

**ASSEMBLY STANDING COMMITTEE
LANDS AND RESOURCES COMMITTEE
THE CITY AND BOROUGH OF JUNEAU, ALASKA**

March 2, 2015, 5:00 PM.

Assembly Chambers

I. ROLL CALL

II. APPROVAL OF AGENDA

III. APPROVAL OF MINUTES

A. February 9, 2015

IV. PUBLIC PARTICIPATION

(Not to exceed a total of 10 minutes nor more than 2 minutes for any individual).

V. AGENDA TOPICS

- A. Continued Discussion on Ordinance 2015-02; An Ordinance Amending the Official Zoning Map of the City and Borough to Change the Remote Subdivisions Area Map for Hidden Valley Tract B, Located in the Upper Lemon Creek Valley, from "Not Remote" to Remote.
- B. Lands Fund Overview
- C. Tom Mattice, Emergency Program Coordinator, will provide a presentation concerning evaluation of grant options for riverbank stabilization and flood mitigation

VI. STAFF REPORTS

VII. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

VIII. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 72 hours prior to any meeting so arrangements can be made to have a sign language interpreter present or an audiotape containing the Assembly's agenda made available. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.org

**ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA**

February 9, 2015

ATTACHMENTS:

Description	Upload Date	Type
☐ February 9, 2015 Lands Committee Minutes	2/20/2015	Minutes

**ASSEMBLY STANDING COMMITTEE MINUTES
LANDS AND RESOURCES COMMITTEE
THE CITY AND BOROUGH OF JUNEAU, ALASKA
MINUTES**

February 9, 2015, 5:00 PM.
Assembly Chambers

I. ROLL CALL

Jesse Kiehl called the meeting to order at 5:00pm.

Members Present: Mary Becker; Jesse Kiehl; Jerry Nankervis

Members Absent: Kate Troll

Other Assembly Members Present: Mayor Sanford; Debbie White; Karen Crane; Loren Jones

Liaisons Present: Mike Peterson, Docks & Harbors Board; Bill Peters, Planning Commission

Liaisons Absent: Jeff Wilson, Parks & Recreation Advisory Committee

Staff Present: Greg Chaney, Lands Manager; Jessica Beck, Lands Specialist

II. APPROVAL OF AGENDA

Property Tax Abatement was removed from the agenda at this portion of the meeting. It was later reinstated by the Chair and the Remote Subdivision discussion was removed.

III. APPROVAL OF MINUTES

A. January 26, 2015

The minutes of the January 26, 2015 Lands Committee were approved.

IV. PUBLIC PARTICIPATION

Wayne Coogan: This is related to the (Honsinger Pond & Lemon Creek) gravel pit trade. In the trade there are appraisals. If we trade the gravel pit appraised at its current zoning with a piece of property at a different zoning. I'm assuming he received instructions for zoning as is in addition to prospective zoning, which is not in existence yet. It troubles me that were going to trade property for other property that's value is prospective. The party to the deal has control of the zoning. It seems very messy to me. The easiest way out would be to give the applicant his zoning and let him contribute to the economy with his zoning and take the gravel pit property and liquidate it for cash. If we follow the Economic Plan, it suggests to do just that. It says that you have an economy that is fragile here in Juneau and that we need to provide more industrial property. If we proceed with this land trade, we are ignoring the advice we paid for.

Dave Hanna: I'm here to speak on the same subject as Mr. Coogan - the proposed land trade. Mr. Hanna distributed a letter to all members of the Assembly. We have an issue in the face that we only have two immediately prospectively available large tracts of industrial land in this community and were looking at taking one of them out of circulation. That's one of the biggest impediments to business development in this town right now is lack of land that's available to be utilized. We're proposing to take it out of the tax base. Right now we're looking for more property tax. That is property that the City could sell for cash. They could take that land and put it out there for businesses we feel we're lacking in the community right now. There's a lot of opportunity for the City to capitalize on the property next to Costco. The fourth issue I want to talk about is the fairness. Why should we just turn this property over to somebody when it should be put out there for everybody to bid on. If the city thinks we need it for Airport use, we all saw how difficult it was to get it permitted to extend the runway 500 feet. Let's let Mr. Bicknell do the heavy lifting. He can get it permitted. He can get it developed. If you need a little bit of it for airport use, it would be far cheaper for him to go through this property than have the City go through the process. What's ironic is the fifth point in my letter. That's the fact that if any of you have lived here a long time, have watched that channel evolve over the years, it is an evolving process and relentless process. Many years ago that was bare sand. Then little islands formed out there. Now they have forests on them. The area that is where the fireweed are, just a few short years ago that was inundated by hightide. It no longer is. It has

alders and spruce and they are indeed encroaching into that. In a few short years, the fireweed won't be there unless someone wants to go out there on their hands and knees and pluck every seedling from the ground every fall. What are we going to save? Not what we intended.

Gary Bowen: Thank you for your time. I own a 240 acre claim, opposite Secon's property in Hidden Valley and I plan to develop that land. I need road access to it. Secon is having problems with easements. I hope you can figure it out. I can't afford to chopper in equipment. I've got potential employees to help clear the land. The state has already told me I can sell the timber. I need road access.

Mr. Nankervis: Where in relation to the property that's in question. Are you talking about across the river?

Mr. Bohen: I own the mineral rights on the state land in the corner from Secon's property in Hidden Valley. 240 acres. I've had that for a number of years. It's going to work one way or another. I'll get investors and equipment. People need to go to work. They're tired of being in the soup line.

V. AGENDA TOPICS

A. North Franklin Parking Lot Proposal

Jesse Kiehl declared a conflict of interest and stepped down. Mary Becker took over as Chair for this agenda topic only.

Mr. Hamilton: I would just like to have some clarification on the statute of limitation on the proposal to buy the lot and it's been on the table for quite some time. I would like to know what the statute of limitation is. The parking lot is an economic generator for the community and that end of town. I really don't want to see that lost to the private sector. It's utilized by the local businesses there.

Joanie Waller: In June 2014 I testified to the Assembly asking for more public involvement on the change of the use of this property. I feel like in offering that up for the proposal for the group to build on, it was an automatic change of use. The local residents never had a say in changing it from a parking lot. I feel like just because there's housing shortfalls it doesn't mean that should take precedent over the parking shortfalls. I felt like from the get go, once it got locked up... actually the first time I found about it was from an appraiser. I would like to buy the driveway to the attached lot but I'm not sure what the process is or if I'm shutout from that process or have to buy it from the group.

