPLES A31-A122 HAVE  
WMC920-PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/14/2020
CHECK: RAF	
FILE #:	DWG.NO:
7795-03-SL	C-4



1  
C-5

FIRST FLOOR NORTH



**LEGEND**

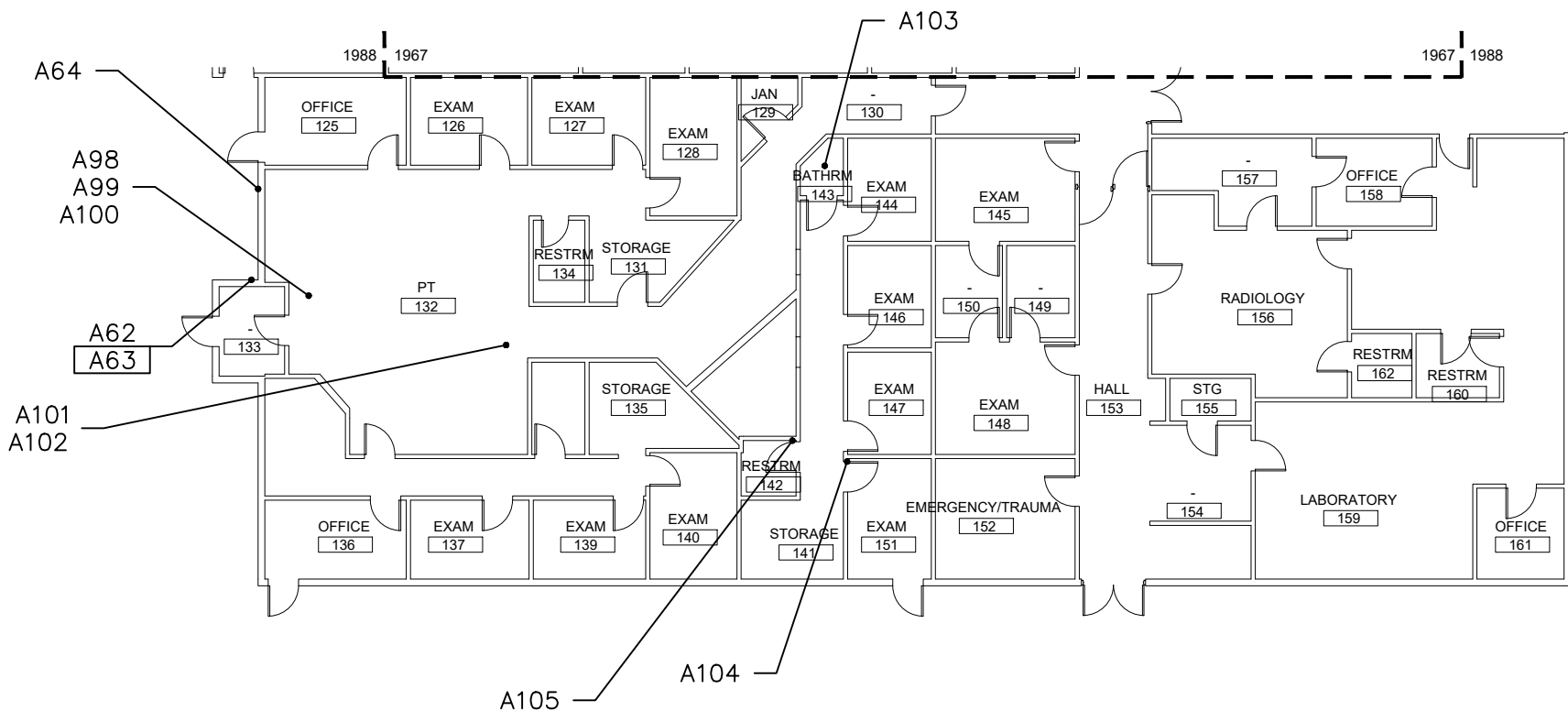
- — AX — ASBESTOS TEST LOCATION
- — [AXX] — LAB TEST RESULTS POSITIVE FOR ASBESTOS  
REFER TO TESTING SUMMARY IN REPORT FOR DETAILS. SAMPLES  
A01-A30 HAVE WMS0920- PREFIX. SAMPLES A31-A122 HAVE  
WMC920-PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



DRAWN: CTO	DATE: 09/14/2020
CHECK: RAF	DWG.NO: C-5
FILE #:	
7795-03-SL	



1  
C-6

FIRST FLOOR WEST  
NTS



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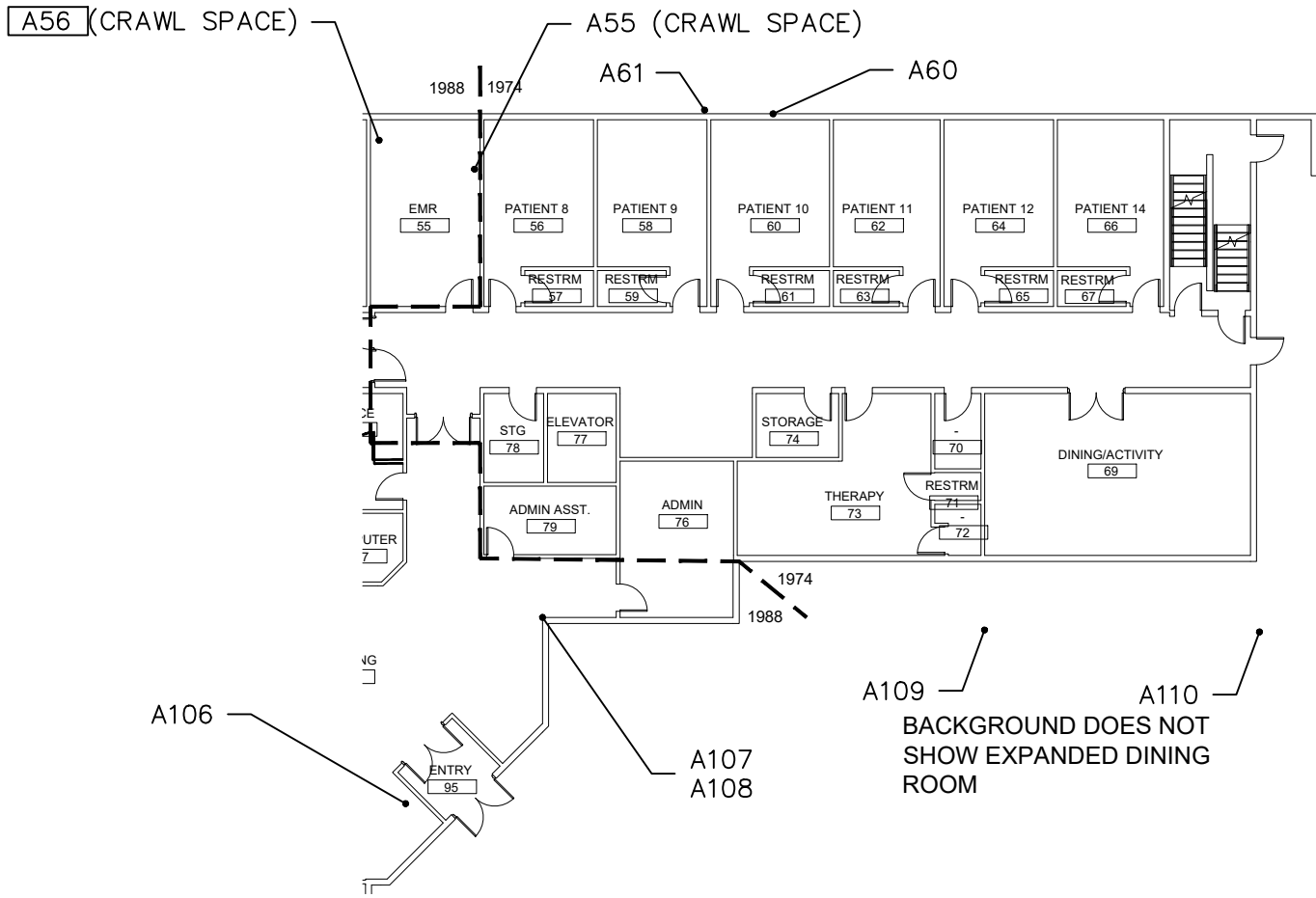
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- — [AXX] LAB TEST RESULTS POSITIVE FOR ASBESTOS  
REFER TO TESTING SUMMARY IN REPORT FOR DETAILS. SAMPLES  
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WMC920–PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



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C-7

FIRST FLOOR SOUTH  
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**LEGEND**

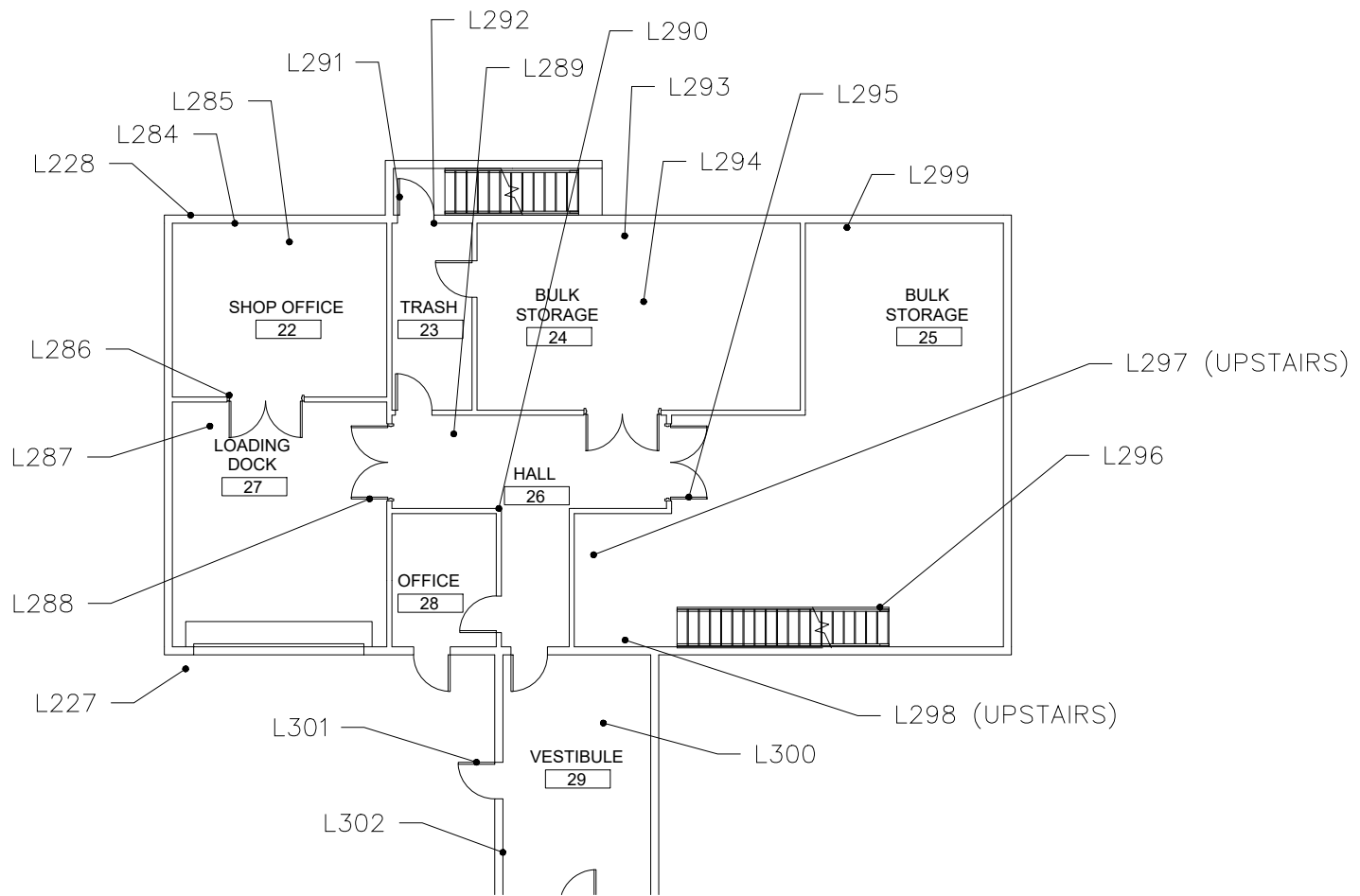
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A01-A30 HAVE WMS0920- PREFIX. SAMPLES A31-A122 HAVE  
WMC920-PREFIX

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
ASBESTOS SAMPLE LOCATIONS



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C-8

1992 ADDITION  
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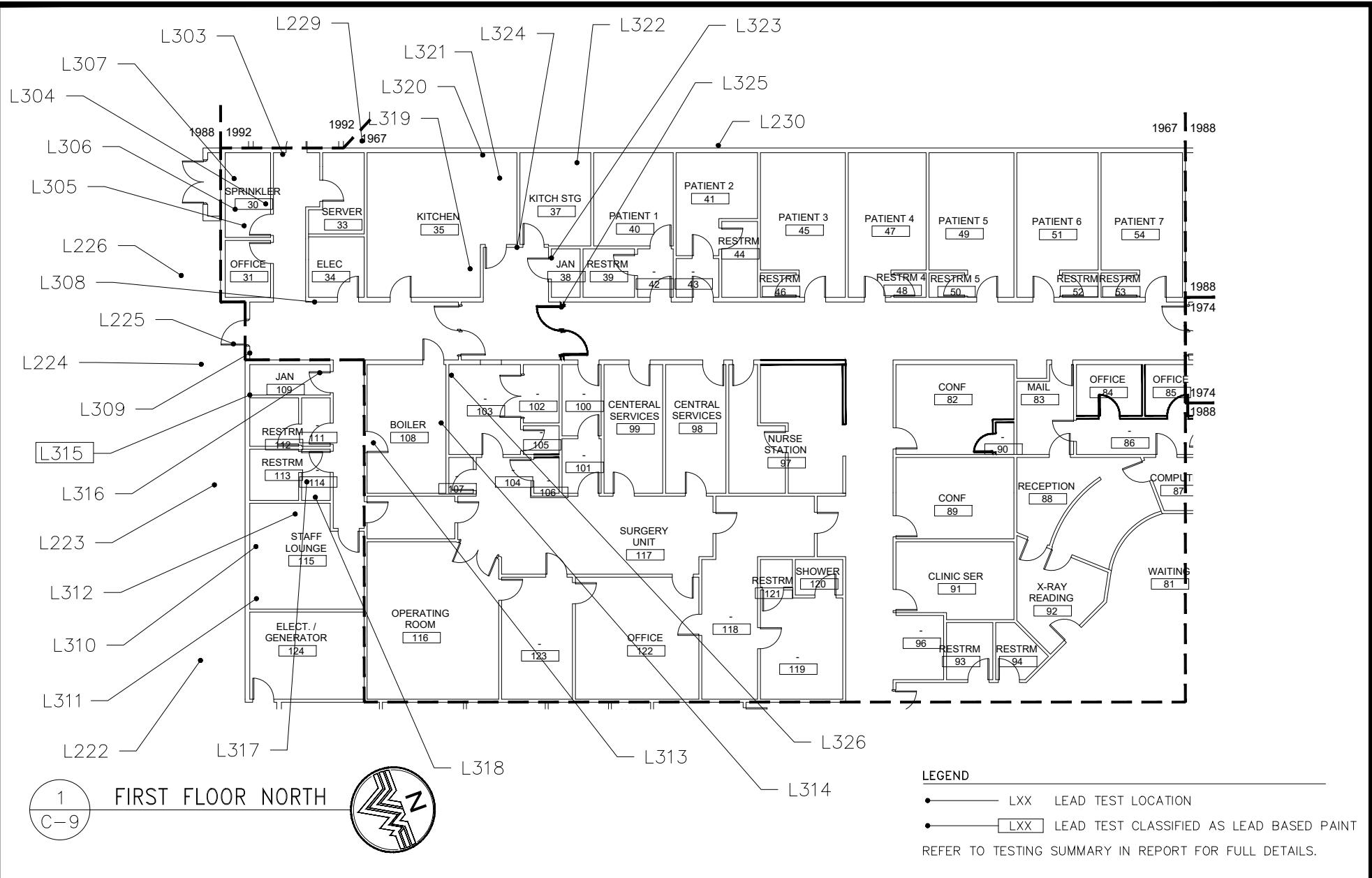
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WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
LEAD SAMPLE LOCATIONS



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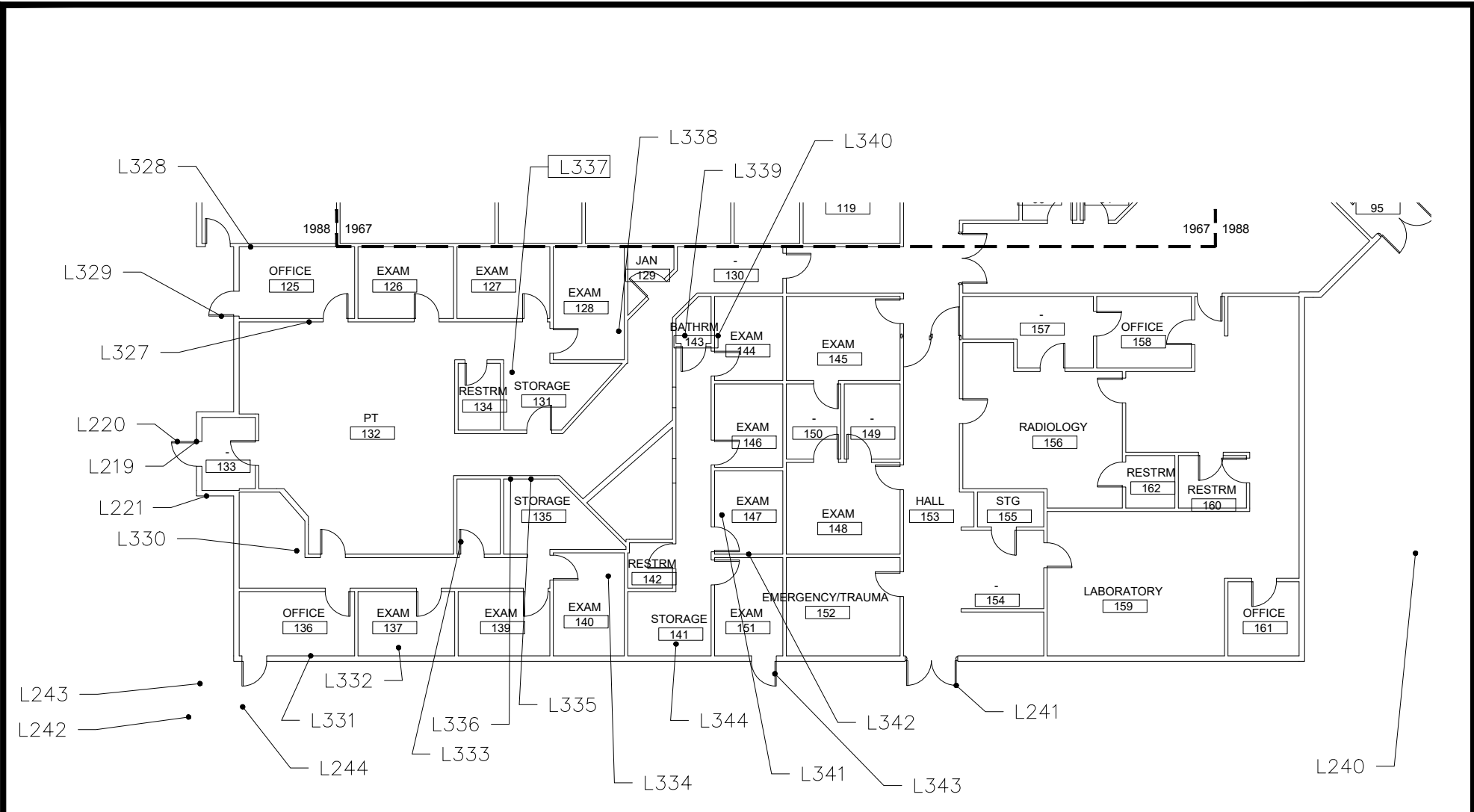
REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

**WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT**

**WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
LEAD SAMPLE LOCATIONS**



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FILE #:	
7795-03-SL	



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FIRST FLOOR WEST  
NTS



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- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