Mr. Chaney: This has been going on for several months, maybe close to a year. The North Franklin Parking Lot is near the Baranof Hotel. It previously had JAMI and Colonial apartments. The City acquired the property and removed those and put in a parking lot to meet the parking demand. The property was appraised at approximately \$500,000 on April 30th. Juneau Legacy Properties proposed to put in a multi-use building with apartments, retail space and parking. I've been working with Juneau Legacy Properties for the intermediate time. We've gone back and forth with potentially modified plans - they've looked at making the building higher, adding more apartments by making them smaller, and many things have been changing but they've come back to the original proposal. The big problem they've come up with is that they can't get financing if there's a reversion clause. Meaning if we sell the property to them, we can't have any control after that point. Lending institutions won't finance it because they don't want to give a loan on something we can take back. So, in a fee simple sale (without the reversion clause), the buyer can do what they want the next day after it's sold. That's why I've come back to get some direction, to see if fee simple sale, if that's appropriate. When I got direction from the Assembly, I was directed to get some kind of reversion clause so that we would get what we intended or it would return to us. "In His Hands" didn't build what we wanted and we (CBJ) ended up getting it back through tax foreclosure, but it wasn't a pleasant experience. That's my question to you. I've had many calls from neighbors and businesses who have expressed concerns that they didn't have enough opportunity to speak at the time of the proposal.

Mr. Nankervis: When you put out notice, why and what did it entail?

Mr. Chaney: Juneau Legacy Properties came to us and said they would like to put in a multiple-use structure. We went to the Assembly with the proposal. In title 53, we can either get permission to

negotiate directly or we can go out for proposals. The Assembly directed us to seek other proposals. We were given a 30 day time limit before we had to come back. We noticed it like a public hearing, and we probably should have noticed it like a land sale.

Mr. Nankervis: Did we have any other proposals?

Mr. Chaney: We had no other proposals. The Assembly reviewed the proposal and decided to move forward with entering into negotiations with Juneau Legacy Properties. We haven't been able to come up with a plan that works for everybody. The reversion clause is the final issue that hasn't been resolved. I don't feel comfortable selling it without a reversion clause. They can't get financing with one.

Mr. Nankervis: From the people who testified, what is the statute of limitations?

Mr. Chaney: "Statute of limitations" is not the right term, but how long does this go on before we have a cutoff date? There was no calendar set. We don't have a timeline. This is a good point to come back and ask for further direction.

Mr. Nankervis: Easement?

Mr. Chaney: It's interesting; we can see the property isn't a rectangle. It has a little ear that sticks out that provides parking for the adjacent property. Juneau Legacy Properties asked to buy the whole property and we never discussed that as a separate issue.

Mr. Nankervis: If it sold, would that issue reside with the new owner?

Mr. Chaney: We haven't sold it so that agreement could look however you want to.

Mr. Nankervis: Mr. Chaney is looking for some sort of direction and if memory serves me correct, we made that decision to the Committee of the Whole or the Assembly. We've gone from nine people having a say in that to two of us right now. I'm not comfortable making that decision as 50% of that decision. Could we wait until we have more people?

Mr. Chaney: If you want to wait for another meeting, that's your prerogative. Or, if you want to refer it to the Committee of the Whole.

Ms. Becker: Can you remind me what we said about the reversion clause?

Mr. Chaney: It wasn't that specific. I was directed to come up with an arrangement and bring it back for review. We're still negotiating.

Mr. Nankervis: If it went back to the Committee of the Whole, since we were all involved in it, I would be okay with that.

Ms. Becker: I would be okay with that. Unless the Mayor objects, I think this should go to the Committee of the Whole. And he said yes, so we'll do that.

B. Changing the Tax Deferral on Certain Subdivided Properties to a Tax Abatement

Mr. Chaney: This is a taxation issue. The Finance Director had some quick comments on this. He said the "CBJ is doing many things to assist with increasing housing units and affordable housing. I do not recommend we use property tax exemptions as proposed as a part of our housing action. We are just completing an effort to reduce current tax exemptions and it does not appear warranted to start creating them again. From a tax policy perspective exemptions are not an effective way to maintain the balance between what drives increased public service costs and workloads and who should pay. Housing is a priority and there are many ways to facilitate and support this. I would not recommend a tax exemption as proposed at this time."

Mr. Kiehl: We have all had the opportunity to review the letters in our packet. Is there discussion?

Mr. Nankervis: I think this is more appropriately at the Finance Committee.

Motion: Mr. Nankervis: I move we forward this to the Finance Committee for review.

Mr. Kiehl: Thank you. This falls within the Lands Committee topics. I'll take the opportunity to speak in favor of the proposal. This can be one piece in helping out. We're in short supply of measures to drive high density development. Our community is in need of high density development. I think the Lands Committee can make an appropriate recommendation to the Assembly. It would be a recommendation to the Assembly to make a recommendation to the Legislature.

Ms. Becker: I'm in favor of moving it forward because we did talk about this when they did a tax deferral. It's not that we won't ever get our taxes back. It's the first part of the improvements, it will wait until the property is sold and the property owner will pay the tax. The builder won't pay it. We'll

wait until the buyer buys it. I'm in favor of sending to the Assembly with a letter to send to the Legislature.

Motion: Mr. Nankervis: That was I left out in my first motion was to approve it and forward it to the full Assembly.

Hearing no objection, motion passes.

C. Housing First Request for \$90,000 Grant from the Juneau Affordable Housing Fund

Mandy O'Neal Cole, representing the Affordable Housing Commission, said the Commission wrote a letter recommending a \$90,000 grant from the Juneau Affordable Housing Fund for the Housing First project. At our February meeting, we heard from the Housing First working group about their need for some predevelopment funding. They estimate \$90,000 to be used for architectural services and environmental testing. They are preparing a very competitive application for a Special Needs Housing Grant. That application requires additional architectural drawings, soil testing and some things that cost money. The working group doesn't have that cash on hand. Those services are to prepare a stronger grant. They came to us asking for that money as a grant. We have been talking about low interest or no interest loans which means they would pay it back at some time. This is not that case. This is a request for a grant. Their operations costs will be so high that they will need subsidy throughout the life of their project. We argued long and hard to see if this is something we could entertain because we want the money to be a revolving fund. We talked a lot about what the options are for Housing First. They have identified this as the most time sensitive option. We decided that this is something we want to recommend. We think projects that have repayment are the priority. The benefit of having a local housing fund is the ability to be flexible. There will be projects that we hope have repayment. We weighed the benefit to the community versus the loss of \$90,000 that we couldn't recoup. We want the Housing Action Plan to come up with strategies to capitalize the Juneau Affordable Housing Fund. While there are projects that have repayment, there are other projects that can't afford to repay. We also noticed that the housing fund has grown. It has \$545,000 today. That is from repayment of other loans. We were preliminarily approved by this committee for \$75,000 for the Accessory Apartment Grant program. The Housing First \$90,000 would leave us with \$380,000 which is close to what we had in the fund in 2010. Since 2010 we've had 3 preliminary plans for the fund - two of which were withdrawn and one that was funded for predevelopment costs. While having a strategy for repayment is important, we are also really excited that 32 units will be resulted from this \$90,000 investment. We are hoping to find ways to grow the fund, rather than just relying on repayment from borrowers.