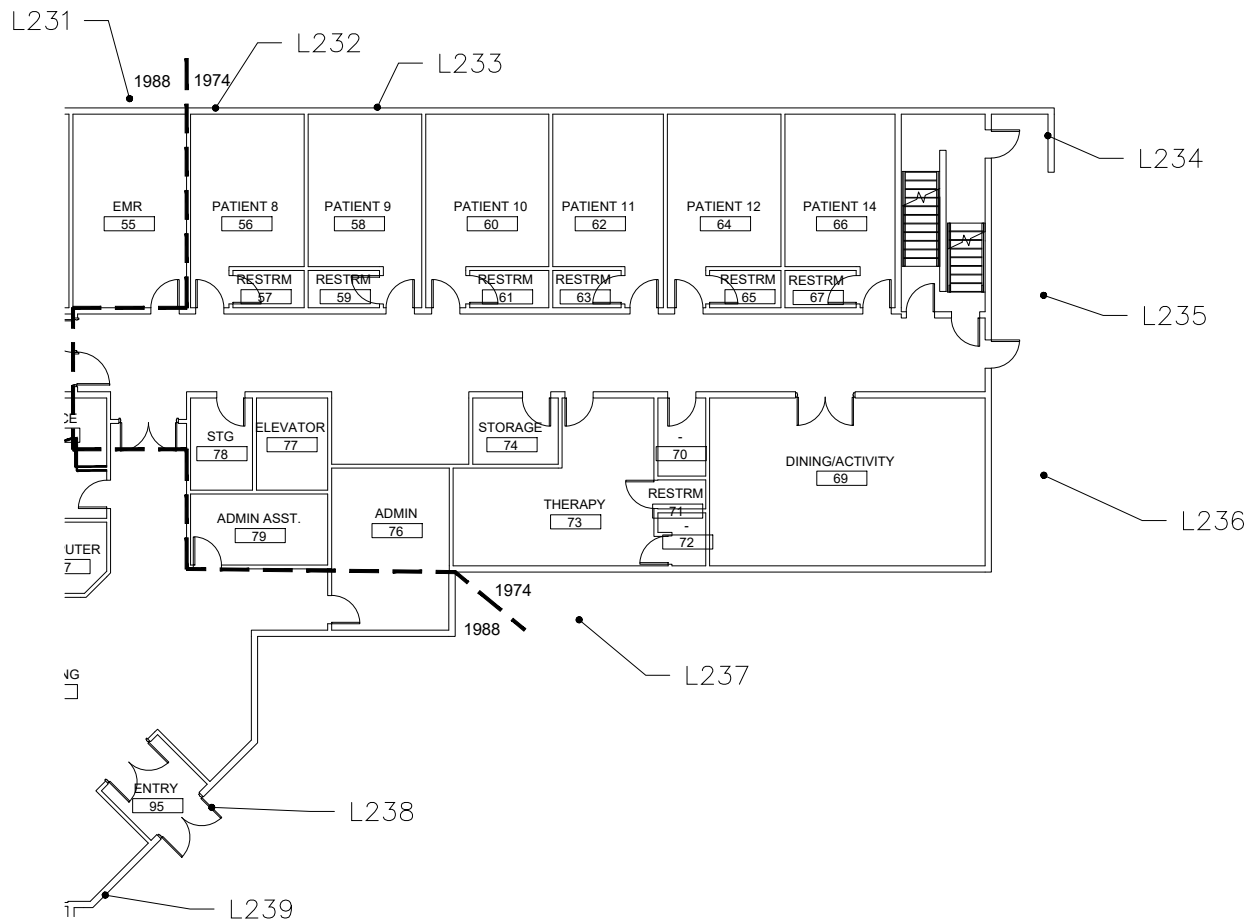
WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
LEAD SAMPLE LOCATIONS



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C-11

FIRST FLOOR SOUTH  
NTS



LEGEND

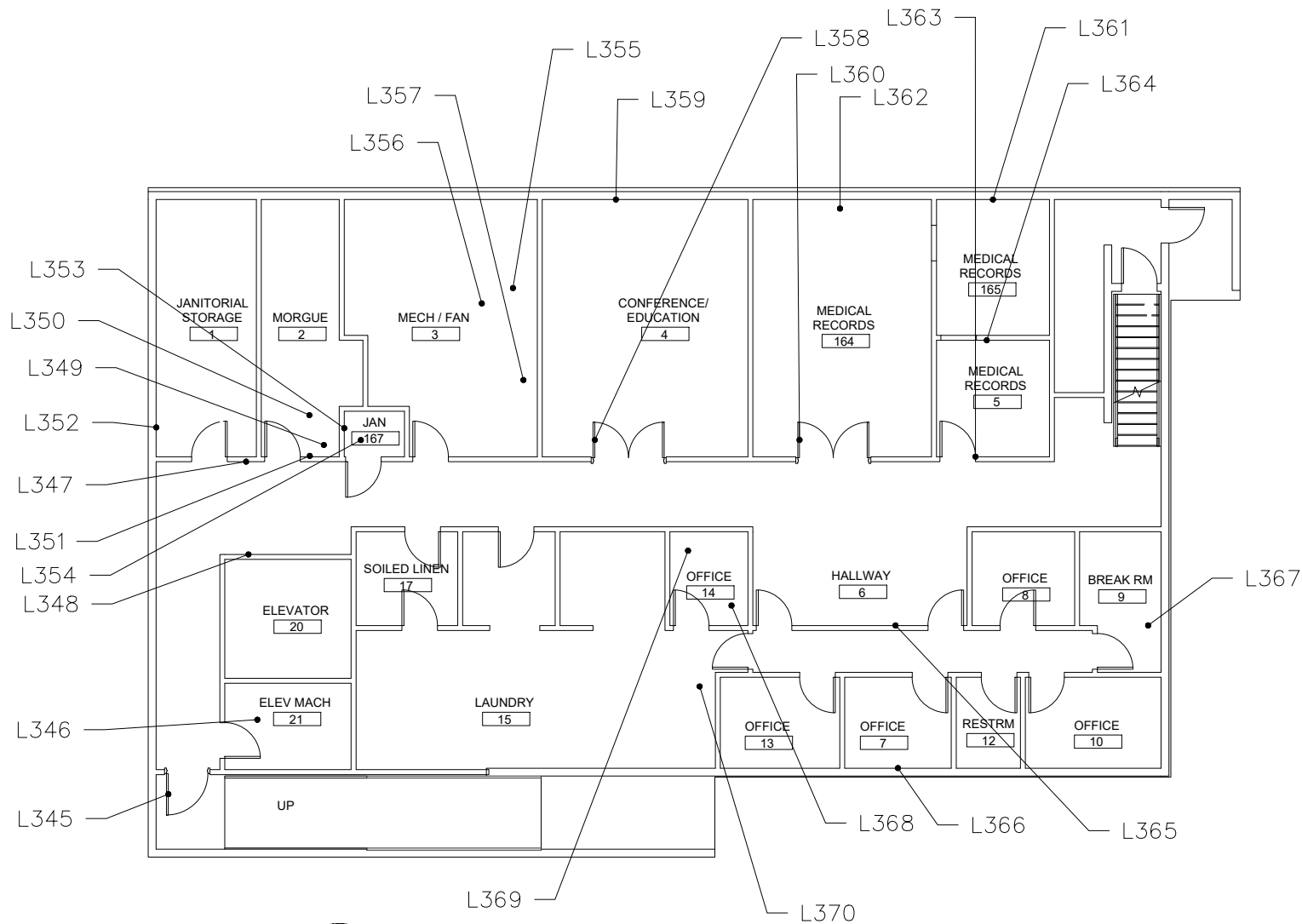
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WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
LEAD SAMPLE LOCATIONS



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FILE #: 7795-03-SL	DWG.NO: C-11



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C-12

1974 ERA BASEMENT  
NTS



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- REFER TO TESTING SUMMARY IN REPORT FOR FULL DETAILS.

WRANGELL  
CAPITAL FACILITIES  
DEPARTMENT

WRANGELL MEDICAL CENTER  
WRANGELL, ALASKA  
LEAD SAMPLE LOCATIONS



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7795-03-SL	C-12



STATE OF ALASKA  
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES  
Division of Statewide Design & Engineering Services  
Right-of-Way

ENCROACHMENT PERMIT

ENCROACHMENT PERMIT NO. WRG-18-001

THIS PERMIT is issued and effective this 20th day of March 2018 at Juneau, Alaska, by the STATE OF ALASKA, DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, SOUTHCOAST REGION, whose mailing address is P.O. Box 112506 Juneau, AK 99811-2506, acting through its Commissioner and referred to as the "State", and the CITY OF WRANGELL, referred to as "Permittee," whose mailing address is: PO Box 1081, Wrangell, AK 99929.

Permittee may occupy the following described right-of-way, which is depicted on the attached diagram and referred to hereinafter as the "Permitted Area":

*An unsurveyed portion of state right of way adjacent to Lot 10, Block 54, USS 1119 within the Wrangell Townsite and adjacent to 310 Bennett Street, Wrangell Recording District, First Judicial District, State of Alaska*

This permit is subject to the provisions of Alaska Administrative Code, Title 17, Chapter 010, and the following general and special conditions:

1. **Allowed Use:** The permitted area is to be used for A ROOFLINE/OVERHANG AND SUPPORT COLUMNS, and for no other purpose.
2. **Annual Fee:** THERE IS NO ANNUAL USE FEE FOR THIS PERMIT.
3. **Term:** Permittee may occupy the permitted area for a term (not to exceed five years) commencing on 03/19/2018 and ending on 03/18/2023, unless sooner revoked as provided herein. Before the expiration of said term, and before subsequent term anniversary dates, Permittee may submit a renewal application to seek authorization of this Permit for an additional term.
4. **Use by the State:** The issuance of this Permit notwithstanding, the permitted area's primary use is for transportation purposes. The State may revoke this permit (as stated below), and/or enter the permitted area at any time, without notice, for emergency use, or for the planning, design, construction, inspection, or maintenance of existing or future transportation facilities. Any such use of the permitted area will in no way invoke the protections provided under 23 USC Section 138 (Preservation of Parklands).
5. **Compliance with Laws:** Permittee shall comply with all laws, ordinances, regulations, and administrative agency and/or court orders, including those relating to health, safety, noise, environmental protection, waste disposal, hazardous or toxic materials, and water and air quality. No fuel, hazardous or combustible substances are to be stored in the Permit area. Should Permittee's use of the permitted area cause any discharge, leak, spill, emission, or pollution release of any type to occur at any time during this occupancy, Permittee shall immediately notify the State and the appropriate federal, state, and local authorities. Permittee shall act immediately to contain and/or absorb the release, repair any damage, and clean up the release area, and to restore the permitted area

to compliance with all applicable state, federal, or local laws or regulations. Permittee shall be held liable for any and all costs incurred by the State to dispose of cleanup materials or to clean up the permitted area unless otherwise agreed to, in writing, by both parties.

6. **Corps of Engineers Authorization:** Before any filling activities take place within the right-of-way, or on the property adjacent to the right-of-way affected by this permit, please contact the U.S. Army Corps of Engineers (USACE) to see if any further authorization is required. Placement of fill material in waters of the U.S., including wetlands and streams, requires prior authorization in most cases. You can reach the USACE at

Anchorage: (907) 753-2712, Fax: (907) 753-5567 Toll Free 1-800-478-2712

Fairbanks: (907) 474-2166, Fax: (907) 474-2164

Juneau: (907) 790-4490, Fax: (907) 790-4499

Kenai: (907) 283-3519, Fax: (907) 283-3981

The website is <http://www.poa.usace.army.mil/reg>

7. **Indemnification:** Permittee shall indemnify, defend and hold harmless the State, and its officers, employees, and contractors, from any claim resulting from injury, loss, or damage to any person or personal property resulting from Permittee's use of the permitted area.
8. **Waiver of Claims:** Permittee waives any claim or right of action Permittee may have against the State in the event of damage to property, and injury to or death of any person in the permitted area that arises because of the design, construction, maintenance, management, or operation of a highway in the right of way containing the permitted area.
9. **Reimbursement of Costs:** Permittee shall reimburse the State for all costs and expenses incurred by the State, including attorney's fees, in any action brought by the State to recover any delinquent fees, or for the breach of any terms or conditions contained in this Permit, or to recover possession of the permitted area.
10. **Non-discrimination:** No person, on the basis of race, religion, color, national origin, age, or sex, shall be excluded from participation in, denied the benefits of, or otherwise subjected to discrimination in that person's use of the permitted area.
11. **Assignment:** Permittee may not assign or transfer this permit.
12. **Revocation:** This Permit is not a property right but a temporary authorization, revocable by the State. The State may revoke this permit in its sole discretion and upon 30 days written notice unless a shorter period is agreed to herein by Permittee. Said notice will be sent to Permittee's last known mailing address. Permittee shall have no right of action against the State. Upon the expiration or revocation of this Permit, Permittee shall remove all encroachments and restore the permitted area to a clean and safe condition. This Permit may be also revoked based upon a written determination by the Federal Highway Administration that federal funding requirements applicable to outdoor advertising have been violated.
13. **Loss of Business:** The State is not responsible for loss of business.

14. **No Relocation Benefits:** Issuance of this Permit does not entitle Permittee to a payment of just compensation or relocation benefits under AS 34.60 if Permit is revoked, Permittee elects not to renew, or the State denies Permittee's request for renewal.
15. **Cancellation by Permittee:** Permittee may cancel this Permit by providing written notice to the State at the above address. Permittee is not entitled to a refund of any fees or expenses related to the revocation or cancellation of this Permit.
16. **Abandonment by Permittee:** Upon abandonment by Permittee of the permitted area, Permittee's rights under this Permit will immediately terminate, but Permittee's obligations will survive until fulfilled.

IN WITNESS WHEREOF the parties hereto have set their hands and seals the day and year in this Permit first above written.

ALASKA DEPARTMENT OF  
TRANSPORTATION AND PUBLIC FACILITIES

PERMITTEE

By: [Signature]  
Greg A. Weinert, ROW Chief  
Southcoast Region

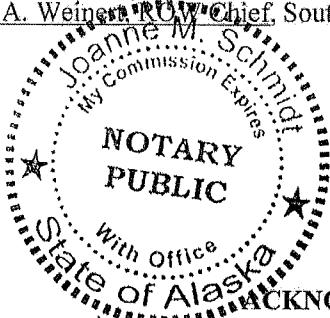
By: [Signature]  
Borough Manager, City of Wrangell

ACKNOWLEDGMENT OF DEPARTMENT OF TRANSPORTATION  
AND PUBLIC FACILITIES

STATE OF ALASKA )  
: ss.  
FIRST JUDICIAL DISTRICT )

The foregoing instrument was acknowledged before me on 03/21 /2018, by

Greg A. Weinert, ROW Chief, Southcoast Region.

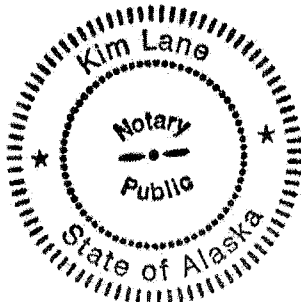


[Signature]  
Notary Public for Alaska  
My Commission Expires: with office

ACKNOWLEDGMENT OF PERMITTEE

STATE OF Alaska )  
: ss.  
1st JUDICIAL DISTRICT )

The foregoing instrument was acknowledged before me on 21st March /2018, by Lisa Von Barger, Borough Manager, City of Wrangell, Permittee.

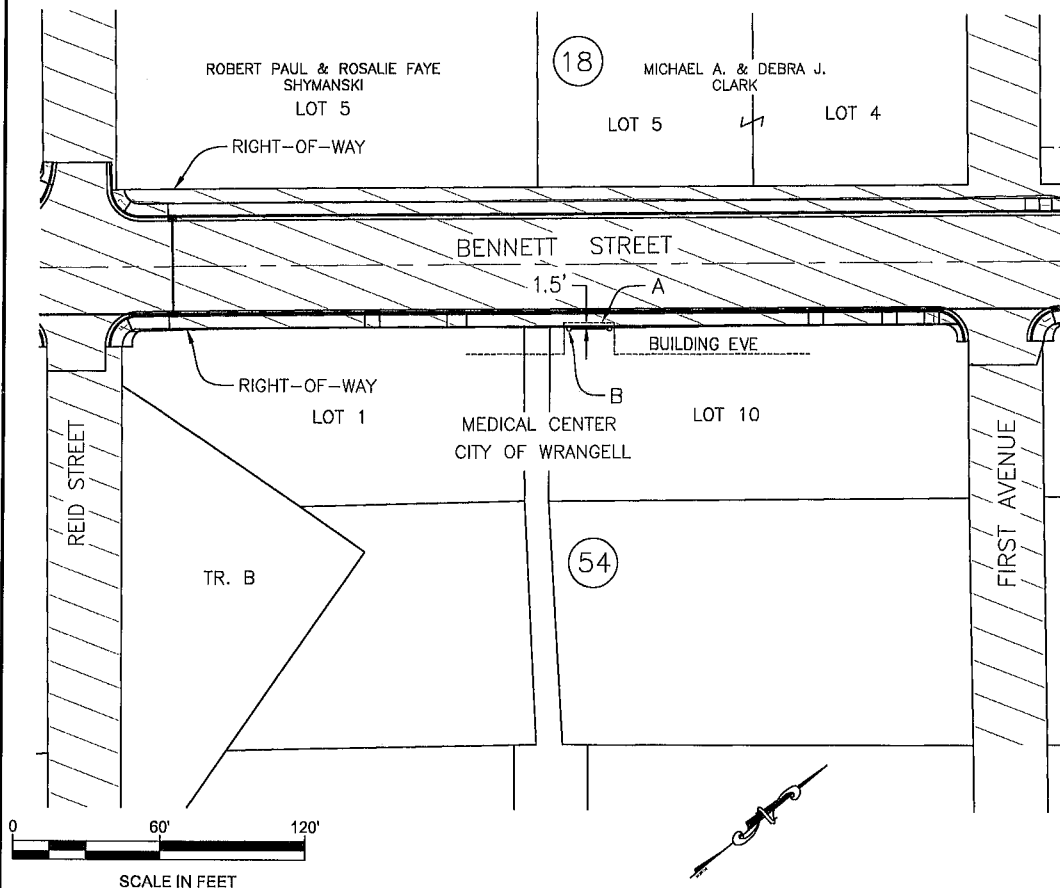


[Signature]  
Notary Public for Alaska  
My Commission Expires: 7-27-2021

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TABLE OF ENCROACHMENT DIMENSIONS			
ENTITY	DESCRIPTION	ENCROACHMENT DISTANCE	TRAVELED WAY OFFSET
A	BUILDING ROOF LINE	1.5'	5.7'
B	CONCRETE COLUMNS	0.2'	7.1'



**DESCRIPTION:** LOT 10, BLOCK 54, USS 1119 distances listed below extend into Right of Way  
**ENCROACHMENT:** BUILDING ROOF LINE extends 1.5'.  
**DATE:** 07/12/2017 **PROJECT #** SFHWY00067

# Wrangell Alaska Economic Conditions Report 2022

For the City and  
Borough of Wrangell  
November 2022



A Publication by  
Rain Coast Data





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# Wrangell Economy 2022 Summary

In 2018, the Wrangell economy seemed to be on the right track. Jobs, wages, and population were all up, and prospects appeared positive.

**Seafood Losses:** However, in 2020 Trident Seafood closed its plant. While the plant may still be reopened at some point in the future, there has been no indication as to when. The 2020 fishing season turned out to be one of the poorest on record for the region, and was especially devastating for Wrangell. The Wrangell seafood sector continued to struggle in 2021, as the closed seafood plant meant fewer landings and seafood processing in the community. Every seafood economic indicator was down in 2020 and 2021 compared to previous years.

**Tourism Losses:** Like the rest of Alaska, Canada's prohibition of cruise ships, combined with the U.S. Centers for Disease Control and Prevention no sail order for ships with more than 250, eliminated cruise ship traffic to Wrangell for all of 2020, and for much of 2021. Passenger arrivals in Wrangell by all modes fell from 40,702 in 2019 to just 7,641 in 2020, an 81% decline. While the 2021 passenger arrivals were significantly higher than 2020 levels, it remained critically below 2019 levels.

**Government Losses:** Government employment is down substantially. Total government jobs fell by 20% between 2019 and 2021. Local government employment fell by 23%. This represents a continued trend. Since 2010 government jobs have dropped by 41% (-131). Government generally provides steady year-round employment, which supplements Wrangell's other sectors that are more seasonal. Accounting for some, but not all of the losses, is the move to private health care. A quarter of city and borough employment had been hospital related, and approximately 55 of these jobs were transferred to SEARHC in November 2018.

**Population and Job Losses:** In 2020, the US Census steeply downgraded the Wrangell population, from 2,400 to 2,127, an administrative loss of 273 people. In September 2022, the State concurred with the US Census finding, and downgraded previous population estimates. Based on the new data, this means that Wrangell's population is now estimated to have lost 12% of its population in the last decade (2012-2021), a loss of 289 residents.

**Health Care is Largest Sector:** Health care is a critical part of the economy in terms of jobs, wages, and health care services. The health sector made up an estimated 22% of all wages in 2021, making it the largest sector in Wrangell in terms of earnings, slightly edging out combined government wages as well as all seafood wages.

**Barriers and Benefits:** Wrangell business leaders say Wrangell's art, recreation, overall quality of life, and culture benefit their businesses the most; while the high costs of freight transportation, the lack of ferry service, and energy costs represent the most significant business barriers.

# A History of the Wrangell Economy

The City and Borough of Wrangell—located on Wrangell Island near the Stikine River—represents approximately 3 percent of total population, jobs, and earnings for Southeast Alaska. The community of Wrangell has restructured its economy and identity many times over the years. Centered around the fur trade in the early 1800's, Wrangell went on to become a military fort, a mining center, and a base for canneries and fishing. In the early 1900's plentiful spruce and hemlock in the area gave rise to a timber economy, and by the early 1990's timber industry jobs accounted for twenty percent of Wrangell's workforce, and nearly a third of all direct local wages.