Mr. Nankervis: What you're looking is going from \$540,000 to \$380,000 that is both non repayment funds.

Ms. O'Neal Cole: We're hoping to grow it, not just through repayment of loans. It's part of our Housing Action Plan. It could come up with strategies to could capitalize the fund that we haven't thought of yet. We had \$400,000 in 2010 and a \$90,000 legislature appropriation. Those were the only sources thus far and we think there are other sources out there.

Mr. Nankervis: Are you under any obligation to disperse this money by a deadline?

Ms. O'Neal Cole: The \$77,000 earmarked for the accessory apartment grant program did have a deadline, but we got it extended by 1 year. That money should be used first but we were able to ask for extensions and are under the impression that they will be given.

Mr. Kiehl: \$75,000 for the Housing Action Plan, is before the \$545,000?

Mr. Chaney: Yes, that would be before the \$545,000.

Mr. Kiehl: Is there some reason why this \$90,000 must come from this fund, as opposed to the \$1.5 million the CBJ has committed?

Mr. Chaney: My understanding is that it would be for preparing for the SNHG grant. The conventional wisdom is that Juneau's ahead because we don't have a Housing First project. Anchorage, looking at the points, they are ahead of us. They are very experienced and have a very competitive application. If Juneau doesn't do something, it's questionable if we'll get it. With this money they can beef up their application.

Ms. O'Neal Cole: If we were judged right now, we would be behind the in the points compared to the other applications. It's not just points based but the points do matter. The \$90,000 would help to bring their points up.

Mr. Kiehl: What I'm driving at is, when the Assembly committed \$1.5 million, it wasn't the last dollar. There ought to be strategies in the Housing Action Plan to refill the Affordable Housing Fund, but it's not there yet. It seems to be entirely responsible and it seems to be within the scope of our \$1.5 million commitment, we could advance \$90,000 for their SNHG grant. It would be appropriate for the Finance Committee to decide which funding source to use for the first \$90,000. I have grave concerns on drawing down on the Affordable Housing Fund.

Ms. O'Neal Cole: We talked about this issue at the Affordable Housing Commission meeting. We were under the impression that the \$1.5 million was not available until after the SNHG grant was approved.

Mr. Kiehl: I must have missed that...

Ms. O'Neal Cole: I suspect that if there was a way to get the \$90,000 in advance of the \$1.5 million, they would be in favor of that.

Ms. Becker: I'm having similar hesitations as Mr. Kiehl. How much is the SNHG grant?

Ms. Lavishchuk: It's \$3 million in funds that is available now for construction, \$1.2 million in operating funds, with \$400,000 available each year for 3 years and a potential of operating support for SNHG project for the duration of the project. The resolution language does say \$1.5 million is contingent upon the SNHG application award. That was our impression.

Ms. Becker: This \$90,000 is just to write the grant?

Ms. Lavishchuk: The \$90,000 is to perform development and design work which will make our project shovel ready. It would involve soils analysis, architectural work. One of the big points in the application are points for energy. This project needs to have a very developed energy system. The Anchorage system has a great energy system. This would help develop plans for a system that is ready.

Ms. Becker: You would use some of it to develop the parts you are putting into the grant? And, there are a number of different aspects of that.

Ms. Lavishchuk: Correct. There is a schedule of work that needs to be done.

Ms. O'Neal Cole: My understanding is that the grant is being written Ms. Lavishchuk and other partners, but these funds are for professional services.

Mr. Kiehl: I have taken the opportunity to look up the Resolution 2708, and it is not contingent.

Mr. Nankervis: In the life of this fund, we have had one loan?

Ms. O'Neal Cole: We have had one \$13,000 loan to St. Vincent for predevelopment. That was the reason behind the Accessory Apartment program. the fund is too small to be great for large projects, but it is of the scale for predevelopment funds, but predevelopment funds are riskier because if the development doesn't happen, then you're left with an inability to repay that fund.

Mr. Kiehl: It would certainly remain my desire to refer this to the Finance Committee. I remain strongly supportive of the Housing First project. Assistance in technical and professional services that could make the grant application a winning application, will probably pay off. The fund source remains a question to me. That would be my suggestion, to refer this to our Finance Committee.

Ms. Becker: Is this time sensitive?

Ms. Lavishchuk: It is incredibly time sensitive. Several things have changed since the Assembly commitment. The Municipality of Anchorage pledged a similar amount. Another thing is that the SNHG grant deadline got pushed to March 31st. March 31st is just around the corner. This is an incredibly competitive process. We are at a disadvantage being a small city trying to compete with Rural Cap, which is a huge organization with lots of experience. Anything we can do to strengthen our application, really increases our chances. One more comment, these funds in other communities, they are revolving funds that do a combination of grants and loans. The \$90,000 are important to us because of the SNHG grant. If the Juneau doesn't get the SNHG grant then the Housing First project will still be a priority so whatever work comes out of it, it can still be used far down the line. The money will not be wasted.

Mr. Nankervis: I believe this is pretty time sensitive. If the SNHG grant doesn't come through, the money will still have been spent on a project that is going to move forward.

Motion: Mr. Nankervis: I move we forward for review and approval to the full Assembly.

Mr. Nankervis: I think it will accomplish what I believe you are trying to do, which is by getting it to Finance will get everyone to look at this. If this gets on the next Assembly agenda, that should give us enough time. That's my thinking behind the motion.

Mr. Kiehl: Just for clarification, you would recommend the committee payment of the grant from the

Affordable Housing Fund?

Mr. Nankervis: Forwarding this to the Assembly as presented.

Ms. Kiefer: I just wanted to let you know that the Finance Committee will be taking up the Housing First 1.5 million dollars and where it will come at the February 18th meeting.