When the Alaska Pulp Company sawmill closed in 1994, the local economy was devastated. During the same period salmon prices tumbled reducing the value of the area's commercial fisheries. The community's largest seafood processor filed bankruptcy. Although the community would go on to briefly attract major interest from the large-scale cruise industry, after three years the ships moved on. Between 1994 and 2006, the population of the community fell by 18% (losing more than 500 residents). In response to these losses the community leaders reviewed their remaining assets, and refocused on developing and supporting their maritime resources. Immediately the community set about enhancing its locally-based seafood and marine services sector: converting the old mill site downtown into a marine services center and boat yard; building a third boat harbor; upgrading the local seafood processing infrastructure; and investing in its boatbuilding and repair facilities. The community also turned its attention to the visitor and maritime economy, upgrading its cruise ship dock, constructing a convention and visitors center, restoring the Chief Shakes Tribal House, and completing a major downtown revitalization facelift.

In 2020, the COVID-19 virus devastated the global economy, with Southeast Alaska and Wrangell in particular reeling from the impacts. An estimated 26,500 visitors, who had been projected to spend \$6.24 million in Wrangell's economy in 2020, did not come. In an abundance of terrible timing, the 2020 Wrangell fishery is said to be the worst since 1976, with COVID-19 further reducing demand and lowering prices. In August the Wrangell Borough Assembly declared an economic disaster. An October 2020 business survey found that Wrangell business revenue had fallen by 50%, and 21% of businesses were at risk of closing permanently. Wrangell's main processor has remained closed since it shut down for the season in 2019. In 2021, Wrangell again lost jobs, for a combined two year decline of 10%, or 112 jobs. Wrangell had 1,031 year-round equivalent jobs and \$47 million in workforce earnings in 2021.

The top economic drivers of the community are health care, seafood, tourism, and industrial maritime. With some of the lowest electrical rates in Alaska, the highest school district test scores, the potential to grow its visitor industry, the lowest unemployment rate on record, and a high level of entrepreneurship (more than a quarter of all workers are self-employed), Wrangell has potential to improve its prospects. This document, Wrangell Alaska Economic Conditions Report, provides a baseline summary of the economy of Wrangell post pandemic to provide an economic planning tool for stabilizing and re-growing the economy moving forward.

# CHANGES IN WRANGELL: 2010 to 2021

This table tracks key economic indicators in Wrangell 2010, 2015, 2019 and 2021, along with associated changes.

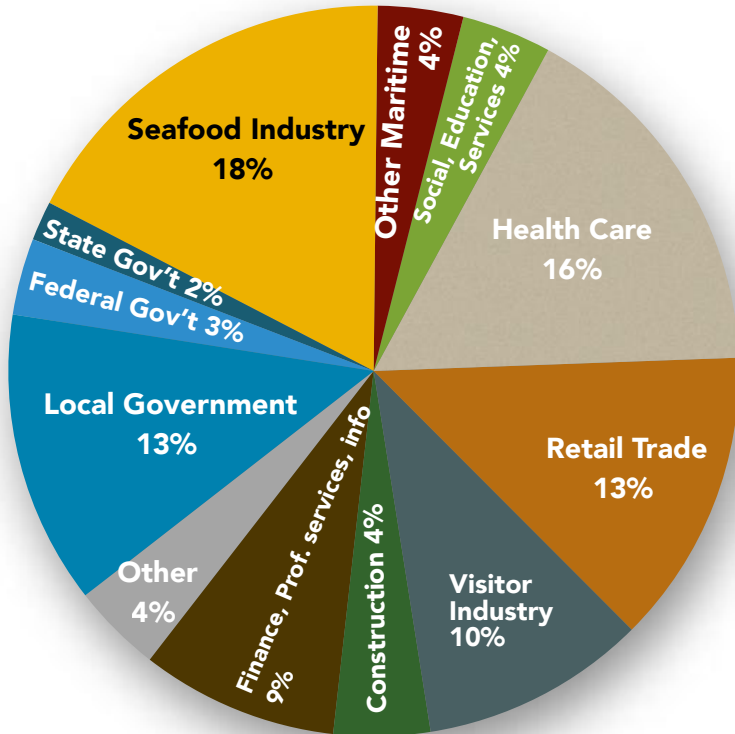
Demographics	2010	2015	2019	2021	% Change 2019-2021
<b>Wrangell Population</b>	<b>2,369</b>	<b>2,310</b>	<b>2,174</b>	<b>2,096</b>	<b>-4%</b>
65+ year olds (note that ADOL may update)	374	469	528	518	-2%
Median Age Wrangell (AK is 35.5)	46.4	47.8	47.5	47.1	-1%
K-12 Students	312	274	308	258	-16%
18 and under (note that ADOL may update)	542	518	540	467	-14%
General Economic Conditions	2010	2015	2019	2021	Change
Total Annualized Jobs	1,168	1,215	1,143	1,031	-10%
Total Job Earnings	\$45,285,755	\$46,507,622	\$49,804,705	\$47,279,823	-5%
Annual Average Wage	\$38,772	\$38,278	\$43,574	\$45,858	5%
Annual Unemployment Rate	8.8%	7.8%	7.7%	7.5%	-0.2%
Maritime Economy	Top Sector: 24% of employment earnings				
Seafood Jobs	271	281	198	181	-9%
Seafood Earnings	\$14,961,150	\$13,371,074	\$10,528,260	\$9,784,855	-7%
Other Maritime (Boatbuilding, etc.)	24	47	51	39	-24%
Other Maritime Earnings	\$1,335,825	\$1,620,018	\$1,573,899	\$1,442,157	-8%
Commercial Fish Vessels Homeported	208	233	214	187	-13%
Port of Wrangell: Total Seafood Pounds	2,116,100	3,751,754	2,353,539	1,487,718	-37%
Port of Wrangell: Total Seafood Value	\$2,857,169	\$4,809,060	\$4,880,779	\$4,817,726	-1%
Government	Public Sector: 22% of all employment earnings				
Total Government Employment	318	309	234	187	-20%
Federal Employment	58	51	41	35	-15%
State Employment	23	23	19	18	-5%
City and Tribal Employment	236	235	174	134	-23%
Total Government Payroll	\$14,148,023	\$14,291,774	\$11,070,750	\$10,189,605	-8%
Health Care Sector	Top Industry: Earnings confidential but estimated at 22%				
Visitor Industry	Key Industry: 7% of all jobs				
Visitor Industry Employment	na	95	110	103	-6%
Total Visitor Industry Wages/Earnings	na	\$2,093,291	\$3,077,530	\$3,189,000	4%
Wrangell Passenger Arrivals	2010	2015	2019	2021	Change
<b>Total Arrivals</b>	<b>21,781</b>	<b>28,653</b>	<b>39,084</b>	<b>16,018</b>	<b>-59%</b>
Air Passengers	10,587	12,512	14,637	11,897	-19%
Cruise Ship Passengers	3,869	10,011	21,540	*3,350	-84%
Alaska Marine Highway System	7,325	6,130	2,907	771	-73%
Other Selected Statistics	2010	2015	2019	2021	Change
Sales Tax Receipts Fiscal Year	\$2,196,229	\$2,681,435	\$2,850,003	\$3,215,708	13%
Housing Starts	3	13	4	7	75%
Total Assessed Property Value millions	\$121.9	\$140.8	\$153	\$179.4	17%

**Sources:** Alaska Department of Labor (ADOL); ADOL Southeast Alaska Population by Age; Alaska Department of Education and Early Development; Based on the quarterly Alaska Housing Unit Survey, a survey of local governments and housing agencies; US Census Nonemployer (self-employment) Statistics; ADF&G Southeast Alaska Commercial Seafood Industry Harvest and Ex-Vessel Value Information; Cruise Line Agencies of Alaska; US Bureau of Transportation Statistics (RITA); Alaska Marine Highway System data. Note: Because no self-employment data for Wrangell was available pre-2013, 2013 numbers were used in place of 2010 numbers. Self-employment represents approximately one-fourth of Wrangell's annualized employment. \*2021 cruise numbers are estimated.

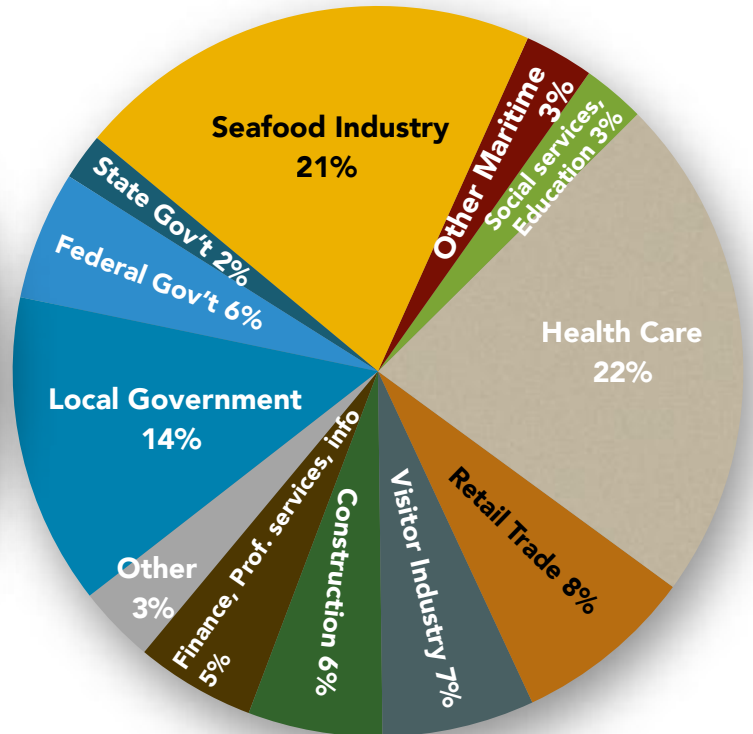
# The Whole Wrangell Alaska Economy 2021

In 2021, Wrangell Alaska had 1,031 year-round equivalent jobs and nearly \$50 million in workforce earnings. Of this, 40% of all jobs and 46% of all wages are in government or maritime, including seafood.

## Annualized Jobs 1,031 Jobs



## Employment Earnings \$47.3 Million Workforce Earning



## 2021 Wrangell Alaska Employment Earnings

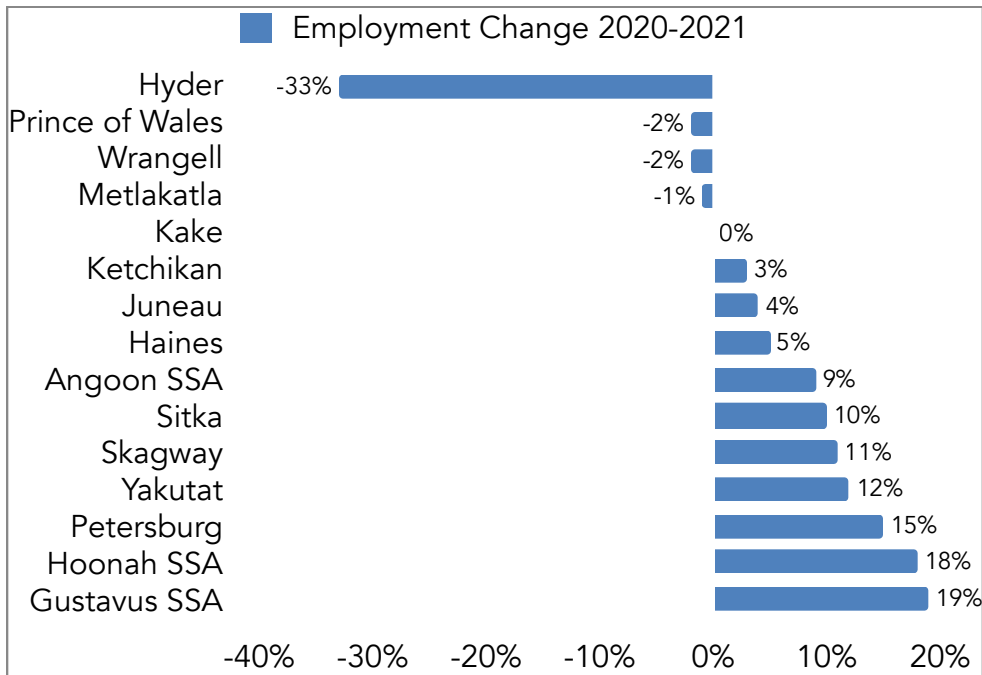
	EMPLOYMENT RELATED EARNINGS		EMPLOYMENT NUMBERS	
	Total Earnings 2021	Total 2019	Total 2019	Total 2021
Local Government	\$6,513,968	174		134
Federal Government	\$2,696,522	41		35
State Government	\$979,115	19		18
Seafood Industry	\$9,784,855	198		181
Other Maritime	\$1,304,126	54		26
Social & Education Services	\$1,310,381	NA		41
Health Care (estimated)	\$10,625,000	NA		170
Retail Trade	\$3,786,641	136		103
Visitor Industry	\$3,189,000	110		44
Construction Industry	\$2,815,714	51		35
Financial Activities	\$1,221,865	39		45
Profess. & Business Services	\$766,145	45		10
Information	\$514,991	12		54
Other	\$2,639,429	66		103
<b>Total</b>	<b>\$47,279,823</b>	<b>1,143</b>		<b>1,031</b>

**Sources:** Alaska Department of Labor Employment & Wage data; US Census Nonemployer (self-employment) Statistics. Due to data confidentiality, some figures are estimates by Rain Coast Data, based on all available inputs. \*Other maritime draws from other sectors, so is not fully included in chart.

## Regional Jobs Losses Compared 2021

Looking at all communities across Southeast in 2021, job counts were mostly up compared to 2020, but the recovery has been uneven.

Four areas experienced continued job losses in 2021 compared to 2020, including Hyder (-33%), Prince of Wales (-2%), Wrangell (-2%), and Metlakatla (-1%).



Still, regional job rates remained below 2019 levels for most communities in 2021. Skagway's jobs remained 42% below 2019 levels. Three communities defied the odds and had more jobs in 2021 than they did in 2019. These include Yakutat (+19%), Petersburg (+11%), and Gustavus (+3%).

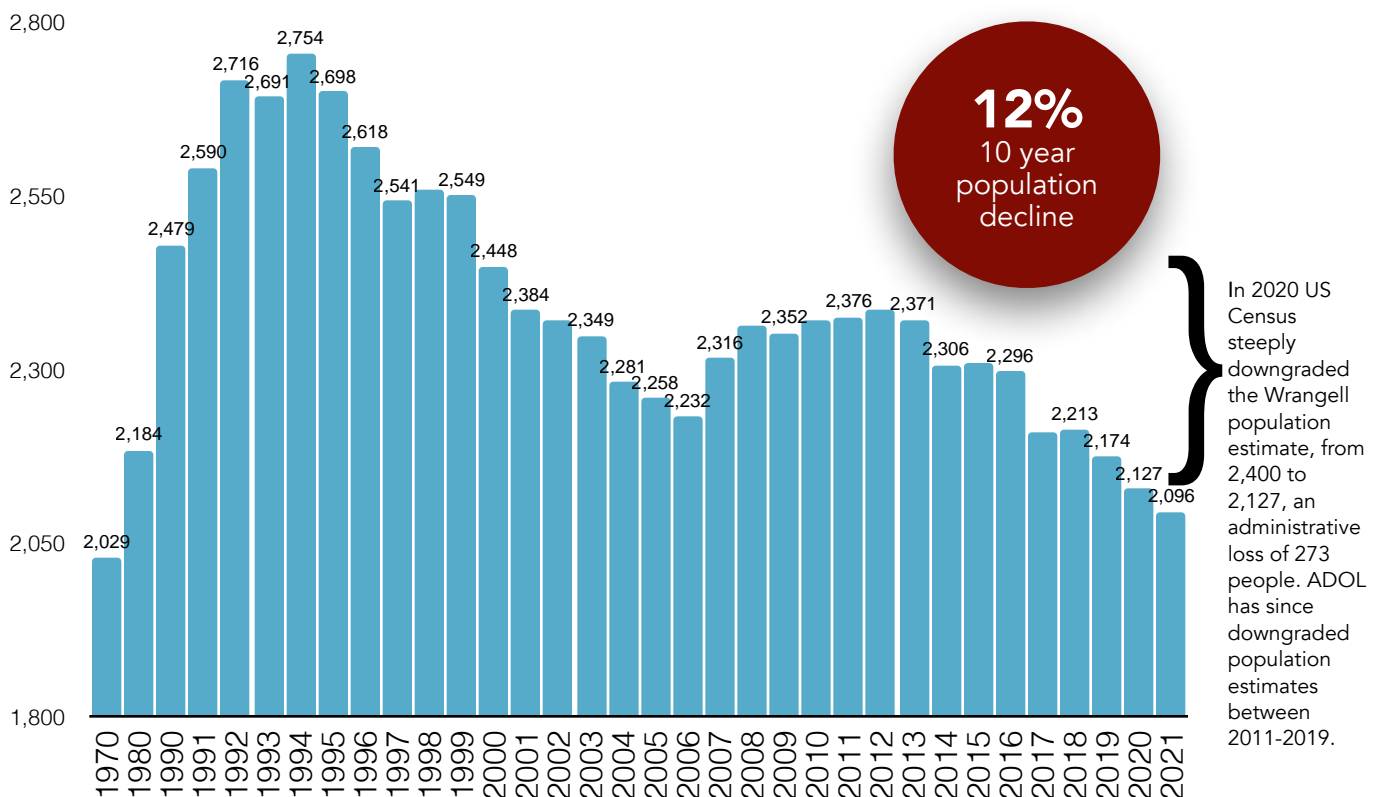
# Demographics

## Population<sup>1</sup>

Wrangell's population peaked in 1994. After decreasing for twelve years due to the loss of the timber industry, Wrangell's population appeared to hit bottom in 2006 with 2,232 residents.

Wrangell's population had appeared to be recovering, but in 2020 US Census steeply downgraded the Wrangell population estimate from 2,400 to 2,127, an administrative loss of 273 people. In September 2022, the Alaska Department of Labor concurred with the US Census finding, and downgraded previous population estimates from between 2011 and 2019 (ADOL revises previous estimated in conjunction with every decennial census for every community). Based on the new data, this means that Wrangell's population is now estimated to have lost 12% of its population in the last decade (2012-2021), a loss of 289 residents, to levels not seen since the 1970's. The 2021 Wrangell population estimate is 2,096.<sup>2</sup>

### Wrangell Alaska Population 1990-2021



<sup>1</sup> State of Alaska, Department of Labor and Workforce Development, Research and Analysis. 1990-2021.

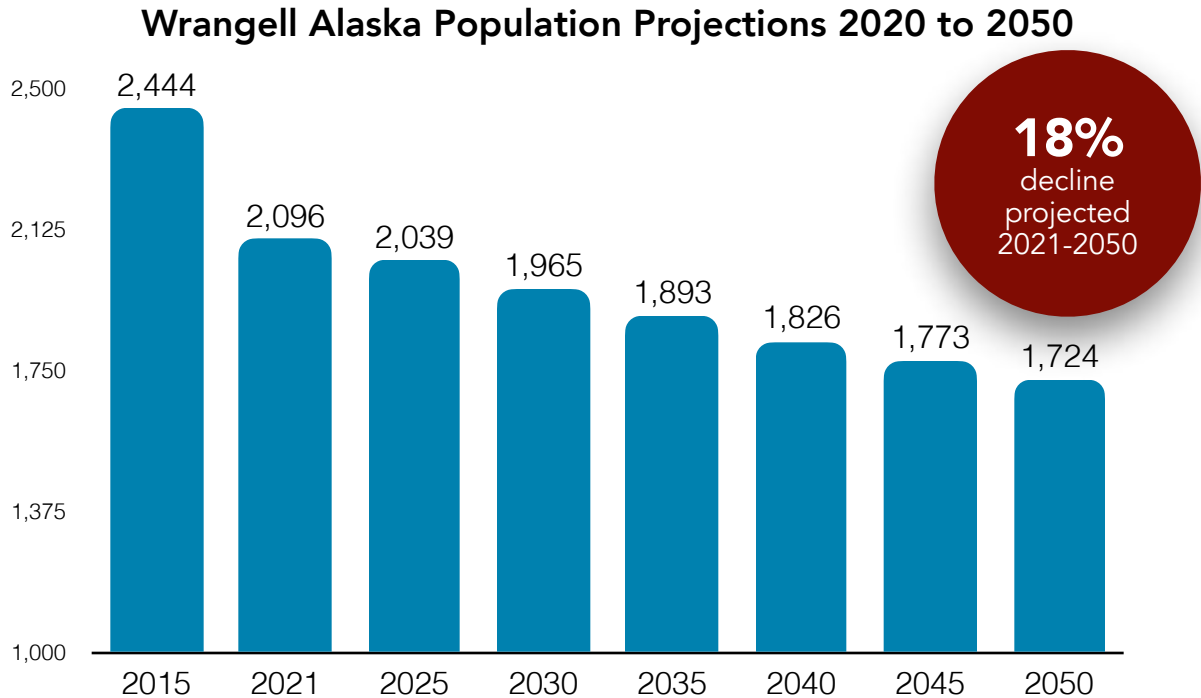
<sup>2</sup> Wrangell could challenge the census count only by challenging the housing count. The challenge would not change the population count, but could change baseline irregularities for housing in for the 2030 Census.

## Population Projections<sup>3</sup>

Wrangell's population is expected to experience sustained decline through 2050, at a higher rate than previously projected. The Alaska Department of Labor and Workforce Development released updated population projections for Alaska in June of 2022.

According to these estimates, between 2021 and 2050, the community is expected to lose 18% of its population. This is in addition to the decrease due to the readjustment of the Wrangell's population downward.

These numbers must be understood to be projections, should indicators continue along their current paths. Much can and will change between now and 2050. As noted on page two, Wrangell has opportunities to improve and diversify economic prospects. The State study noted that Wrangell had one of the highest death rates for the state in 2021, precipitating the steepening of the downward trajectory.



<sup>3</sup> Alaska Department of Labor and Workforce Development. The population projections are based on the current population and historical birth, death, and migration trends, and were developed after the analysis of COVID-19s impact on population levels. <https://live.laborstats.alaska.gov/pop/projections.cfm>

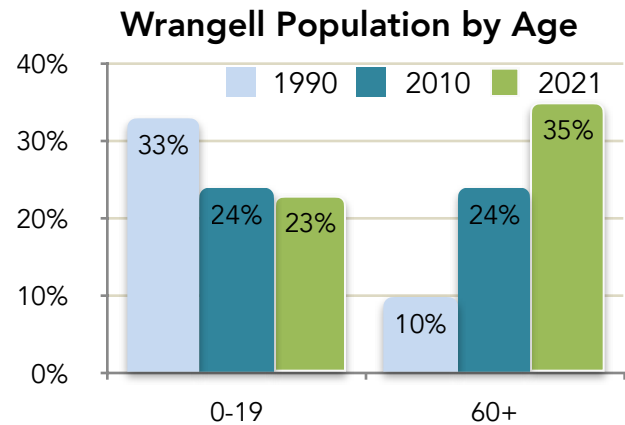


## Age<sup>4</sup>

Between 2010 and 2021, the Wrangell population declined by 12%, or 273 residents, according to the latest numbers, which were reshaped by the 2020 US Census findings.

During that period, those under the age of ten decreased by 8% (-22), while those aged ten to nineteen fell by 21% (-64), and those in their 20s fell by 24%, for a loss of 55 people in this age category. Those in their 30s grew by 24%, while those in their 40s and 50s fell by 42% (-335). Those under the age of 20 represented one-third of the population in 1990, and 23% of the population in 2021.

On the other end of the age spectrum, those aged 60 and older grew by 27%, for an increase of 155 older residents, who are aging in place in Wrangell. This 60+ age group was 10% of the Wrangell population in 1990 and grew to 35% of the population in 2021.



The median age in 2019 was 47.5. In 2021, it dropped to 47.1. This appears to be due to a higher number of deaths in Wrangell of older residents from 2020 to 2021, twice the annual average of the past 10 years.

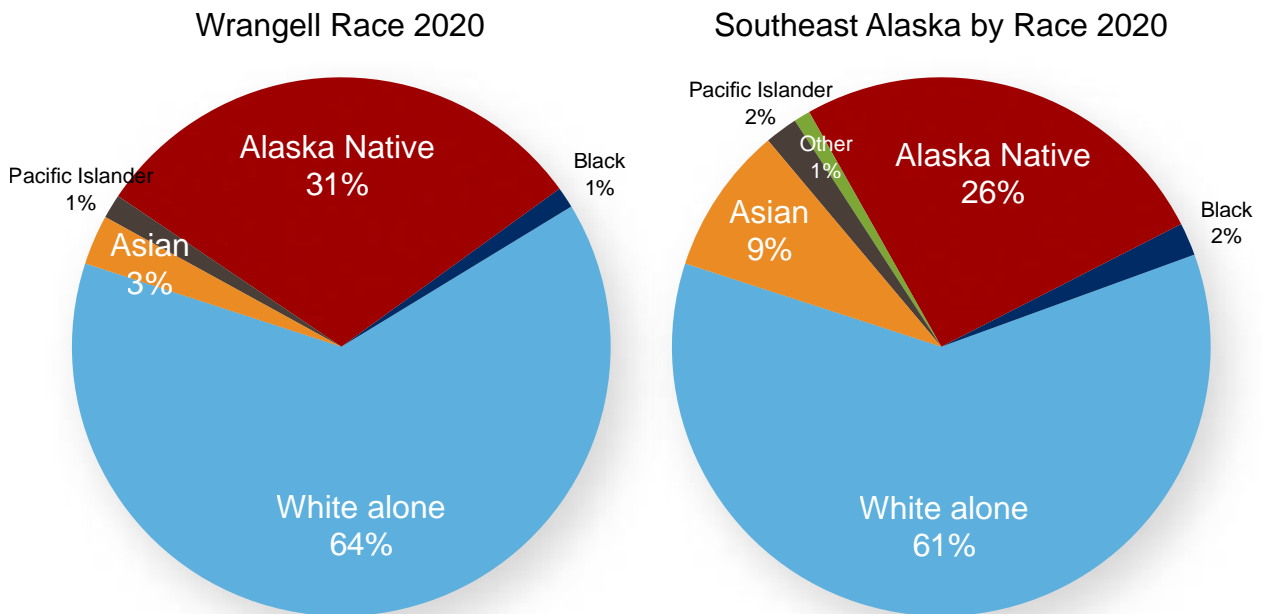
## Wrangell Population by Age Group, 2010 to 2019

Age Group	2010	2021	Change 2010-2021
Under 10	265	243	-8%
10 to 19	307	243	-21%
Twenties	231	176	-24%
Thirties	202	250	24%
Forties	313	199	-36%
Fifties	478	257	-46%
Sixties	322	406	26%
70s+	251	322	28%
Median Age	46.4	47.1	2%
<b>Total Population</b>	<b>2,369</b>	<b>2,096</b>	<b>-12%</b>

<sup>4</sup> State of Alaska, Department of Labor and Workforce Development, Research and Analysis.

## Race<sup>5</sup>

Wrangell has a higher than average Alaska Native population. More than a quarter of all residents are Alaska Native, a proportion that has been growing. The community has a larger Alaska Native population than the state as a whole, as well as a larger white population, with little other ethnic diversity. Across the community, 64% of all residents are Caucasian, 31% are Alaska Native, and 3% are Asian.



## Median Household Income

The median household income in Wrangell is significantly lower than the state or region figures. The median household income of \$58,438 in Wrangell in 2020 was 25% lower than Alaska or Southeast Alaska. It is 10% lower than the national average. These differences are deepening over time. In 2018, Wrangell’s median household income was just 4% behind the national average.

	United States	Alaska	Wrangell	Southeast Alaska
2018	\$60,293	\$76,715	\$57,583	\$75,657
2020	\$64,994	\$77,790	\$58,438	\$78,037

<sup>5</sup> 2018 and 2020: American Community Survey 5-Year Estimates. Note that 5 year estimates are not yet available for 2021, and one-year estimates are not currently being developed for Wrangell by the US Census.

## Poverty<sup>6</sup>

Wrangell has a lower rate of poverty than the region, state, or nation. In Wrangell in 2020, 8% of the total population and 3.6% of families were below poverty levels. In Alaska in 2020 these rates were 10.3% and 7%, respectively.

**Percentage of Population Below Poverty (ACS S1701)**

	United States	Alaska	Wrangell	Southeast Alaska
2019	13.4%	10.7%	7.8%	9%
2020	12.8%	10.3%	8.0%	8.2%

**Percentage of Families Below Poverty (ACS S1702)**

	United States	Alaska	Wrangell	Southeast Alaska
2019	9.5%	7.3%	3.4%	6.1%
2020	9.1%	7.0%	3.6%	9.6%

## Housing Cost Burdened

Fewer Wrangell households are cost-burdened by housing costs as well. Across Alaska 22% of homeowners and 40% of all renters are housing cost-burdened, meaning they spend more than 30% of household income on rent or homeowner costs. In Wrangell, just 13% of homeowners and 33% of renters are cost-burdened.

**Percentage of Housing Cost-Burdened Households 2020**

	United States	Alaska	Wrangell	Southeast Alaska
Home Owners ACS B25091	22%	22.0%	13.0%	20%
Renters ACS B2070	46%	40.0%	33.0%	46%

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<sup>6</sup> 2020 and 2018: American Community Survey 5-Year Estimates (2021 not yet available for Wrangell)

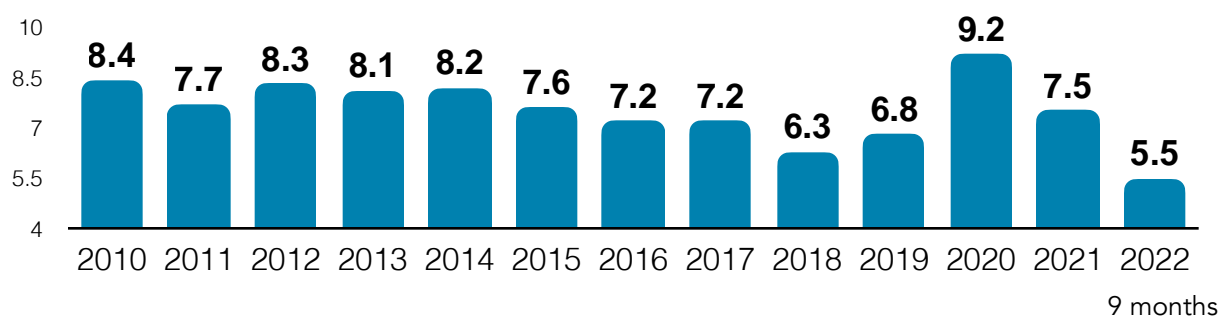
## Unemployment<sup>7</sup>

Unemployment over the past 10 years in Wrangell has ranged from an annual high of 9.2% in 2020, to a low of 6.3% in 2018, although 2022 is on track to have the lowest unemployment rate on record. September's 3.9% unemployment rate was the lowest recorded for any month; however data only goes back to 2010.

Because much of the employment in the community is seasonal, there is significant variation between unemployment rates during a given year. January and February typically are the months with the highest unemployment levels. July and August have the lowest levels.

### Unemployment in Wrangell, 2010 to 2022

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2022	7.5	6.9	6.0	5.5	5.0	5.4	5.1	4.1	3.9				5.5*
2021	8.8	8.8	8.2	8.2	7.2	7.8	7.0	6.0	6.8	6.7	7.0	6.9	7.5
2020	7.9	7.5	8.5	12.8	12.8	11.6	10.7	7.0	7.6	6.7	7.8	8.4	9.2
2019	9.6	9.2	8.2	6.6	5.7	6.5	5.5	5.5	5.1	5.8	6.9	7.2	6.8
2018	8.9	8.7	7.7	5.7	5.2	6.3	4.7	4.7	4.6	5.7	6.8	7.8	6.3
2017	9.6	9.2	8.4	6.8	6.2	6.6	5.4	6.1	6.2	6.3	7.7	8.1	7.2
2016	9.9	9.7	8.8	6.6	5.9	6.8	5.6	5.6	6.5	6.6	7.7	7.8	7.2
2015	10.3	10.0	8.6	7.1	7.1	7.5	6.0	5.2	6.0	6.9	8.5	9.2	7.6
2014	11.9	12.4	9.6	7.5	6.8	7.3	6.1	6.1	6.7	7.6	8.9	9.4	8.2
2013	11.7	11.2	9.6	6.8	6.3	6.9	6.0	5.6	6.0	8.4	9.4	10.4	8.1
2012	11.7	11.5	11.0	8.4	7.5	7.6	6.4	6.0	6.5	7.4	7.7	9.4	8.3
2011	10.4	9.5	8.6	7.4	6.7	7.4	5.6	5.3	6.0	7.8	8.5	10.6	7.7
2010	13.8	13.3	11.1	7.7	7.6	7.2	5.5	5.5	6.0	7.0	7.5	8.4	8.4



<sup>7</sup> Alaska Department of Labor. Annual Unemployment Rates for City and Borough of Wrangell and Alaska 2010 to 2019. <https://live.laborstats.alaska.gov/labforce/labdata.cfm?s=30&a=0> Note: Rain Coast Data was advised against relying on ADOL unemployment rates during pandemic, as the model is not calibrated to accurately measure this type of event on our economy.

## Educational Attainment<sup>8</sup>

For those aged 25 and older in Wrangell, 12% have less than a high school degree, 33% have a high school degree only, 21% have an associate's or bachelor's degree, and 7% have a graduate or professional degree. Those with only a high school degree earned a median of \$35,000 last year, while those with at least some college earned \$47,054.

### Top Educational Attainment and Wages for Wrangell Residents Aged 25 and Older

Population 25 years and over	% 2020	Median Earnings 2020
Less than high school	11.7%	\$26,397
High school graduate only (includes equivalency)	32.6%	\$35,000
Some college, no degree	29.5%	\$47,054
Associate's degree	9.4%	
Bachelor's degree	11.5%	\$44,702
Graduate or professional degree	6.7%	\$54,125

## Residency<sup>9</sup>

Wrangell generally has a high level of residential workforce compared to other Southeast Alaska communities. Of the total workforce, 378 employees are from outside Wrangell or Alaska, and 723 are local Wrangell residents. (This is not a measurement of annualized jobs, but workers). Locals make up 66% of all workers in Wrangell, and earn 78% of all community workforce wages.

An exception to this is the seafood processing sector. Only 19.7% of Wrangell's seafood processing workers are local residents, who earn 34% of total seafood processing workforce wages. These figures do not include self-employment numbers.

### Wrangell Non Residents versus Resident Workers, 2020

Sector	Total Wrangell Workers	Wages (millions)	Seafood Processing Workers	Seafood Processing Wages
Locals	723	\$26.0	29	\$0.82 mill
Nonlocal Alaskans	78	\$2.8	Combined below	Combined below
Non Alaska Residents	300	\$4.9	Combined below	Combined below
<b>Total non Wrangell</b>	<b>378</b>	<b>\$7.5</b>	<b>118</b>	<b>\$1.57 mill</b>
Percent local workers	65.7%	77.6%	19.7%	34.4%

<sup>8</sup> 2020: American Community Survey 5-Year Estimates

<sup>9</sup> Nonresidents Working in Alaska: 2020. Alaska Department of Labor and Workforce Development.

## Government

Government in Wrangell makes up 22% of all workforce earnings in 2021 (down 6% from 2019), and 18% of all jobs (down 2% from 2019). In 2021, government accounted for 187 average annual jobs, and \$10.2 million in earnings.

Local government (including tribal government)—with 134 employees last year and \$6.5 million in wages last year—make up the bulk of all government jobs in the community. This represents an enormous shift. A quarter of city and borough employment had been hospital related, and approximately 55 of these jobs were transferred to SEARHC in November 2018. City and Borough of Wrangell (CBW) employment in 2021 included employees of the Wrangell School District, Wrangell Municipal Light and Power, Wrangell Medical Center, the Public Library, the Nolan Center, and Public Works (solid waste, water, and wastewater).

Total combined government employment (federal, state, city, and tribal) is down substantially over the past year. Total government jobs fell by 20% between 2019 and 2021. Local government employment fell by 23%. This represents a continued trend. Since 2010 total combined government jobs have dropped by 41% (-131), while total government wages fell by 40% (after adjusting for inflation).

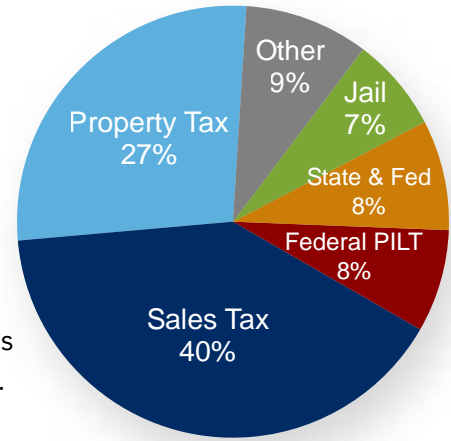
### Government employment and earnings in Wrangell, 2010 to 2021

Government Sector	2010	2013	2015	2018	2019	2021	Change 2019-2021	Change 2010-2021
<b>Total Government Employment</b>	<b>318</b>	<b>325</b>	<b>309</b>	<b>292</b>	<b>234</b>	<b>187</b>	<b>-20%</b>	<b>-41%</b>
Federal	58	50	51	43	41	35	-15%	-40%
State Employment	23	25	23	20	19	18	-5%	-22%
City and Tribal	236	250	235	229	174	134	-23%	-43%
Total Government Payroll, adjusted for inflation	\$17 mill	\$17 mill	\$15.6 mill	\$16.2 mill	\$11.5 mill	\$10.2 mill	-11%	-40%

# Tax Revenue

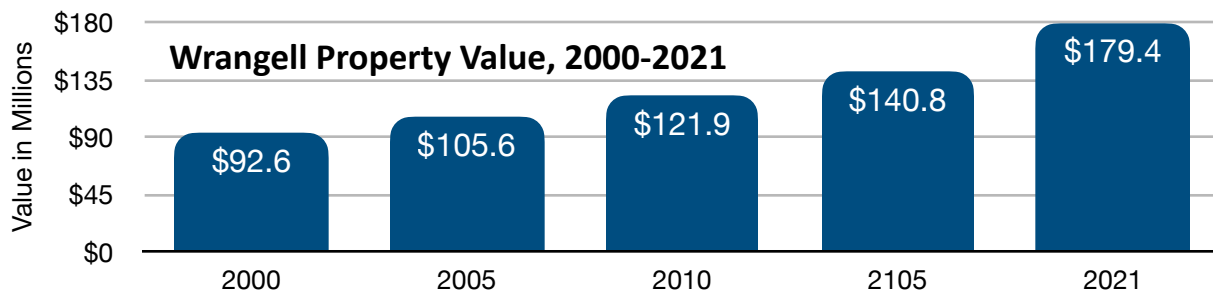
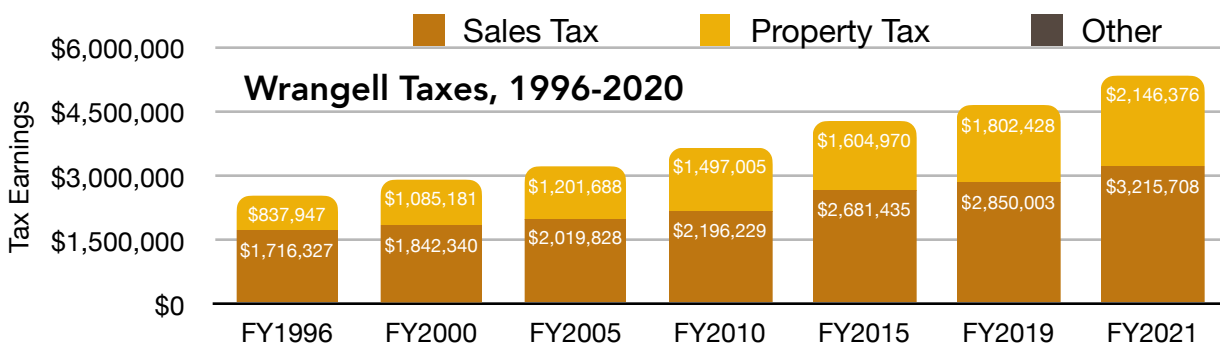
## Wrangell General Fund Revenue Sources FY2023 Total = \$6.57 million<sup>10</sup>

Sales tax represents the largest source of annual revenue for the municipality of Wrangell, estimated at 40% for FY2023. Property tax is expected to provide 27% of revenue in that fiscal year, followed by federal payment in lieu of taxes (PILT). Other state and federal revenue is expected to be 8%.



The City and Borough of Wrangell's 7% sales tax generated revenues of more than \$3.2 million in FY2021, which was up from FY2019 due to the inclusion of online tax collection.<sup>11</sup> During the same time period, property tax revenue increased by nearly \$344,000. Locally assessed land values have steadily climbed since 2000 to \$179.4 million in 2021. Revenue generated from Wrangell's 6% bed tax brought in \$30,661 in FY2021, down from a high of \$46,687 collected two years prior. In recent years Wrangell adopted a marijuana tax rate of \$10 per ounce sold, generating \$4,528 in additional tax revenue in FY2021.

City of Wrangell Taxes					
Year	Bed Tax	Other Tax	Real & Personal Property Tax	Sales Tax	Total
Current Rate	6%	0% Tobacco Tax; 0% Alcohol Tax; \$10/oz Marijuana Tax	Effective Mill Rate 12.75* (4 Mills in some parts outside service area)	7%	
2019 Earnings	\$46,687	\$0	\$1,802,428	\$2,850,003	\$4,699,118



<sup>10</sup> Draft budget of the City and Borough of Wrangell

<sup>11</sup> Sales tax data from the City and Borough of Wrangell. All other tax data comes from Alaska Taxable. **Note:** A U.S. Supreme Court case decided in 2018 means that municipal governments are able to collect sales tax from online retailers.

## Seafood Sector<sup>12</sup>

Seafood is one of the most important sources of jobs and workforce earnings for Wrangell. In 2021 seafood provided 18% of all community annualized jobs (181), and 21% of total workforce earnings (\$9.8 million). The Wrangell fishing sector is important to community due to the number of fishermen the rich fisheries support, but also due to its seafood processing facilities.

Jobs and wages decreased significantly over the past 10 years due to a significant decline in processing in the community. Total seafood processing jobs have been down significantly. Between 2015 and 2021, total seafood processing jobs in Wrangell dropped by 37%.