Ms. Becker: Are you saying this \$90,000 should be included with the discussion at the Finance Committee.

Ms. Kiefer: We said we would come back with how to find the \$1.5 million. If you want that as an action item on the Committee agenda, it is already on that agenda.

Ms. Becker: That makes sense to me. Then we can talk about it. I like having it on Finance agenda, then we can have it on our list of what we're going to fund. I would ask that the maker the motion change it from Assembly to the Finance Committee.

Motion: Mr. Nankervis: Now to the Finance Committee.

Hearing no objection, motion passes.

D. Continued Discussion on Ordinance 2015-02; An Ordinance Amending the Official Zoning Map of the City and Borough to Change the Remote Subdivisions Area Map for Hidden Valley Tract B, Located in the Upper Lemon Creek Valley, from "Not Remote" to Remote.

Due to lack of time to discuss this substantial item, it was moved to the March 2, 2015 meeting for discussion.

VI. STAFF REPORTS

I would like to comment that I spoke with a representative from the housing arm of the Rasmussen Foundation last week and he was incredibly impressed with what we're doing here in Juneau. He indicated he would like to work with us further.

VII. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

Mr. Peters: Happy to be here for my first meeting and I'm looking forward to working with you.

Mr. Peterson: No report.

VIII. ADJOURNMENT

The meeting adjourned at 5:56pm.

**ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA**

Continued Discussion on Ordinance 2015-02; An Ordinance Amending the Official Zoning Map of the City and Borough to Change the Remote Subdivisions Area Map for Hidden Valley Tract B, Located in the Upper Lemon Creek Valley, from "Not Remote" to Remote.

RECOMMENDATION:

ATTACHMENTS:

Description	Upload Date	Type
☐ Ordinance 2015-02	1/6/2015	Ordinance
☐ Exhibit A Map	1/6/2015	Exhibit
☐ Notice of Decision	1/6/2015	Notice of Decision
☐ CDD / LAW memo re Ordinance 2015-02	1/30/2015	Cover Memo
☐ Memo from Greg Chaney from previous Lands Committee meeting	2/4/2015	Exhibit
☐ Applicant's Narrative about Waverly-Keeling_Subdivision	1/30/2015	Exhibit
☐ Applicant Representative - Public Testimony	2/2/2015	Report
☐ Rorie Watt's Landfill Site in Hidden Valley	2/25/2015	Report
☐ Landfill Recon Study 1993 - Part 1	2/25/2015	Report
☐ Landfill Recon Study 1993 - Part 2	2/25/2015	Report
☐ 2015-02-27-Zack_Worrell_Information_Packet-II	2/27/2015	Exhibit
☐ 2015-03-02-CDD_re_AME2014 0004 Hidden Valley Remote Map Amendment ORD 2015-02	3/3/2015	Staff Report

Presented by: The Manager
Introduced:
Drafted by: A. G. Mead

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2015-02

An Ordinance Amending the Official Zoning Map of the City and Borough to Change the Remote Subdivisions Area Map for Hidden Valley Tract B, Located in the Upper Lemon Creek Valley, from “Not Remote” to Remote.

WHEREAS, the City and Borough Comprehensive Plan supports the facilitation of recreational uses; and

WHEREAS, the City and Borough Comprehensive Plan supports use of remote areas for recreational cabins; and

WHEREAS, the lots in question are currently designated as Not Remote on the Remote Subdivisions Areas map of the City and Borough’s official zoning atlas; and

WHEREAS, the applicant wishes to make a map amendment to designate the subject parcel as Remote; and

WHEREAS, the map amendment application meets the following characteristics of a Remote Subdivisions Area, CBJ 49.70.1120, in that the subject parcel should not be:

- (a) In the general proximity of a capital improvement listed in the current capital improvements program;
- (b) Subject to a new growth area master plan, or other private plan adopted by the City and Borough;
- (c) Connected to the road system; or

1
2 (d) Served by a right-of-way, sewer system, water system, fire protection
3 service, or police protection service, operated or maintained by an agency of
4 government.

5
6 NOW, THEREFORE, BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND
7 BOROUGH OF JUNEAU, ALASKA:

8 **Section 1. Classification.** This ordinance is of a general and permanent nature
9 and shall become a part of the City and Borough of Juneau Code.

10
11 **Section 2. Amendment to the Official Zoning Map.** The official zoning map of
12 the City and Borough, adopted pursuant to CBJ 49.25.110, is amended to change the
13 designation of Hidden Valley Tract B from “Not Remote” to “Remote.”
14

15 The described map amendment is shown on the attached Exhibit “A” illustrating the
16 area of the proposed zone change.

17
18 **Section 3. Effective Date.** This ordinance shall be effective 30 days after its
19 adoption.