### Wrangell Seafood Sector, 2010-2019

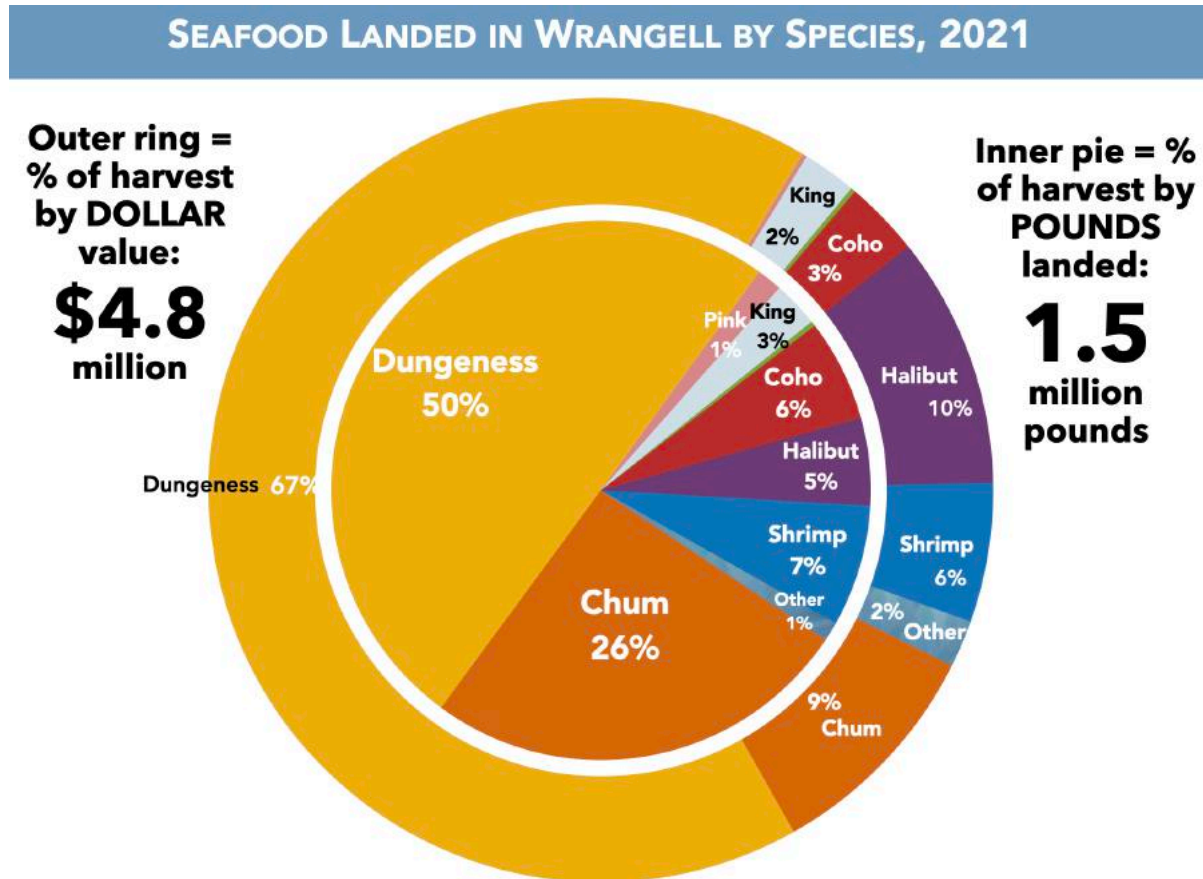
Seafood Sector	2010	2015	2018	2019	2021	Change 2019-2021
Seafood Jobs (annualized)	271	281	220	198	181	-9%
Total Seafood Workforce Earnings	\$14,961,150	\$13,371,074	\$11,868,545	\$10,528,260	\$9,784,855	-7%
Seafood Processing Workers (peak)	377	284	174	173	180	4%
Total Seafood Processing Wages	\$2,743,874	\$4,006,185	\$2,383,743	\$2,554,170	\$2,352,663	-8%
Port of Wrangell Seafood Pounds Landed	2,116,100	3,751,754	3,292,910	2,312,678	1,487,718	-36%
Port of Wrangell Seafood Value (nominal \$)	\$2,857,169	\$4,809,060	\$4,883,033	\$4,667,561	\$4,817,726	3%
Commercial Fishing Vessels Homeported in Wrangell	208	233	212	214	187	-13%
Number of Resident Permit Holders	214	215	210	199	199	0%

<sup>12</sup> Alaska Department of Labor 2019 Employment & Wage data; 2018 (latest available) US Census Nonemployer. 2019 data for peak seafood processing jobs and wages are Rain Coast Data estimates.



## Port of Wrangell: Total Volume and Value of Wrangell Seafood<sup>13</sup>

With the closure of Trident over the past three years, the bounty at the port of Wrangell is changing. While historically a salmon port, in 2021 only one-third of the Wrangell fishery was salmon. By value, crab made up approximately two-thirds (67%) of total fishery value in 2021.



### 2020, 2021 Seafood Seasons

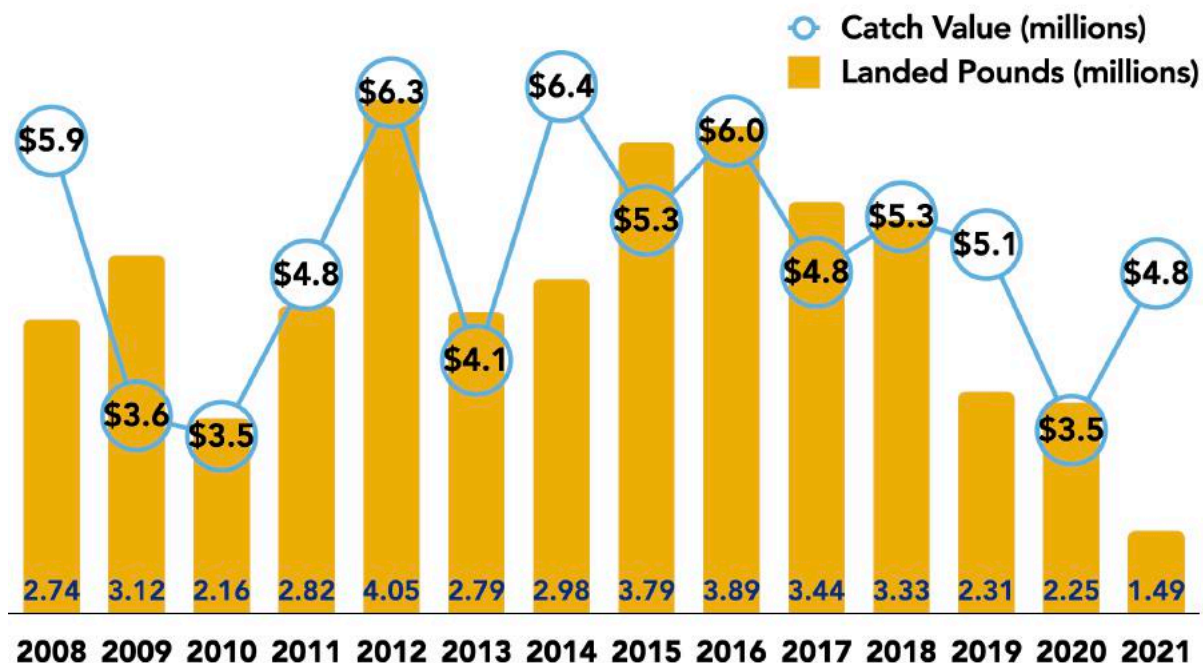
The 2020 season was perhaps the worst seafood year in Southeast Alaska history. Reduced seafood prices — due to the shutdown of the global restaurant sector, as well as trade war tariffs — coincided devastatingly with one of the worst salmon catches on record. For the Port of Wrangell, it was equivalent to the 2010 season. While 2021 was a better season across the region, the Port of Wrangell saw even fewer pounds landed in Wrangell than in 2020, even though the value of the catch was up significantly due to high crab values.

Between 2008 and 2021, the average value of the Wrangell fishery was \$4.96 million (adjusted for inflation) and the average volume landed was 2.94 million pounds. Because

<sup>13</sup> Alaska Department of Fish and Game Division of Commercial Fisheries 2008 - 2019 Commercial Fisheries Value by Species, Wrangell

the volume of seafood can fluctuate so much annually, it is important to track using average values over time, rather than comparing years directly. In the last decade, the value of the Wrangell seafood catch has fluctuated between \$6.4 million in total value in 2014 to \$3.5 million in 2010 and 2020, while total pounds landed was over four million pounds in 2012, and down to 1.49 million pounds in 2020.

### VALUE & POUNDS OF SEAFOOD LANDED WRANGELL ALASKA 2008 TO 2021 (INFLATION ADJUSTED)



### Seafood Processing<sup>14</sup>

Seafood processing creates additional value in this industry. Total count of workers in the Wrangell seafood industry is much higher than the annualized job count. Seafood processing employment peaks in late July when the processors are at maximum effort. Wrangell seafood processing jobs have been declining. In 2011 there were 534 jobs, and by 2021 that number has fallen by 66% to 180 total seafood processing worker in the community.<sup>15</sup>

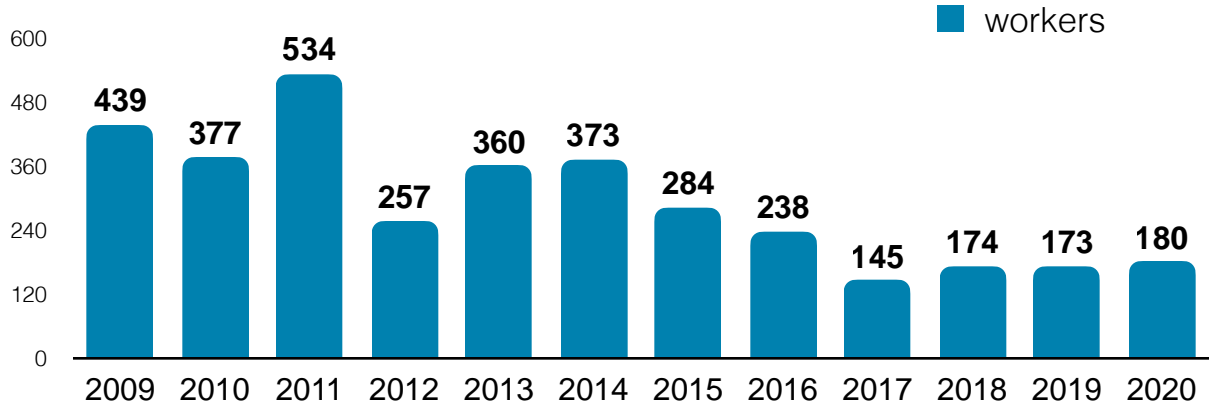
Trident Seafoods, one of the two main seafood processors in Wrangell, has decided not to operate during the 2020 salmon season, even prior to the pandemic, due to a prediction of a low salmon abundance. Nor did it decide to operate in 2021 or 2022, meaning the last time Trident was operating in Wrangell was 2019.

<sup>14</sup> Alaska Department of Fish and Game Division of Commercial Fisheries 2008 - 2020 Petersburg/Wrangell Production Shorebased Processors and Direct Marketers custom processing with Shorebased Processors

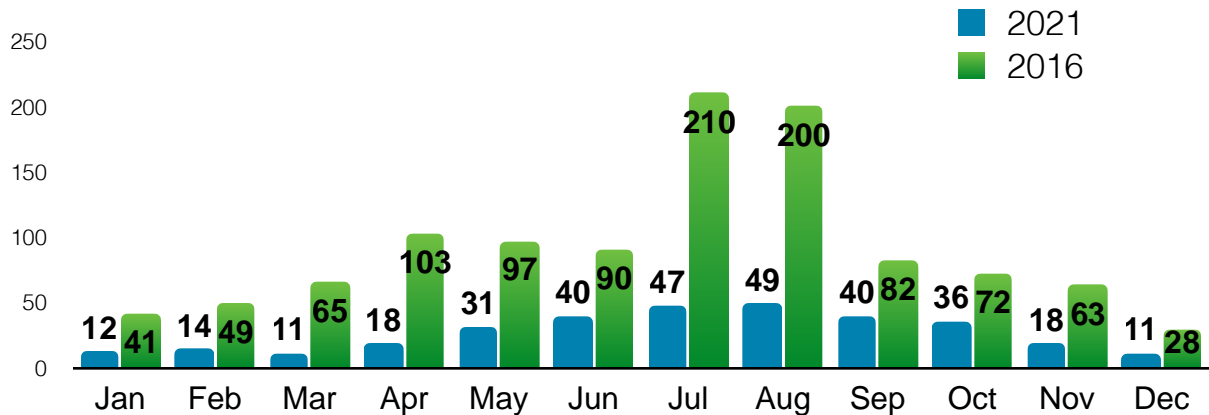
<sup>15</sup> Alaska Department of Labor. Seafood Processing Workforce and Wages by Borough, 2009 - 2020.

The remaining large seafood processor in Wrangell Island is Sea Level, owned by Pacific Seafood. Sea Level processes halibut, black cod, and rockfish in the early season, and transitions mostly to crab and salmon.

**Wrangell Seafood Processing Workers 2009 to 2021**



**Wrangell Seafood Processing Workers 2016 & 2021 by Month**



**Seafood Processing Workforce and Wages 2009-2020**

Year	Total Workers	Wages	% non-resident workers
2009	439	\$2,760,843	71.3%
2010	377	\$2,743,874	71.1%
2011	534	\$3,991,965	80.9%
2012	257	\$2,610,723	68.5%
2013	360	\$4,472,669	75.8%
2014	373	\$4,015,454	79.4%
2015	284	\$4,006,185	75.7%
2016	238	\$2,643,179	63.0%
2017	145	\$1,980,904	68.3%
2018	174	\$2,383,743	76.4%
2019	173	\$2,554,170	83.2%
2020	180	\$2,352,663	72.2%
<b>Change 2019-2020</b>	<b>4%</b>	<b>-8%</b>	<b>-11%</b>

# Maritime

In Wrangell there were 220 private “blue jobs”—as maritime jobs are sometimes called—with \$11.2 million in associated workforce earnings in 2021. It is the community’s largest sector, and it draws from nearly every element of the local workforce. Nearly all of Wrangell’s maritime sector is driven by seafood. Seafood processing, mariculture and commercial fishing account for most of the maritime jobs in the community, but the shipyard also creates important jobs and wages.

## Wrangell Maritime Employment and Workforce Earnings, 2010 to 2021

Maritime	2010	2015	2018	2019	2021	Change 2019-2021
Maritime Jobs	295	328	269	249	220	-12%
Maritime Workforce Earnings	\$16,296,975	\$14,991,092	\$13,415,195	\$12,102,159	\$11,227,012	-7%

### The Wrangell Shipyard

After the demise of the regional timber industry, Wrangell began to focus on providing maritime industrial services to southern Southeast Alaska. Wrangell is centrally-located in Southeast Alaska, allowing fishermen to access emergency repairs while remaining close to fishing grounds. Southeast Alaska vessel owners are taking advantage of the ability to have their repairs completed close to home.

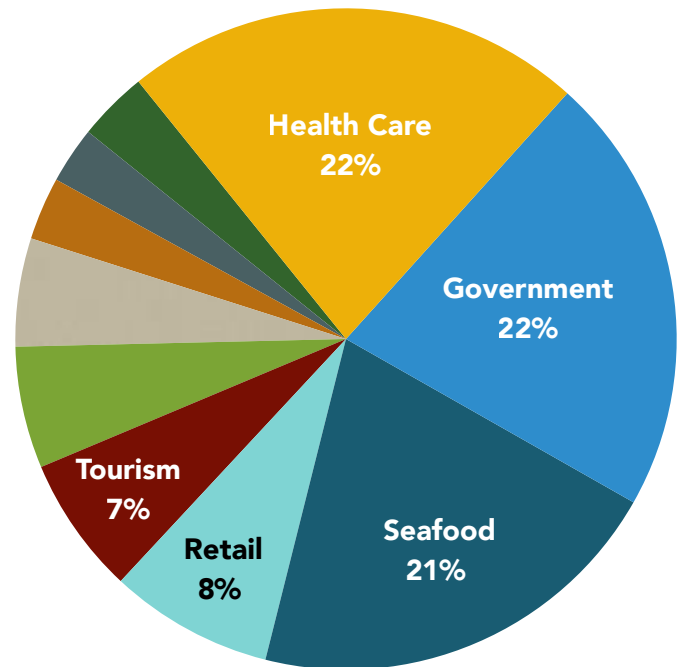


The City of Wrangell took advantage of the former mill site, literally building its marine center—complete with tunnel freezer, cold storage, vessel haul-out, and boat storage—on top of the sawdust ruins left behind. In 2006, a 150-ton travel lift was installed. In 2014, a 300-ton boatlift was installed to haul out boats up to 180-feet long. As Wrangell's marine services expand and the yard’s capabilities improve, the reputation and use of Wrangell’s maritime facilities has also grown. Wrangell is home to excellent craftsmen who provide services for yachters and the commercial fleet. There are people employed through shipyard activities as wooden shipwrights, fiberglass workers, machinists, steel welders, commercial painters, sandblasters, and in metal fabrication, along with those with expertise in hydraulics, electronics, and refrigeration. The 7-acre area includes a 40-ton hydraulic trailer, a wash down area and upland storage for over 85 boats.

## Health Care

The health sector made up an estimated 16% of all Wrangell jobs in 2021, and 22% of all wages. For various reasons, health care jobs in Wrangell are confidential. Rain Coast Data estimates that in 2021, there were 170 health care workers in Wrangell with a payroll of \$10.6 million. This makes health care the largest sector in Wrangell in terms of earnings, slightly edging out total government wages. The Wrangell government and seafood sectors each employed more people in 2021, but paid out fewer overall wages (see page 4).

### Wrangell Employment Earnings 2021



Health care in the community has recently transitioned from a primarily public sector enterprise to a privately run industry. Southeast Alaska Regional Health Consortium (SEARHC) took over the city-owned Wrangell Medical Center in November 2018. In February 2021, SEARHC completed construction on a new Wrangell Medical Center. The facility includes a critical access hospital, and creating a 44,500 square foot healthcare campus run by a staff of 80 workers.<sup>16</sup>

According to SEARHC, altogether it has 163 permanent employees, plus another 15 temps and intermittent employees, in Wrangell. This includes Critical Access Hospital, Primary Care Clinic, Long Term Care, Specialty Clinics, associated support services (lab, imaging, rehab, social work, education, etc.), and Community Behavioral Health, and Dental. SEARHC is in the process of expanding their 14 long-term care beds to 18, with construction for that project set for completion by the end of 2022.<sup>17</sup>

In 2022, SEARHC closed Crossings, a Wrangell-based behavioral health program services program that was consolidated to Sitka. At its peak, Crossings employed approximately 20 staffers and 50 seasonal guides in Wrangell. When the program closed in January 2022, it employed 16 people in Wrangell.<sup>18</sup>

<sup>16</sup> March 2022 SEARHC presentation: [https://www.pmcak.org/uploads/3/1/1/0/31108911/searhc\\_slide\\_deck\\_3.24.22.pdf](https://www.pmcak.org/uploads/3/1/1/0/31108911/searhc_slide_deck_3.24.22.pdf)

<sup>17</sup> Personal communication SEARHC.

<sup>18</sup> SEARHC permanently closes Wrangell's Alaska Crossings program by KSTK <https://www.kstk.org/2022/01/12/searhc-permanently-closes-wrangells-alaska-crossings-program/>

# Visitor Overview

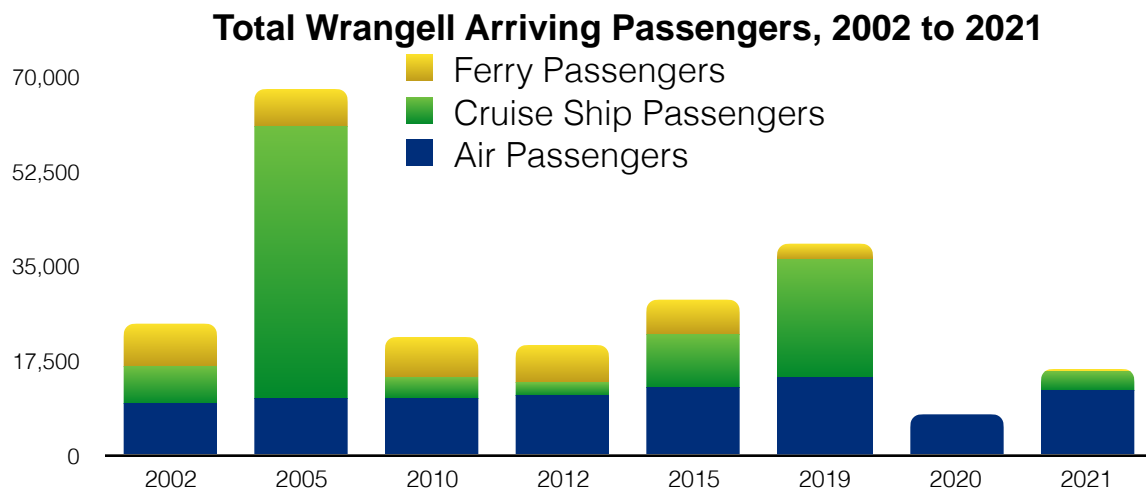
## Employment

Tourism is an economic driver in the community. In 2021, visitor industry employment made up 10% of all employment in Wrangell, accounting for 103 annual average jobs with associated workforce earnings of \$3.2 million. The visitor industry accounted for 7% of total Wrangell workforce earnings in 2021. This sector is smaller in Wrangell than the region as a whole; the visitor industry represented 15% of all jobs and 9% of all employment earnings for Southeast Alaska in 2021.

	Year 2014	Year 2017	Year 2018	Year 2019	Year 2021	% Change
<b>Jobs and Earnings</b>	<b>2014</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2021</b>	<b>Change 2019-2021</b>
Average Visitor Industry Wage	\$22,227	\$24,066	\$27,259	\$31,955	\$30,961	-3%
Total Visitor Industry Employment	101	100	106	110	103	-6%
Total Visitor Industry Workforce Earnings	\$2,244,990	\$2,406,618	\$2,889,447	\$3,515,030	\$3,189,000	-9%

## Change in the Visitor Industry

The visitor sector has been hit by a series of challenges, the most significant being the



COVID-19 pandemic. Like the rest of Alaska, Canada's prohibition of cruise ships and CDC limitation eliminated cruise ship traffic to Wrangell for all of 2020, and for much of 2021. Passenger arrivals in Wrangell by all modes fell from 40,702 in 2019 to just 7,641 in 2020, an 81% decline. While 2021 passenger arrivals were significantly higher than 2020 levels, they remained critically below 2019 levels.

A second factor the visitor sector is struggling with is the continued decline of ferry system service that was accelerated during the pandemic. Wrangell had set up a unique and successful visitor sector based on ferry service. Ferry service decreased by 89% in Wrangell between 2013 and 2021 due to deep budget cuts to the Alaska Marine Highway System. In 2002, ferry passengers represented approximately one-third (32%) of all community passenger arrivals. By 2021, that number had fallen to just 5% of all passenger arrivals to Wrangell.

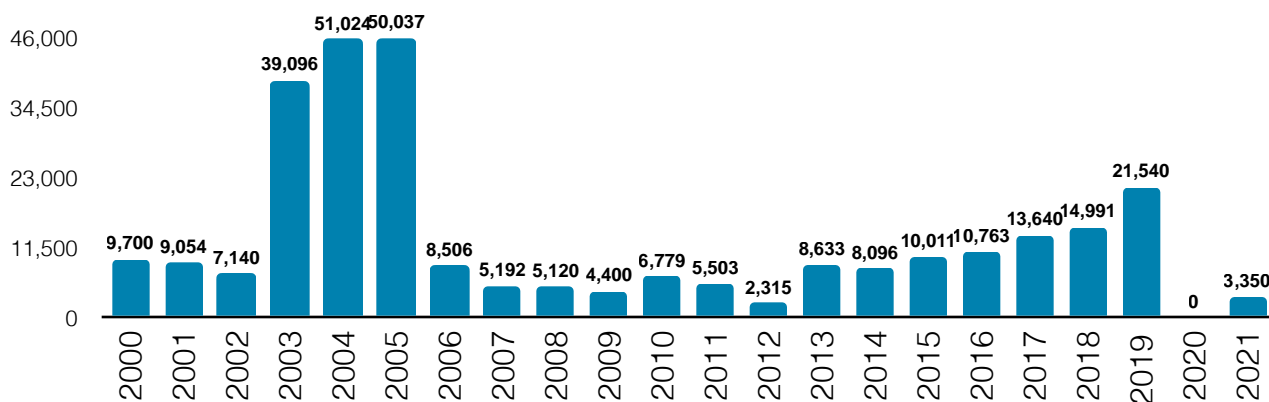
Another factor that has stymied growth in the tourism sector over time is a cap on the number of people allowed to visit Anan each year.<sup>19</sup> The Anan Wildlife Observatory is managed by the Wrangell District of the Tongass National Forest and is only accessible by boat or plane. With constraints on this prime visitor attraction it has been difficult to grow the visitor sector as a whole.

### Cruise Passengers<sup>20</sup>

In 2019, more than 21,500 passengers visited Wrangell. The number of cruise passengers arriving in Wrangell on small to mid-sized cruise ships saw more than a nine-fold increase from 2012 to 2019.<sup>21</sup> Nine small cruise ships made port calls, and eight medium-sized cruise ships visited Wrangell in 2019. This represented a 45% increase in total arriving passengers from 2018.

In 2020, a total of 21,486 cruise ship passengers had been expected, but none came. In 2021, as estimated 3,350 cruise passengers arrived in the community.

**Total Cruise Passengers in Wrangell 2000-2021**



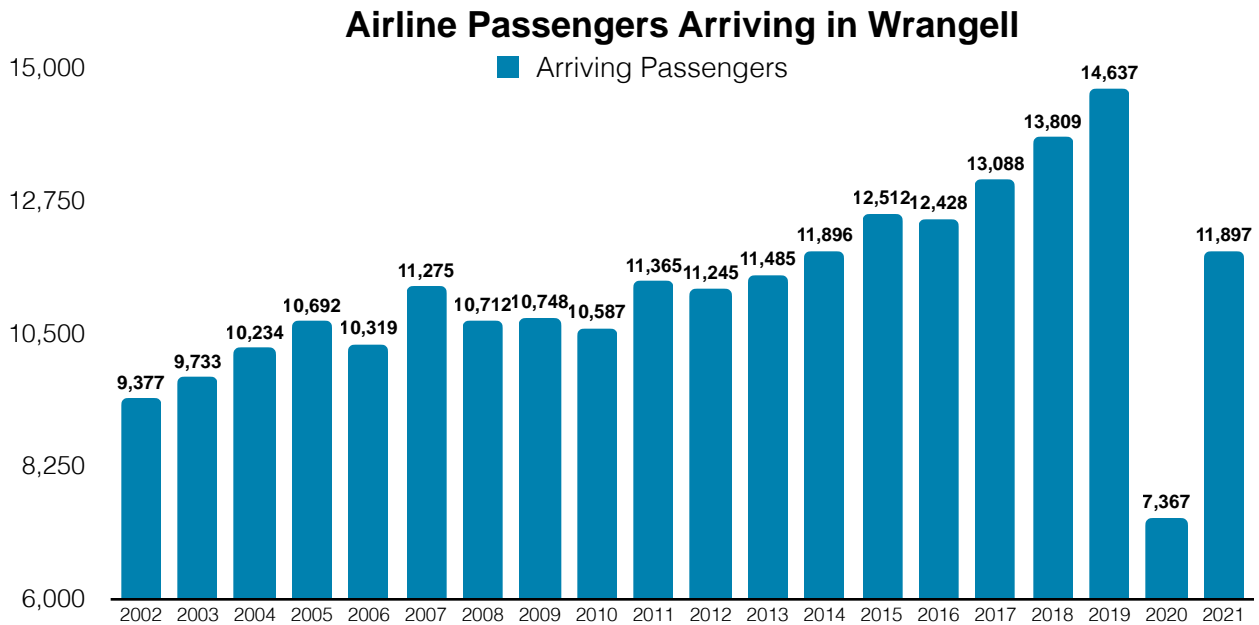
<sup>19</sup> While Anan capacity is not always met, daily caps in addition to seasonal caps mean that last minute cancellations for inclement weather or other factors cannot be “made up” at later dates.

<sup>20</sup> Midsized cruise passenger actuals were provided by McDowell Group & Cruise Line Agencies of Alaska. 2019 are estimates based on capacity. All other cruise passenger data are estimated totals based on small cruise ship schedules and research regarding total capacity.

<sup>21</sup> This figure combines actual numbers from midsized cruise ship arrivals and capacity numbers from smaller cruise ships.

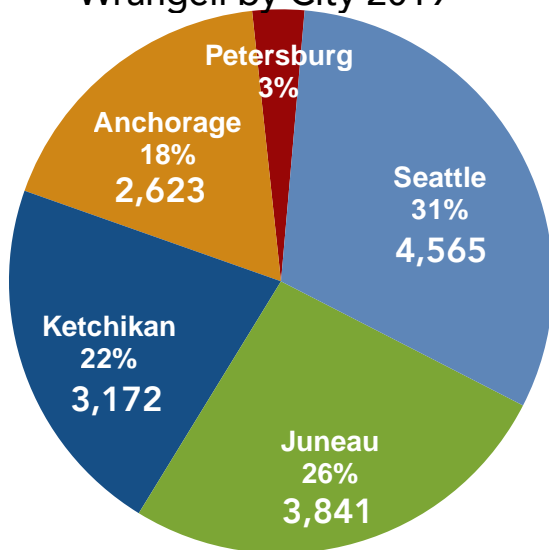
## Air Passengers<sup>22</sup>

In 2021, there were 11,897 air passengers arriving in Wrangell. This represents a 19% passenger decline over 2019, but a 61% increase from 2020.

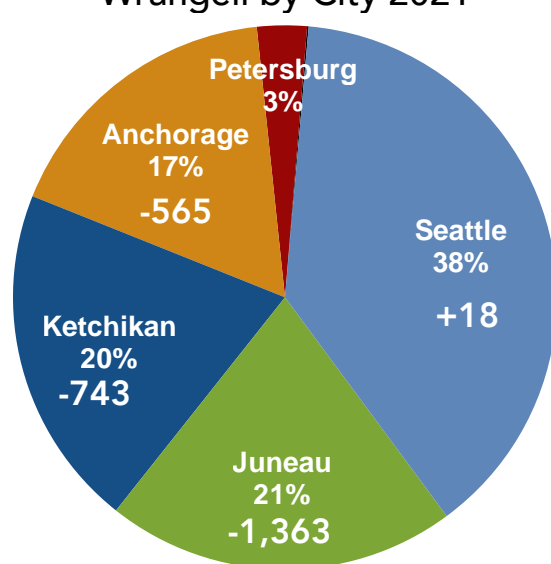


Looking at a full year of passenger data, the greatest percentage of passengers arrived in Wrangell via Seattle (38%), while a fifth arrived via Juneau and another fifth via Ketchikan. An additional 17% arrived via Anchorage. Wrangell saw 1,363 fewer passenger arrivals from Juneau in 2021 than in 2019, and 1,308 fewer from Ketchikan and Anchorage combined. (Data includes scheduled flights only).

Passengers Disembarkments in Wrangell by City 2019



Passengers Disembarkments in Wrangell by City 2021



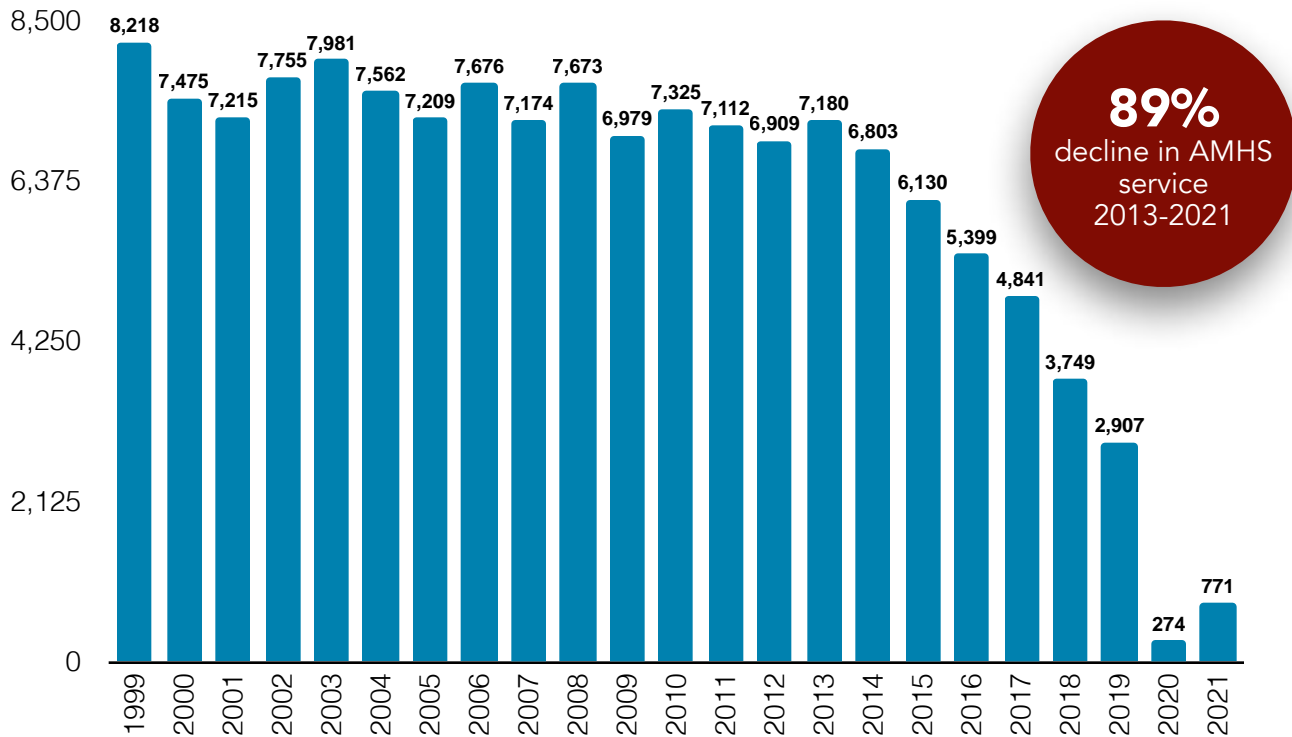
<sup>22</sup> Bureau of Transportation Statistics T-100 Market data.



## Ferry Passengers<sup>23</sup>

In 2021, a total of 771 Alaska Marine Highway (AMHS) ferry passengers arrived in Wrangell. Total ferry passenger numbers decreased by 89% between 2013 and 2021. Since 2013, the number of passengers disembarking in Wrangell has decreased every year, with the exception of 2021, and in the last two years have fallen to their lowest point since before ferry service began in 1963.

### Ferry Passengers Arriving in Wrangell 1999 to 2021



In recent years the Alaska Marine Highway System has been hit hard by state budget cuts, significantly reducing state funding levels. Service and port calls have been cut significantly, and Wrangell has been disproportionately impacted. The unreliability of the ferry scheduling and the increase in costs to travel have impacted ferry users, but even more significantly impacted those who have built their businesses around serving ferry passengers. A reputation for the unreliability of the ferry system means that potential customers are less likely to want to use the ferry for travel, further impacting total ridership numbers.

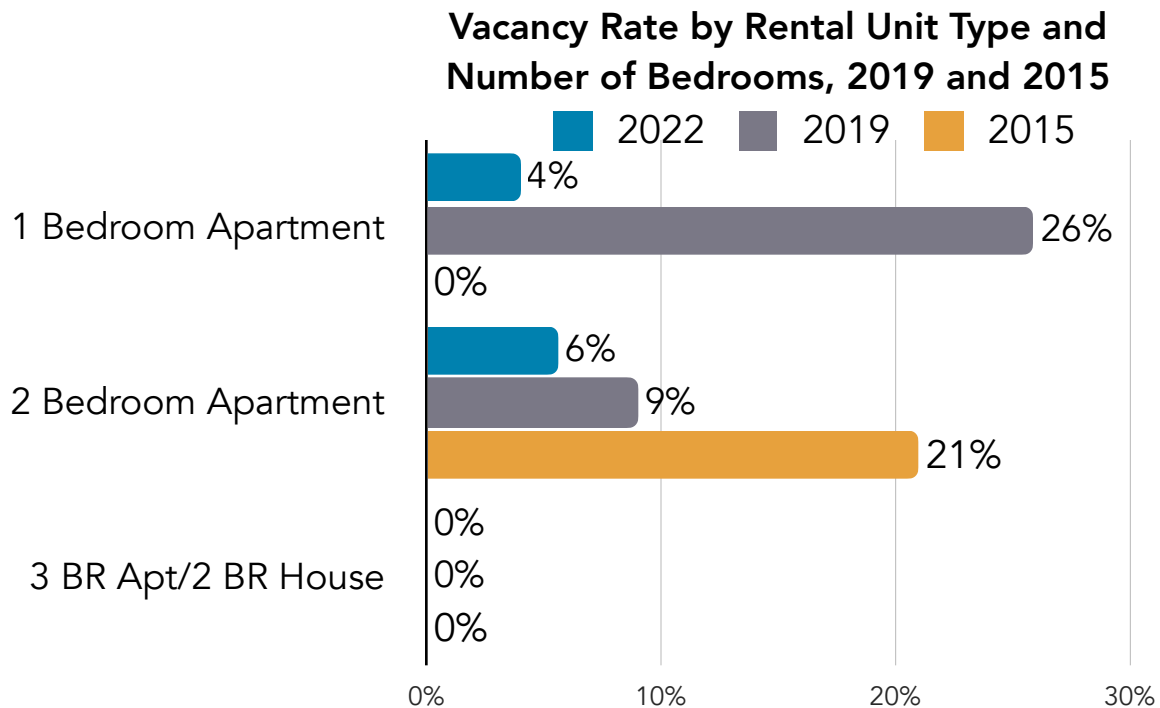
<sup>23</sup> Alaska Marine Highway System Annual Traffic Volume Reports for 2010 and 2014. Direct data request for 2016, 2017, 2018, and 2019 data.

## Land Ownership

The City and Borough of Wrangell encompasses 2,582 square miles of land and 883 square miles of water. Like most places in Southeast Alaska, Wrangell’s land ownership is dominated by the federal government, which manages 97% of the land base. The State manages 2.5% of the total land base, while the City and Borough of Wrangell manages less than one-tenth of 1% of the entire land base at 0.08%. Other private land holdings account for 0.17%. The lack of municipally or privately owned land and land available for development impedes the ability of Wrangell to nurture the private sector.

## Housing

**Low Rental Vacancy Rates**—In 2022 Wrangell had zero vacancy rates in the state in several categories. According to the Alaska Housing Market Indicators 2022 Residential Rental Market Survey, the vacancy rates for three-bedroom apartments and two-bedroom single families homes was zero. The rental surveys are conducted in spring.



# 2022 Wrangell Business Climate Survey

Each year Southeast Conference conducts a regional business climate survey in order to track Southeast Alaska business confidence. This year 26 Wrangell business owners and operators from 10 different economic sectors responded to the survey, representing a total workforce of 155.

Survey analysis for Wrangell includes the following findings:

**Least Positive Business Climate in the Region:** Wrangell's perception of the business climate was the lowest in the region in 2022, with 48% having a positive view on the current economy, and 48% calling it poor or very poor. The comparatively poorer rating was led by those in Wrangell's blue economy, fishermen and maritime workers, who were more likely to say the business climate was poor than good.

**Outlook is Also Poorest in the Region:** In 2022 the outlook of Wrangell business leaders had the highest negative rating of any community in the region, but the overall ratings were very high regionally, so the Wrangell findings are not too concerning. Two-thirds of Wrangell business leaders have a positive outlook regarding the next year, including 24% who think the economic outlook will be better or much better. This represents an improvement over 2021 survey findings, in which 48% of respondents had a negative outlook.

**Hiring Remains Uncertain:** While no business leaders in Wrangell said that they expect to make job cuts moving forward, Wrangell business leaders expressed tremendous uncertainty regarding their job outlook, the highest uncertainty levels in the region. Nearly half (45%) said they could not yet project if they would be hiring, firing, or maintaining staffing levels.

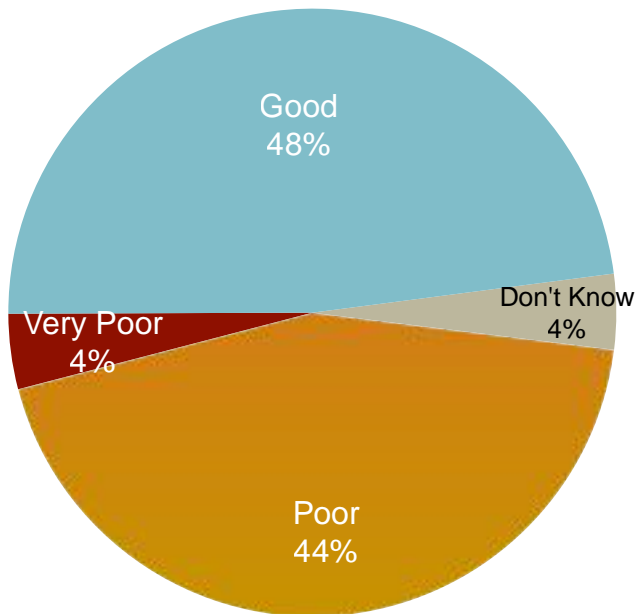
**Benefits and Barriers:** Wrangell business leaders say Wrangell's art, recreation, overall quality of life, and culture benefit their businesses the most; while the high costs of freight transportation, the lack of ferry service, and energy costs represent the most significant business barriers.

**Housing is a Problem:** Business leaders identified housing as the top need to advance economic growth in Wrangell. Economic expansion in Wrangell is currently limited by a lack of housing availability paired with prohibitive pricing, directly contributing to worker shortages. 86% say attracting and retaining workforce is difficult due to lack of housing; and 76% say there are not enough rentals for workers.