20 Adopted this _____ day of _____, 2015.

21
22
23 _____
Merrill Sanford, Mayor

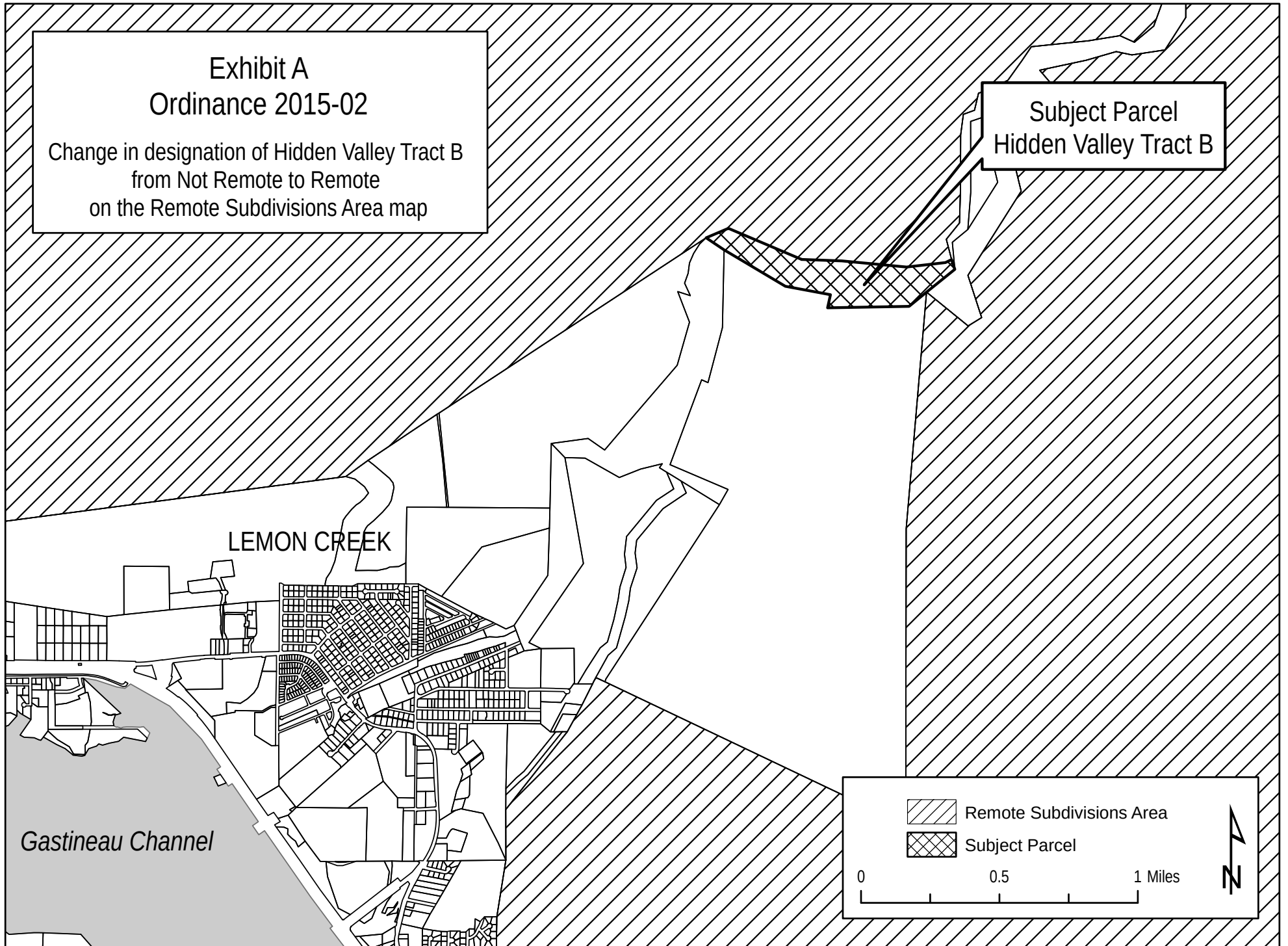
24 Attest:

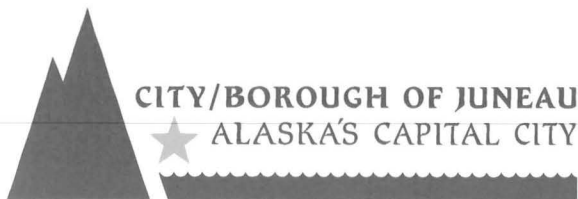
25 _____
Laurie J. Sica, Municipal Clerk

Exhibit A
Ordinance 2015-02

Change in designation of Hidden Valley Tract B
from Not Remote to Remote
on the Remote Subdivisions Area map

Subject Parcel
Hidden Valley Tract B





**PLANNING COMMISSION
NOTICE OF RECOMMENDATION**

Date: May 14, 2014

File No.: AME2014 0004

City and Borough of Juneau
City and Borough Assembly
155 South Seward Street
Juneau, AK 99801

Application For: Planning Commission Recommendation to the City and Borough Assembly regarding amendment to remote subdivision area map to include Hidden Valley Tract B in the upper Lemon Creek Valley.

Legal Description: Hidden Valley Tract B

Property Address: Upper Lemon Creek Valley

Hearing Date: May 13, 2014

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandum dated April 24, 2014, and recommended that the City and Borough Assembly adopt staff's recommendation for an amendment to remote subdivision area map to include Hidden Valley Tract B in the upper Lemon Creek Valley.

Attachments: April 24, 2014 memorandum from Jonathan Lange, Community Development, to the CBJ Planning Commission regarding AME2014 0004.

This Notice of Recommendation constitutes a recommendation of the CBJ Planning Commission to the City and Borough Assembly. Decisions to recommend an action are not appealable, even if the recommendation is procedurally required as a prerequisite to some other decision, according to the provisions of CBJ §01.50.020 (b).

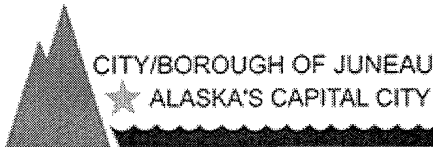
Project Planner: Jonathan Lange
Jonathan Lange, Planner
Community Development Department

Michael Satre
Michael Satre, Chair
Planning Commission

Janice J. An 5/19/14
Filed With City Clerk Date

cc: Plan Review

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this recommended text amendment. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Contact an ADA - trained architect or other ADA trained personnel with questions about the ADA: Department of Justice (202) 272-5434, or fax (202) 272-5447, NW Disability Business Technical Center (800) 949-4232, or fax (360) 438-3208.



Law Department

MEMORANDUM

DATE: January 30, 2015
TO: Manager and Assembly
FROM: Robert H. Palmer III, Assistant Municipal Attorney
Hal Hart, CDD Director ~~HHH~~
SUBJECT: Ordinance 2015-02

RP

Ordinance 2015-02 amends the remote subdivision area map to include Hidden Valley Tract B as "Remote." Property designated as remote is eligible to be developed as a remote subdivision, which means the developer does not have to install traditional subdivision improvements like roads, sidewalks, lighting, utilities, etc.

The Planning Commission recommends the Assembly approve Ordinance 2015-02, but the Community Development Department and the Lands Division have substantial reservations regarding Ordinance 2015-02. The primary issue for the Assembly is whether Hidden Valley Tract B is "connected to the road system" and the precedential effect it will have on future subdivisions in the City and Borough of Juneau.

This is the first time a remote subdivision has been proposed that is not accessed from saltwater and the first time that a remote subdivision is accessed by a road. The effect of passing Ordinance 2015-02 means that a remote subdivision can be accessed by a 12-16 foot road and located away from the saltwater. The effect of not passing Ordinance 2015-02 means that a remote subdivisions needs to be accessed by saltwater and a subdivision accessed by a 12-16 foot road is required to provide for traditional subdivision improvements.

I. BASIC FACTS

Secon owns Hidden Valley Tract A and actively mines gravel and rock on that parcel. Two large explosive storage facilities are located on Secon's property, which received conditional use permits in 2009 by the Planning Commission.¹

Zachary Worrell and Jim Eliason ("developers") own Hidden Valley Tract B ("HVTB"), which is located just upstream from Secon's property. HVTB is approximately 66 acres.