# Wrangell Business Climate Survey

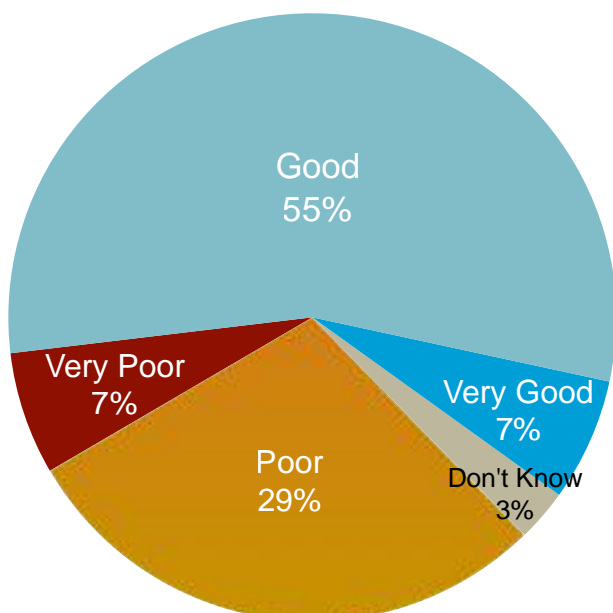
## 2022 Wrangell Alaska: How do you view the overall business climate right now?

48% Positive / 48% Negative



## 2022 Southeast Alaska: How do you view the overall business climate right now?

62% Positive / 36% Negative



## Southeast Alaska Annual Business Climate Survey

In April and May of 2022, 440 Southeast Alaska business owners and top managers responded to Southeast Conference's Business Climate Survey, including 26 Wrangell business leaders with a total of 155 workers, and ten economic sectors.

## Southeast Economy Now: How do you view the Southeast business climate right now?

In 2022, nearly two-thirds (62%) have a positive view of the Southeast business climate, making it **the best business climate since 2017**.

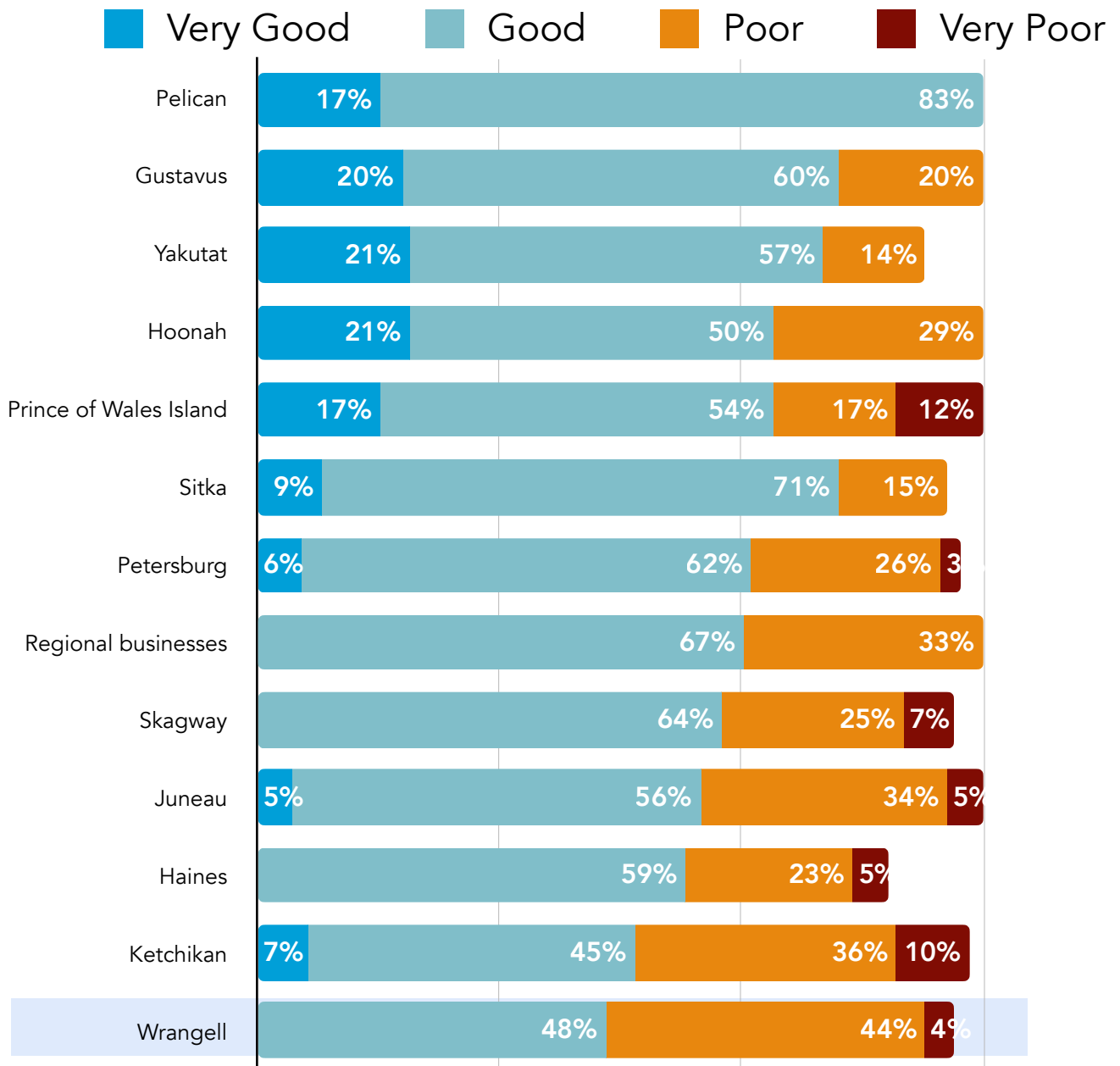
## Wrangell Now

Wrangell's business climate was the most negative in the region in 2022, with 48% having a positive view on the current economy, and 48% calling it poor or very poor. The comparatively poorer rating was led by those in Wrangell's blue economy, fishermen and maritime workers, who were more like to say the business climate was poor than good.

# Southeast **Business** Climate Survey Results 2022: **by Community**

The graphic below shows how the current regional business climate is being experienced by business leaders in each community. The region's smallest, most rural communities have the most positive views of the economy, led by Pelican, Gustavus, Yakutat, Hoonah, and Prince of Wales. Wrangell and Ketchikan

May **2022** Southeast Alaska: **How do you view the overall business climate right now?**

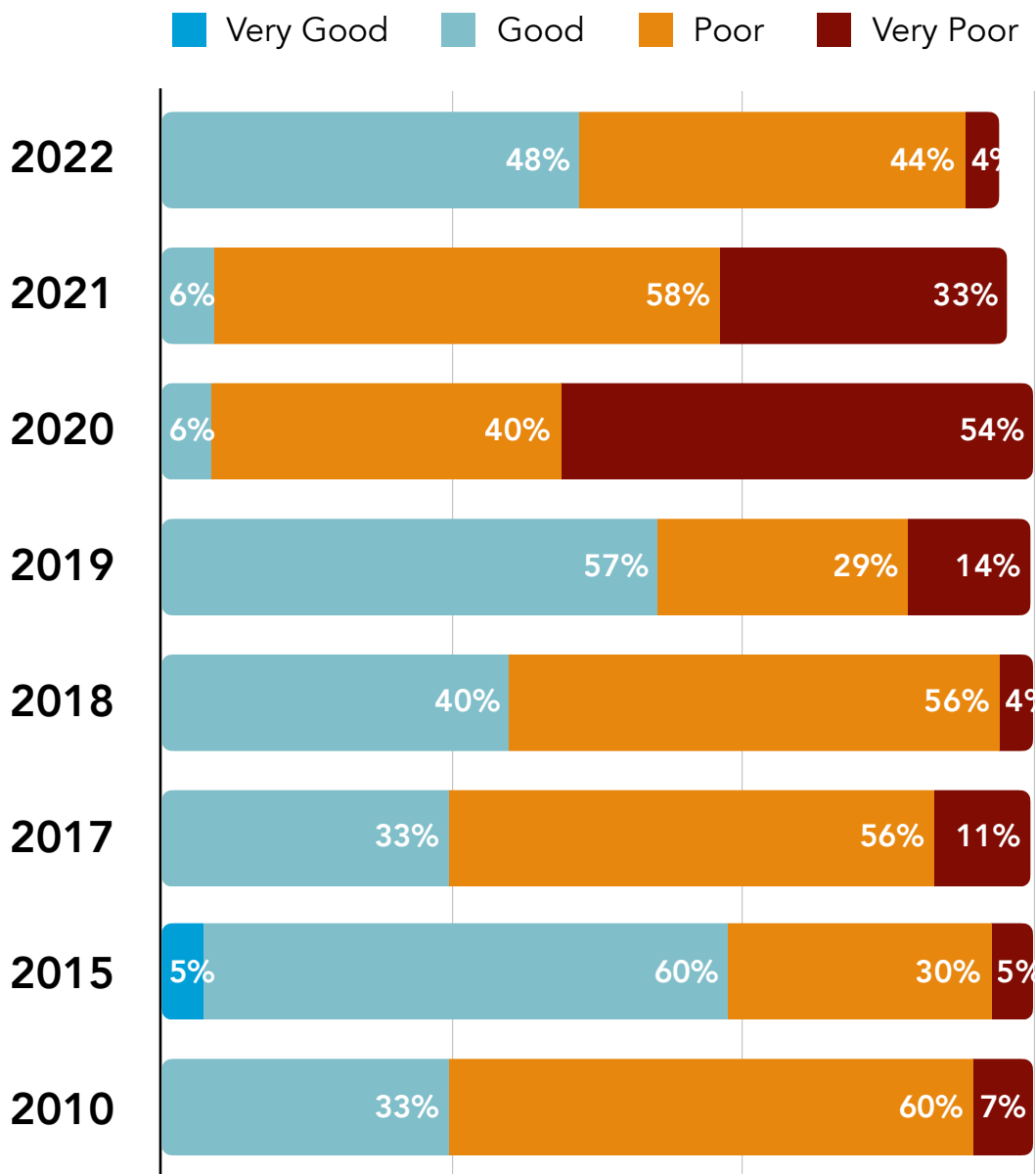


The "don't know" category has been excluded from this chart.

# Wrangell Business Climate Survey Results by Year

Looking back at previous business climate reports for Wrangell puts 2022's results in perspective. Since 2010 only two years, 2015 and 2019, had better business climate reports for the community.

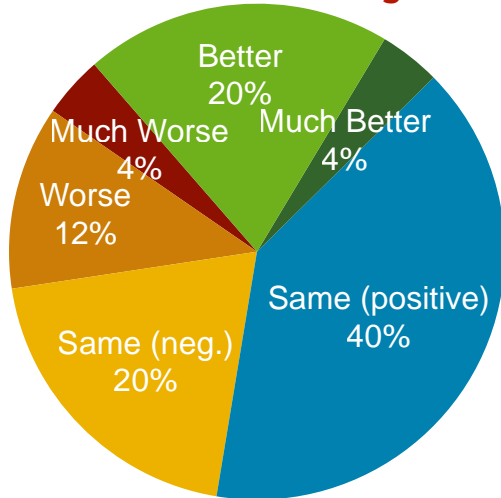
Wrangell: **How do you view the overall business climate right now?**



# Wrangell Economic Outlook

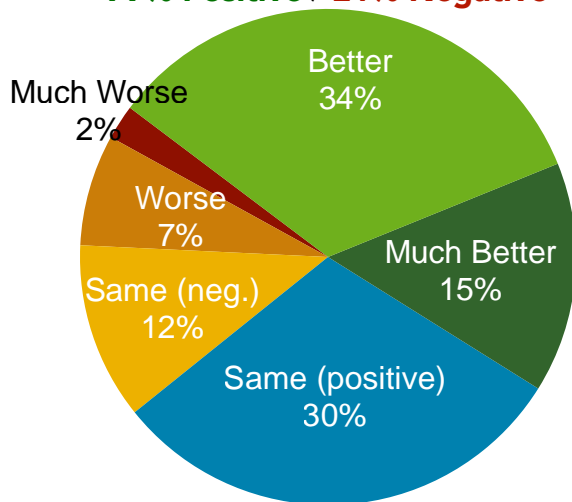
**2022 Wrangell Alaska: What is the economic outlook for your business/industry over the next year (compared to the previous year)?**

**64% Positive / 36% Negative**



**2022 Southeast Alaska: What is the economic outlook for your business/industry over the next year (compared to the previous year)?**

**79% Positive / 21% Negative**

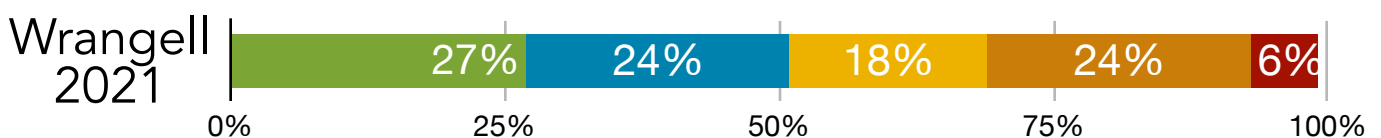


## Southeast Alaska Economic Outlook

**Economic Future:** In 2022, four-fifths of regional respondents described the economic outlook for their business or industry over the next 12 months as positive. This represents a dramatic change in a positive direction over the last two pandemic years.

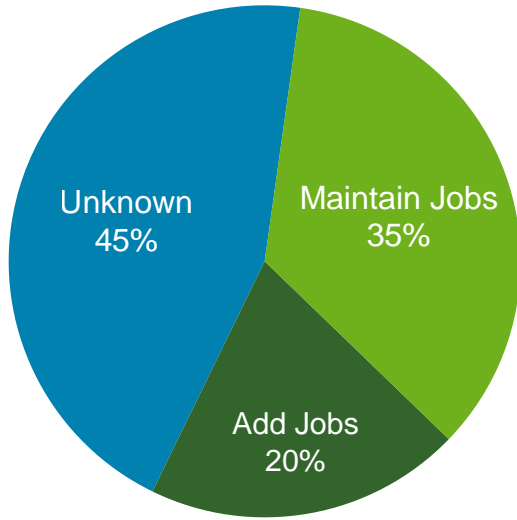
Half of survey respondents expect their prospects to be better (34%) or much better (15%) over the next year, and 30% expect their prospects to be similar in a positive way. Only 9% expect the outlook for their businesses to decline in the coming year.

**Wrangell Future:** Two-thirds of Wrangell business leaders have a positive outlook regarding the next year, including 24% who think it the economic outlook will be better or much better. Similar to the business climate question, in 2022 the outlook of Wrangell business leaders had the highest negative rating of any community in the region. Still, it represents an improvement over 2021 survey findings, in which 48% of respondents had a negative outlook.

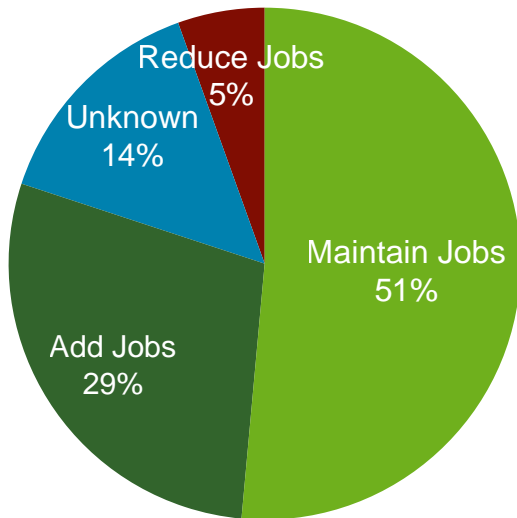


# Wrangell Job Projections

**2022 Wrangell:** Over the next 12 months, do you expect your organization to add jobs, maintain jobs, reduce jobs, or are you unsure (For those businesses with staff)



**2022 Southeast Alaska:** Over the next 12 months, do you expect your organization to add jobs, maintain jobs, reduce jobs, or are you unsure (For those businesses with staff)



## Southeast Alaska Economic Outlook

**Southeast Jobs:** When asked about staffing expectations, nearly one-third of regional businesses expect to add employees, and more than half of business leaders (51%) expect to maintain job levels in the coming year. Just 5% of business leaders expect to reduce staffing levels in the upcoming year.

The expected job gains will be most significant in Alaska Native Organizations, mining, and financial sectors.

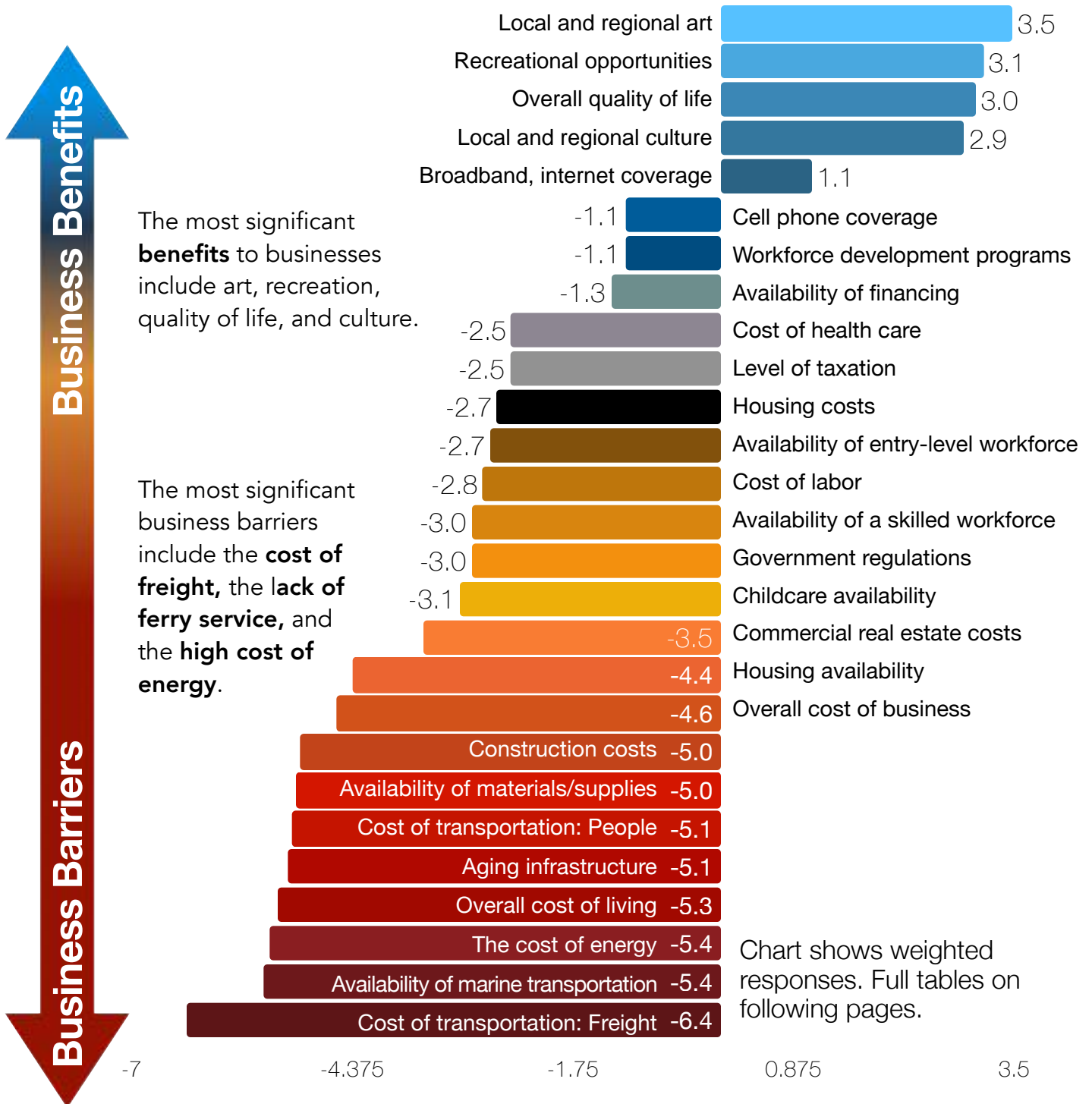
**Wrangell Jobs:** While no business leaders in Wrangell said that they expect to make job cuts moving forward, Wrangell business leaders expressed tremendous uncertainty regarding their job outlook, the highest uncertainty levels in the region. Nearly half (45%) said they could not yet project if they would be hiring, firing, or maintaining staffing levels. A fifth (20%) of Wrangell employers expect to add jobs in the coming year, while approximately a third expect to maintain current employment levels.





# Barriers and Benefits: How do these elements impact your Wrangell business?

Wrangell business leaders were asked to rank the impact of 27 elements on their businesses. This is a weighted ranking of their responses.



# Barriers and Benefits: How do these elements impact your Wrangell business?

Wrangell business leaders say Wrangell's art, recreation, overall quality of life, and culture benefit their businesses the most; while the high costs of freight transportation, the lack of ferry service, and energy costs represent the most significant business barriers.