The line designating Remote from Not Remote is on the upstream side of HVTB. Thus, both Secon's property and HVTB are currently Not Remote, which means those parcels are not eligible for remote subdivision benefits.

The developers of HVTB applied to have the remote subdivision area map amended to include HVTB.² The Planning Commission adopted CDD analysis and recommended the Assembly amend Remote Subdivision Map.³

Days after the Planning Commission hearing, the developers applied for road easements across CBJ property to reach HVTB.⁴ CBJ researched the access rights and started easement negotiations with Secon and the developers. In September, CBJ confirmed a new road had been constructed to access HVTB, which is approximately 16 feet wide, graveled, and graded for passenger vehicles.

. CDD believed the presence of the new road was a substantial change in circumstances and disqualified HVTB from being Remote. CDD asked the Planning Commission to reconsider the recommendation to amend the remote subdivision area map. The Planning Commission

¹ USE09-18 (Alaska Pacific Powder Company); USE09-19 (Austin Powder LLC).

² April 1, 2014.

³ AME2014-0004, May 13, 2014.

⁴ CSP2014-0013, May 18, 2014.

disagreed with CDD and reaffirmed its recommendation to the Assembly (8-0).⁵ Importantly, the Planning Commission concluded HVTB is not connected to the road system because the 16 foot gravel road is less than the subdivision street standards.⁶

The developers recently applied for a 25 lot remote subdivision.⁷ CDD is currently collecting agency comments, which includes a request to the Bureau of Alcohol Tobacco and Firearms (“BATF”) because BATF regulates the proximity of explosives storage facilities to roads. If Ord. 2015-02 is approved on February 2, 2015, then CDD anticipates the Planning Commission will review the preliminary plat on March 10, 2015. The Planning Commission would make the final decision on the subdivision application.

If Ord. 2015-02 is approved, then the Assembly would have an opportunity to review and approve or deny the requested easements.

II. DISCUSSION

A. Legal Requirements

Remote subdivisions are governed by CBJ 49.70.1100-1120. Specifically, 49.70.1120 *Characteristics*, provides

Privately owned land proposed for inclusion within a remote subdivision area should not be:

- (a) In the general proximity of a capital improvement listed in the current capital improvements program;
- (b) Subject to a new growth area master plan, or other private plan adopted by the City and Borough;
- (c) Connected to the road system; or

⁵ AME2014-0004, December 9, 2014.

⁶ The current subdivision street standards, CBJ 49.35.240(b)(3)(B), describe the minimum width for a rural subdivision access road as 24 feet. The proposed subdivision street standards do not have a minimum street width. CBJ 49.17.525 Table.

⁷ SMP2015-0001.

- (d) Served by a right-of-way, sewer system, water system, fire protection service, or police protection service, operated or maintained by an agency of government.

The burden is on the applicant/developers to prove HVTB should be included in the remote subdivision area map. By recommending the Assembly amend the remote subdivision area map, the Planning Commission implicitly believed the developers met their burden. CDD still has substantial reservations.

B. Assembly Decision

The issue before the Assembly in Ord. 2015-02 is whether the approximately 16 foot gravel road connects HVTB to the road system. The Assembly has discretion whether to approve or deny Ord. 2015-02 because CBJ 49.70.1120 uses the phrase “should not.”

Although the issue is simple, the Assembly’s decision on Ord. 2015-02 will have broad implications. If Ord. 2015-02 is denied, it would maintain the status quo in that remote subdivisions cannot have passenger vehicle access to the road system and remote subdivision must be accessed from large navigable waters (i.e. saltwater). Alternatively, if Ord. 2015-02 is approved, it would broaden the definition and allow remote subdivisions to be accessed only by narrow roads, which could minimize the CBJ’s ability to require subdivision improvements, especially with the proposed amendments to the subdivision code.⁸

1. History of CBJ 49.70.1100-1120, Remote Subdivision Areas

The Remote Subdivision Areas provisions, CBJ 49.70.1100-1120, were enacted with Ord. 99-34 (Jan. 24, 2000). The ordinance file contains public comments, staff memorandums, Planning Commission minutes, Assembly minutes, and a map that suggests the Remote

⁸ The proposed subdivision code currently allows minor subdivisions, which serve less than 13 lots, to be accessed by a privately maintained street/driveway that is on an easement, which does not have to be paved or a certain width. CBJ 49.17.525 Table.

Subdivision Areas provisions were intended to only apply to privately owned properties accessed by saltwater. As described by one commentor “The subject ordinance will revise and relieve certain Land Use Code requirements for remote waterfront subdivisions—those which have virtually no chance of ever being connected to the CBJ road system.”⁹ Similarly, in 2006, the only time the Remote Subdivision Areas provisions have been amended, Remote properties were described as “privately owned and are not located on the road system. Many of the typical subdivision requirements are automatically waived in these situations.”¹⁰ Accordingly, the effect of classifying a parcel Remote means the developer can avoid installing subdivision improvements like roads, curb/gutters, power, sewer, and water. CBJ 49.70.1100.

2. Precedential Effect of Ord. 2015-02

According to CDD, Ord. 2015-02 is the first time a remote subdivision has been requested on property that is not accessed by saltwater. Because past remote subdivision requests have been on islands (i.e. Shelter and Spuhn Islands) or on properties accessed by saltwater (i.e. Lucky Me on south Douglas Island), the likelihood of the CBJ being asked or pressured to install subdivision improvements is slim. However, Ord. 2015-02 could change that financial responsibility dynamic. The developer has proposed covenants and deed restrictions designed to alleviate that financial pressure by putting the future homeowners on notice that they would be required to pay for any future subdivision improvements. CDD is still concerned about shifting the development costs onto future homeowners after purchasing their property because those future homeowners would not be able to wrap those subdivision improvement costs into the original mortgage, which may result in the CBJ being pressured to pay for some of the

⁹ Letter from Murray R Walsh, AICP, to Mayor Egan and Assembly Members, *RE: Ordinance 99-34* (Dec. 2, 1999).

¹⁰ TXT2005-0010 Staff Report at 13-14 (Jan. 5, 2006), which resulted in Ord. 2006-15 § 26 (June 5, 2006).

improvements. Thus, although the deed restrictions and covenants have been proposed, approval of Ord. 2015-02 may shift some financial responsibility of future subdivision improvements back to the CBJ.

Additionally, if Ord. 2015-02 is approved, two other land owners have indicated that they intend to submit similar remote subdivision map amendment requests: property near 10 mile on N. Douglas and property near Outer Point on N. Douglas. Both properties have proposed some type of road access similar to the current access to HVTB.

3. Possible Policy Reasons to Approve Ord. 2015-02

Approval of Ord. 2015-02 means the Assembly agrees with the Planning Commission that HVTB is not connected to the road system and the developers could create a subdivision without typical subdivision improvements.¹¹

- a. The approximately 16 foot access road does not connect HVTB to the road system because the access road is less than the current subdivision street standards.**
- b. The Planning Commission specifically addressed whether HVTB is connected to the road system and its recommendation should be entitled to some deference.**
- c. A remote subdivision on HVTB would provide needed alternative property ownership options in Juneau.**
- d. The deed restrictions that prohibit community water, sewer and electricity and the covenants that require future homeowners to pay for any future subdivision improvements sufficiently protect the CBJ from financial responsibility.**
- e. The subdivision review process before the Planning Commission is the proper forum to address the subdivision improvements and access concerns for HVTB.**

¹¹ There is a possibility that when the Planning Commission reviews the subdivision application, the Planning Commission may require the HVTB access road to be improved for safety reasons and to comply with the current street standards, despite the enactment of Ord. 2015-02.

4. Possible Policy Reasons to Deny Ord. 2015-02

Denial of Ord. 2015-02 means the Assembly believes the property is connected to the road system and the developer would be required to install or bond for traditional subdivision improvements.

- a. The approximately 16 foot access road connects HVTB to the road system because a passenger vehicle will be able to drive directly from Costco to any lot in the proposed subdivision in about 5 minutes.**
- b. A future homeowner in the proposed subdivision can leave their lot and drive to downtown Juneau within approximately 16 minutes, which is closer than most properties in the Valley.**
- c. The original purpose of a remote subdivision was to provide developers on islands that are only accessed from saltwater reprieve from installing subdivision improvements like roads, sidewalks, lights, etc., and Ord. 2015-02 would improperly alter the intent of the remote subdivision area provisions.**
- d. Future subdivision improvements are likely going to be required, and Ord. 2015-02 impermissibly shifts the cost of subdivision improvements onto future property owners that may not be able to afford them or onto the CBJ.**
- e. Denial of Ord. 2015-02 does not mean a subdivision cannot occur, it just means the developers would be subject to the traditional major subdivision regulations in a rural setting.**

If you want more discussion with staff, this matter could be sent to the Lands Committee or the Committee of the Whole for further consideration.

MEMORANDUM

CITY/BOROUGH OF JUNEAU

Lands and Resources Office
155 S. Seward St., Juneau, Alaska 99801
Greg_Chaney@ci.juneau.ak.us
Voice (907) 586-0205
Fax (907) 586-5385

TO: Assembly Lands Committee

FROM: Greg Chaney, Lands and Resources Manager



DATE: January 21, 2015

LOCATION: Lemon Creek, Hidden Valley

SUBJECT: Ordinance 2015-02 an Ordinance Changing the Status of Hidden Valley Tract B to an Area Zoned To Allow Remote Subdivisions

The remote subdivision designation allows subdivisions to be platted without installation of public utilities or publicly maintained access roads. The primary purpose of the Remote Subdivision provision is to allow lots on islands to be subdivided where building a road would be impossible. On May 14 2014 the Planning Commission recommended approval of an application to have Hidden Valley, Tract B a 66 acre lot rezoned to allow subdivisions to be established under the Remote Subdivision standards of Title 49. A 25 lot major subdivision application (SMP2015 0001) for this site was submitted to the Community Development Department on January 8, 2015.

This case is somewhat unique because the property is located in Hidden Valley and although it is not an island, it is difficult to access. Two basic routes are available to reach the property, one option is the Lemon Creek Trail with a trailhead near Home Depot. An alternative access uses the Hidden Valley Haul Road which passes through CBJ property and Secon's quarry operation. The Haul Road is not open to the public since it was constructed primarily for heavy trucks hauling sand, gravel and rock products. The road does not have standard sight distances and is often restricted to a single travel lane. Furthermore, the road is maintained for large trucks and due to mud, rocks, potholes, etc. the driving surface is not always appropriate for passenger vehicles. Another issue of concern is that there are explosive storage sites along the haul road. These installations are not supposed to be located near public roads. CBJ Law has inquired with the Federal Bureau Alcohol Tabaco and Firearms (ATF) to see if approval of the proposed subdivision will require relocating these facilities. The issues of industrial traffic, substandard road design, maintenance, driving conditions and explosive storage sites should be carefully evaluated before this route is approved for a major subdivision.

In addition to the concerns mentioned above, the property owners built a pioneer road from the end of the haul road to the proposed subdivision location. This road followed the alignment of a previously existing, but abandoned logging/placer mining road. The road

was re-graded with heavy equipment and a bridge was installed. Unfortunately all of this work was done without required grading and building permits. It appears that some of this road was built through CBJ property without permission. A survey is needed to establish the alignment of this road in relation to property boundaries. If the road passes through CBJ property, recorded access easements will be required.

Staff Recommendation

Therefore the CBJ Lands Division recommends that Ordinance 2015-02 be approved with the following conditions:

Prior to approval of a subdivision of the property, the property owner shall complete the following:

- Address the Potential Need to Relocate Powder Magazines
- Survey Recently Constructed Access Road
- Complete a Grading Permit
- Receive a Building Permit and Final Inspection for Existing Private Bridge
- Secure Access Easements Through CBJ Property
- Address Haul Road Traffic Safety Conflicts

Waverly Keeling Subdivision Narrative

Purpose:

Currently, Juneau residents seeking a convenient weekend getaway in a remote setting are limited to Lucky Me (across Gastineau Channel from Thane), Shelter Island, Horse/Colt Island, and other locations further from town. The areas listed above require a boat trip, or in some cases, a tidally dependant beach walk of 3 miles or more in order to gain access. Owning and maintaining a boat is very expensive. In order to visit a remote island cabin, several hours are required for maintaining the boat, stowing gear, towing to the launch, finding parking, etc. Then there is travel time, and very often poor weather can prevent you from reaching or returning from your remote cabin.

The Waverly Keeling Remote subdivision will be accessible by 4 wheel drive vehicle and/or a short walk. Travel time from the Juneau road system to the cabin sites should not require more than 30 minutes under any circumstance. Reliable, convenient, and inexpensive access to the remote subdivision will ensure far greater utilization than the other remote cabin opportunities near Juneau.