<b>Wrangell Alaska Business Barriers and Benefits</b>					
<b>Element</b>	<b>Significant Benefit</b>	<b>Moderate Benefit</b>	<b>Not A Barrier Or Benefit</b>	<b>Moderate Barrier</b>	<b>Significant Barrier</b>
Cost of transportation: Freight	0%	0%	9%	17%	74%
Availability of marine transportation	0%	4%	9%	26%	61%
The cost of energy	0%	0%	17%	22%	61%
Overall cost of living	0%	0%	9%	39%	52%
Aging infrastructure	0%	0%	17%	26%	57%
Cost of transportation: People	0%	0%	13%	35%	52%
Availability of materials/supplies	0%	0%	9%	43%	48%
Construction costs	0%	0%	4%	52%	43%
Overall cost of business	0%	4%	9%	43%	43%
Housing availability	0%	0%	23%	32%	45%
Commercial real estate costs	0%	0%	30%	35%	35%
Childcare availability	0%	0%	52%	4%	43%
Availability of a skilled workforce	0%	9%	26%	35%	30%
Government regulations	0%	9%	26%	35%	30%
Cost of labor	0%	0%	27%	55%	18%
Availability of entry level workforce	0%	9%	27%	36%	27%
Housing costs	0%	9%	39%	17%	35%
Level of taxation	5%	5%	27%	36%	27%
Cost of health care	0%	4%	39%	30%	26%
Availability of financing	0%	26%	30%	22%	22%
Cell phone coverage	9%	22%	17%	30%	22%
Workforce development programs	4%	9%	43%	26%	17%
Broadband, internet coverage	22%	17%	22%	35%	4%
Local and regional culture	26%	22%	43%	9%	0%
Overall quality of life	30%	39%	9%	22%	0%
Recreational opportunities	30%	26%	30%	13%	0%
Local and regional art	32%	23%	41%	5%	0%

# How would you rate the Quality of Life in Southeast Alaska?

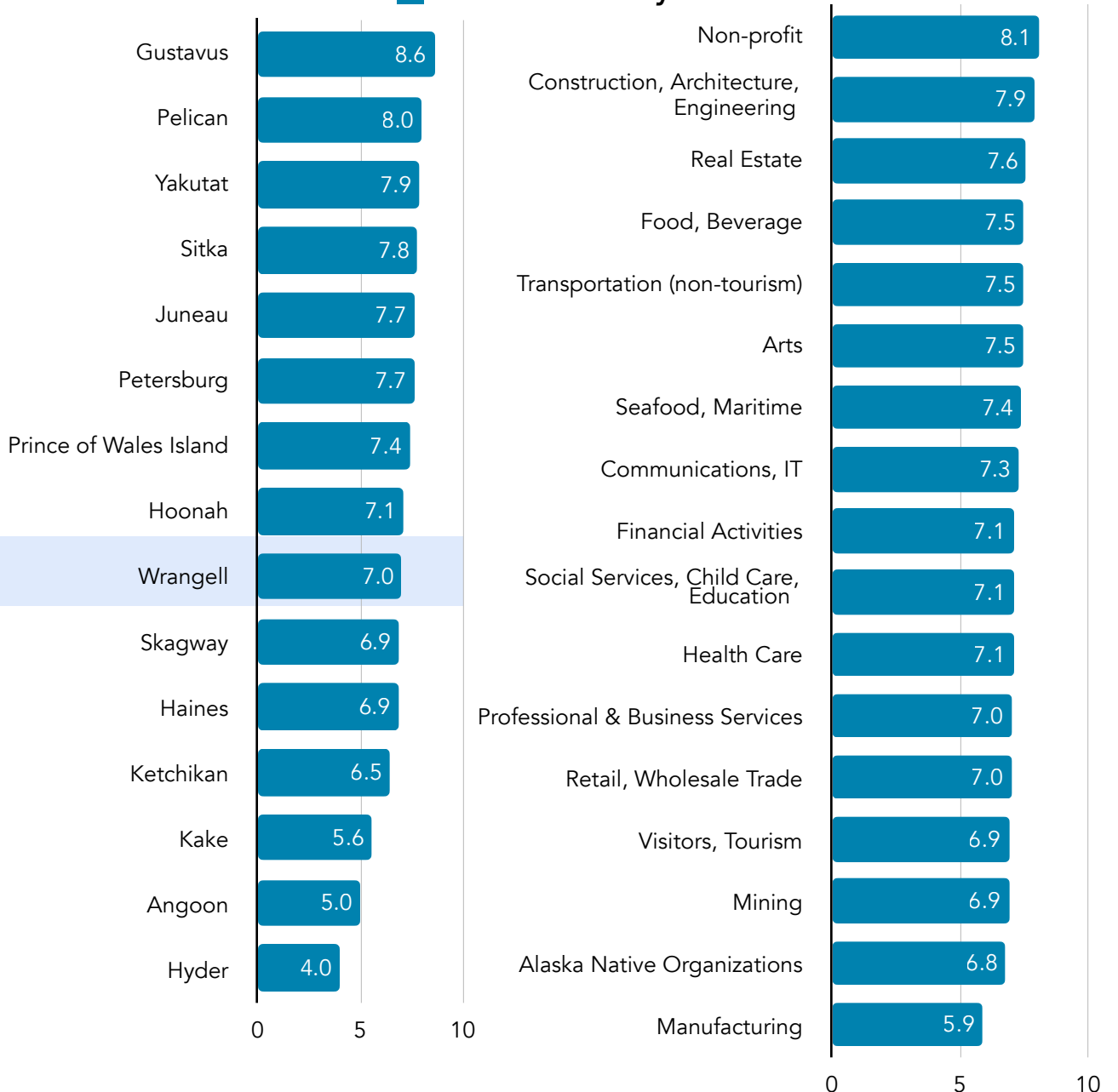
Southeast Alaska is known for its high quality of life ratings. Among business leaders, the overall quality of life rating is 7.2 out of 10. Gustavus, Pelican, and Sitka business leaders gave their region the highest ratings, while Kake, Angoon, and Hyder have the lowest. Those in the nonprofit sector and the construction/architecture/engineering sector provide the highest ratings, while those in tourism, mining, Alaska Native organizations, and manufacturing provide the lowest ratings. Wrangell's quality of life rating ranks #9 among 15 communities.



## By Community

## By Industry

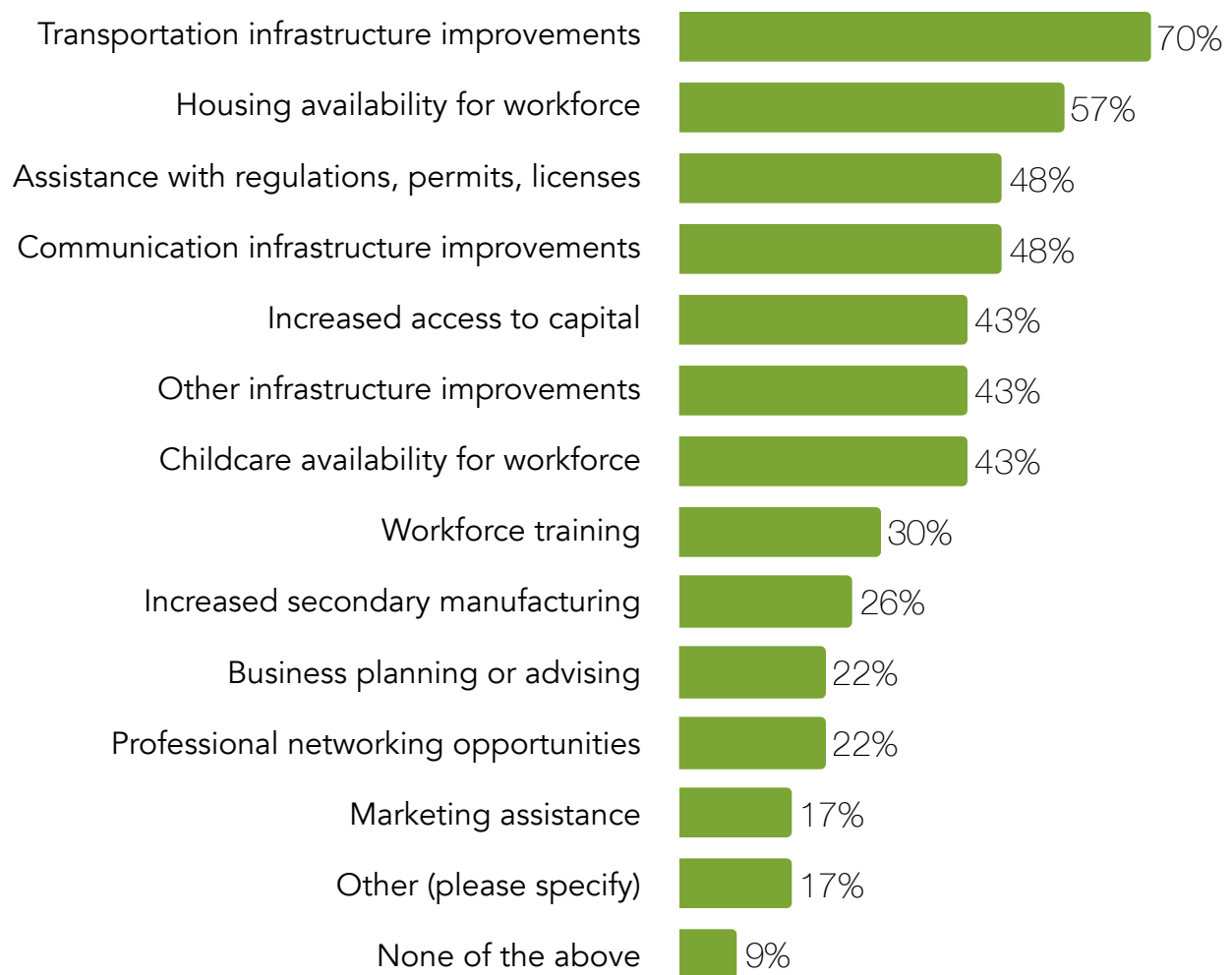
### ■ Southeast Quality of Life



# Which of the following services would help your organization expand in Wrangell? (check all that apply)

Wrangell business leaders were asked to signify which services, if offered, would help their businesses expand the most. The top three responses included 1) Transportation infrastructure improvements; 2) workforce housing; and 3) assistance with permitting/regulations.

## Services That Would Help Wrangell Businesses Expand



# Housing: Which of the following impact your business? (check all that apply)

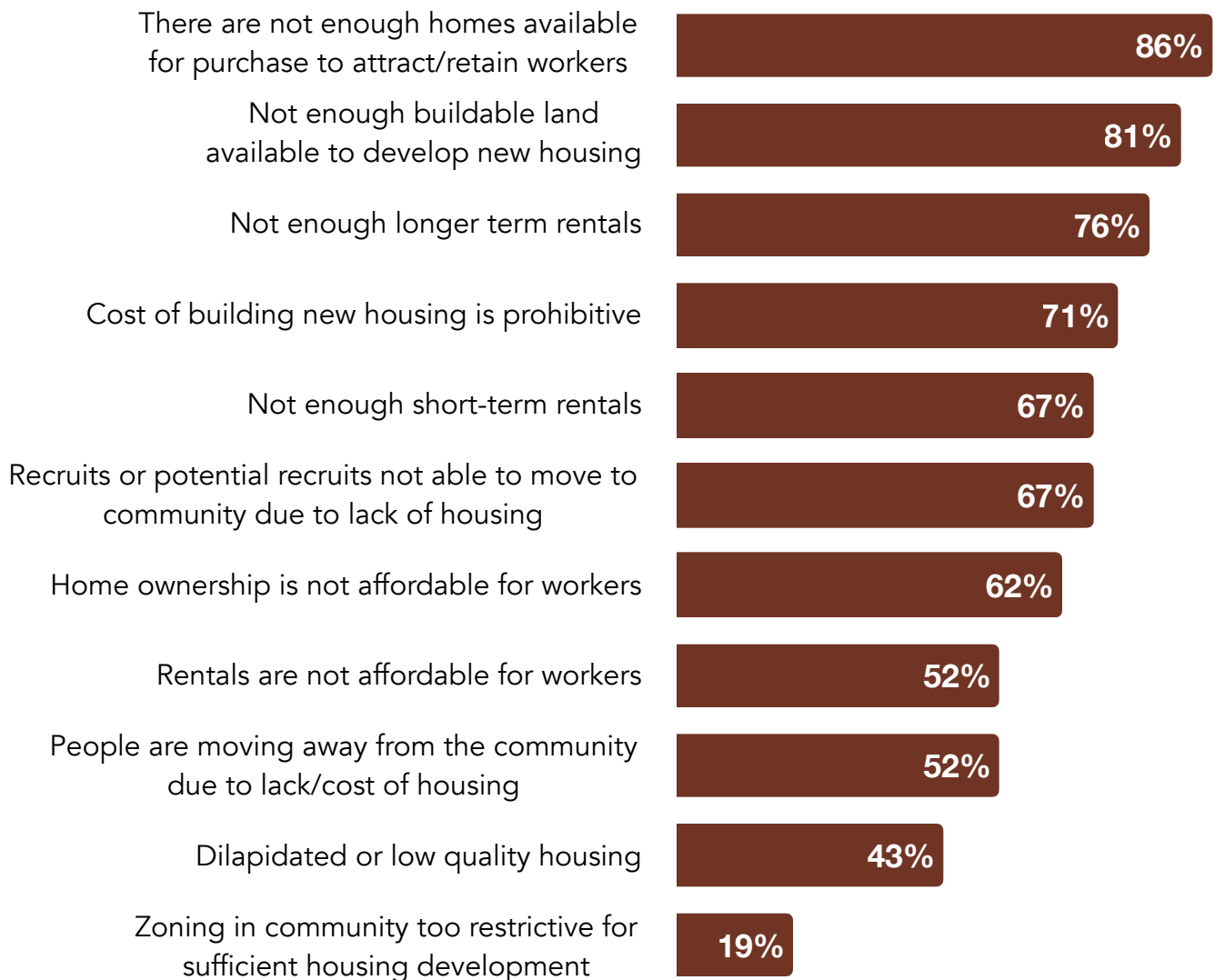
Housing is a problem repeatably mentioned by leaders in Wrangell. To better understand the scope of the problem, business leaders were asked to identify which housing issues specifically impact their own business.

**Not Enough Housing:** 86% say attracting and retaining workforce is difficult due to lack of housing; and 76% say there are not enough rentals for workers.

**No Place to Build:** 81% say that there is not enough buildable land available.

**Construction is Expensive:** 71% say the cost of building new housing is prohibitive.

## Housing Elements Impacting Wrangell Businesses

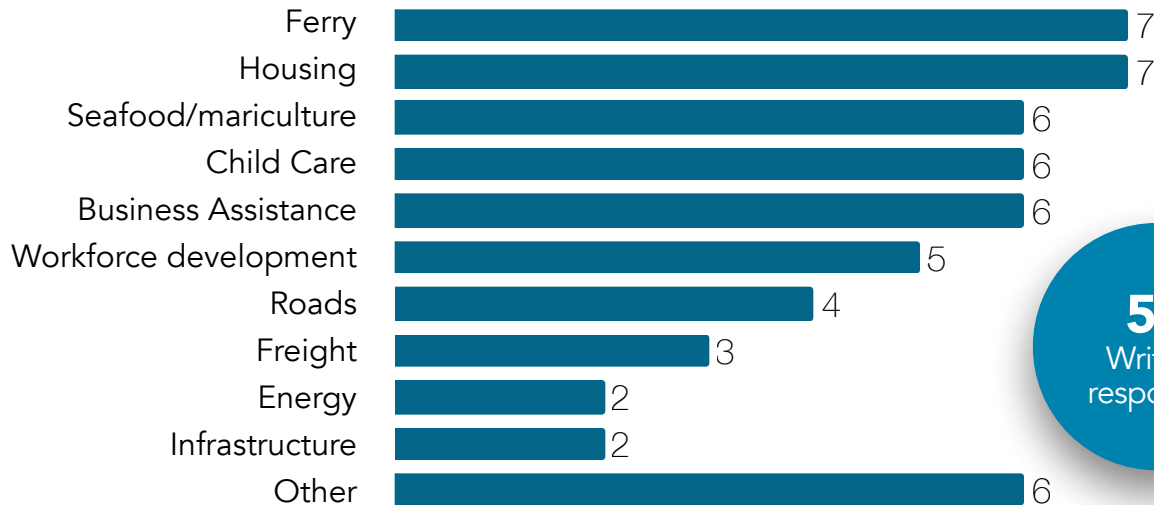


# What are the 3 most important projects to advance economic growth in Wrangell?

(Open-ended written responses)

When asked about the most important project in Wrangell that would advance economic growth, the top responses were focused on ferry service and housing development. Respondents provided 54 written responses to this prompt. Full responses are presented below.

## Summary of written responses by topic area



**54**  
Written responses

### Ferry

- Improve the ferry system with the additional funds from US infrastructure package
- Reliable ferry service, including outlying areas
- Robust and reliable Alaska marine highway
- More ferries
- Fix and maintain our ferry system
- Improve transportation into smaller communities.
- Transportation

### Housing

- Affordable housing, land must be more available. Not enough in public hands or local govt hands to sell to the private public
- Housing
- All kinds of housing
- Housing
- Open up land to build on
- Build more infrastructure for housing and support for workers
- Cost of living (housing, food, energy)

### Seafood

- Support for shellfish & seaweed hatcheries
- Aquaculture
- Mariculture development
- Easier seafood marketing more fresh markets
- Ensure the economic viability of the seafood industry
- Recruitment for seafood processing jobs

### Child Care

- Affordable, yet high quality childcare
- Child care
- Childcare
- Childcare options
- State permits for child care facilities need to be overhauled
- State Funding of schools, healthcare, senior care, child care & other critical services

### Business Development

- Expand the knowledge base for businesses
- Funding opportunities
- Create a series of loan programs for very small businesses to access capital for projects such as housing infrastructure
- Lending to a new business
- Marketing assistance
- Invest in manufacturing and technology

### Workforce Development

- support skilled labor job training opportunities
- workforce development
- Attract workers with experience
- Attracting/retaining businesses
- Training in the trades - possibly incentivized

### Roads

- Road built on mainland
- Road to BC from Wrangell
- Road to Bradfeild
- More paved roads for owners of property

### Freight

- Better and affordable marine transportation for goods
- Availability of supplies
- No monopoly on internet services and freight coming in.

### Energy

- Hydro power development
- Power lines to connect to BC power lines

### Infrastructure

- Replace aging infrastructure
- Infrastructure

### Other

- No monopoly and better pricing on essentials
- Sustainable industries (not just extractive)
- Stop old growth logging.
- Policies to dismantle system racism
- Large commercial grade Hydroponic structures for food.
- Reduce duplicate reporting and regulation - let Agencies share applicable data.

# Please elaborate on the outlook for your business or sector over the next year

Wrangell business leaders were asked to describe their economic outlooks in their own words.

- It is hard to guess what will happen in the next 6 months. Cost for people to fly or ferry to Alaska - specifically to communities that have only Alaska Air or even Alaska Seaplanes - is prohibitive. As costs rise, we look more and more toward the short cruise season for margin and profit, however we are short staffed and can't import workers because there is no available housing. There isn't even enough lodging for independent travelers. We cannot invest in growth under these conditions. Instead of a 7-10 year return, we are looking at 12-15 years, which is poor financial planning.
- Our business mission is to create housing. The cost of materials has skyrocketed which is very concerning given we are doing a renovation right now. Without housing we are detaching people from coming here to work/raise families, etc. We also have housing that is substandard which people don't consider substandard because they are not familiar with a higher standard - a healthier standard.
- Business looks very bad due to inflation, costs of goods and services, freight getting product to the consumer. Monopoly on services regarding internet, freight, cable phone services, grocery prices, property taxes and mill rate too high along with other services water, sewer, electric and garbage and City and States over spending.
- Fishing. It seems the Charter people fishing are dominating overtaking the fishery, letting too many fish get shipped out of state with no record.
- Much of the outlook has to do with how successful the upcoming travel and tourism season might be. Covid-19's impacts were devastating, and we are hopeful to have visitors again. We are so impacted by the cost and difficulty in moving ourselves, products and customers throughout the region. The pathetic Alaska Marine highway service is crippling to our region and commerce.
- Hopefully we will build a new warehouse to expand our business.
- It would be incredibly helpful to have a directory of growth/business consultants for hire. We need someone who can look at Wrangell's priorities that the Tribe can help with (expanded tourism, healthcare, and cultural education), and help design a plan for the next 2-5 years. Our Council has been overwhelmed with the amount of money and choices that the pandemic brought.

- It's been hard finding deckhands and expanding our business due to the increase in prices of goods and fuel. All the finding is for 2020 decline in earnings but 2021 was harder on our business as we struggled to find trained deckhands available to work and shipping and fuel prices went up. Crab sticks were down and now our winter shrimp season is being cut this year and no compensation or grants for 2021.
- Market prices look better, however, returning salmon stocks are still very uncertain (climate change related?)
- The cost of freight to get materials and move product is challenging.
- Fuel prices are going to really slow down economic growth.
- Government costs to provide services is increasing due to aging infrastructure, increased employee costs, supply chain issues, and cost of transportation. In order to improve services and replace or maintain infrastructure, government is needing to increase fees for services - many of these fees have not been increased as necessary over the years, and thus an added burden is being placed on residents to pay for the actual costs of the services provided. Attitudes, financial security is threatened.
- Things have been very difficult since the beginning of the year. Our package count for our business has been down quite a bit. If things don't pick up, I will need to get a second job.
- We cannot work to potential with aging infrastructure and a gutted state retirement program. There are fewer reasons to invest in Southeast. Especially as costs increase.
- I operate an Airbnb in the basement of my home. It is not complex but serves to pad my income as mostly retired.
- I'm hoping to have more business. But the cost of living is so high I'm not sure I can afford to keep my BNB open at an affordable rate for visitors.
- While the travel and tourism industry in Alaska has a great outlook because people want to travel again, we are plagued by the same issues as the rest of the country/world, IE lack of available and willing employees in the pool and issues with supplies in order to keep equipment operating.
- Without financial support from local, regional or state funding, we will close in 4 years because without that funding we don't meet guidelines for federal funding.