Benefits of this are as follows:

- a. Easy and quick accessibility allows those employed 5 days per week in Juneau to enjoy weekends or afternoons in an off grid wilderness setting
- b. No boat operation experience required, and no boat ownership, maintenance, or operating expenses
- c. No cancelled trips to your cabin due to adverse weather conditions
- d. Opportunity to enjoy your wilderness cabin during all months of the year

*Distributed by
Jim Clark 1/30/15
ORDINANCE 2015-02*

Location:

The Waverly Keeling Remote Subdivision will be located in the Upper Lemon Creek Valley, near Juneau, Alaska. The subdivided lots are bounded by Lemon Creek to the South, and Blackerby Ridge/Thunder Mountain to the North. The nearest residential area is the Lemon Creek neighborhood at approximately 4 miles from the site. The nearest retail area is the Home Depot/Costco area at approximately 3.5 miles from the site. The nearest industrial area is the SECON Quarry, at approximately 1 mile from the site. The parcel being subdivided is relatively narrow, resulting in a double and single row of cabin sites. The overall length of the subdivision is just under 5,000ft, and width varies between zero and 620ft.

Access:

Access is gained to the site VIA easements through CBJ Owned Mineral Survey 609 and USS 5504, as well as SECON owned Hidden Valley Tract A.

The public road system ends at Anka St. adjacent to Oreily Auto Parts. From this point, the existing haul road through USMS 609, USS 5504 and a portion of Hidden Valley Tract A terminates within 1 mile of the subdivision. From here, an abandoned logging skid trail through the remainder of Hidden Valley Tract A and Hidden Valley Tract B has been brushed to allow limited access for suitable AWD vehicles. Wintertime AWD access could be made possible with snow plowing effort. If plowing activities are not performed, wintertime access will be restricted to cross country skiing or walking.

Parcels:

The preliminary plat for the Waverly Keeling Remote Subdivision shows 23 individual parcels and 2 remainder parcels subdivided from the original 66.08 acre tract, known as Hidden Valley Tract B.

Individual cabin site parcels as shown on the preliminary plat range from .83 of an acre, up to 1.86 acres. As indicated on the preliminary plat, the first 10 parcels are in a single row. Parcels 11-23 are in a double row with a 40ft width trail access

easement splitting the upper and lower row. The arrangement, orientation, and size of the parcels may be subject to minor change prior to final platting.

Site Features:

The Lemon Creek basin makes up the subdivision's South boundary. The North Boundary backs up to the base of Blackerby Ridge. Underlying soil is predominantly made up of sand and gravel. Surface water on the site (excepting Lemon Creek) is minimal. There are a few small rivulets scattered throughout the subdivision, and one larger tributary drainage located East of the subdivision. The site ranges in elevation from approximately 160ft above sea level to approximately 370ft above sea level.

Utilities and services:

- a. Electricity: The Waverly Keeling Remote Subdivision parcels will not have electrical service. Parcel owners may elect to install a solar, wind, or combustion engine driven generator.
- b. Water service: The Waverly Keeling Remote Subdivision parcels will not have water service. We believe that the predominant soil type lends itself to relatively easy well installation. Parcel owners may elect to install a well, cistern, or catchment system. It will be the parcel owner's responsibility to comply with any local, state, or federal regulations regarding the design and installation of a fresh water system.
- c. Sewer Service: The Waverly Keeling Remote Subdivision parcels will not be connected to the CBJ sewer system. Parcel owners may elect to install an outhouse or incinerating toilet. Alternatively, an Alaska Department of Environmental Conservation permit may be obtained in order to install a conventional septic tank and drain field system.
- d. Other utility services: The Waverly Keeling Remote Subdivision will have no provisions for services including but not limited to internet, telephone, and garbage disposal.
- e. The Waverly Keeling Remote Subdivision is outside of the CBJ's Service Area 9. Locations outside of service area 9 will receive a lesser benefit (increased

response time) of CBJ fire, emergency medical services, and police services than locations within service area 9.

Covenants

A complete list of covenants has been included with the preliminary plat submission.

APPLICANTS' ATTORNEY'S TESTIMONY

Good evening. My name is Jim Clark. I reside at 1109 C Street in Juneau. I represent Zack Worrell and Jim Eliason, the proponents of the Hidden Valley subdivision. Unfortunately, a long standing family obligation makes it impossible for me to be there tonight. So, please consider my testimony and add it to the record.

We request that you approve ordinance 2015 – 02 which would amend the CBJ remote subdivision overlay map to include Hidden Valley Tract B. **Doing otherwise simply “kicks the can down the road” without better informing you about the project’s subdivision plans or requested easements.**

WHAT WE WANT TO DO: We are seeking to create a remote, backcountry, Forest Service cabin-like experience for those who would like an Alaska cabin surrounded by trees and solitude. There would be no water, electricity, and no flushing toilets. It would be reached by a 14 foot to 16 foot private, gated, rustic, rough logging-type road. In your packet is a more complete description of our development concept.

NO CBJ FINANCIAL RESPONSIBILITY: Our subdivision’s covenants (submitted to CDD on January 7th 2015) dictate the formation of a community LID that effectively indemnifies the CBJ from any responsibility to provide a road or utilities to the site. Again, our intent is to create a remote, no-amenities subdivision. **The covenants we have submitted to CDD staff for approval have not yet been negotiated.**

THE PROCESS: As the staff report (Palmer/Hart) says, the Planning Commission has twice unanimously approved our application for a Map Amendment, most recently on December 9, 2014. There were two parts to that decision: 1) the implicit determination (per the Spuhn Island decision) that the wording of CBJ 49.75 1120 gives the Planning Commission discretion to authorize the type of subdivision we have proposed; and 2) the Planning Commission exercised its discretion to grant a Map Amendment designating the Hidden Valley subdivision as Remote. Whether to affirm or reject the Planning Commission’s unanimous Map Amendment decision is what is before you tonight.

The Map Amendment is just the first step in the process. The next step is to negotiate the conditions for the subdivision with CDD and the Planning Commission. We expect the Planning Commission will also give us direction regarding the routing of needed easements, the conditions of which will be negotiated with staff. At that point the easements must come to the Assembly for approval. **At that time the Assembly will have completed, definitive documents to consider for approval.**

THE PROCESS DISCONNECT: The staff report points out: “The Planning Commission recommends the Assembly approve Ordinance 2015 – 02, but the Community Development Department in the Lands Division have substantial reservations about Ordinance 2015 – 02.” The staff report goes on to point out that the concerns of CDD and Lands are not connected to our specific project, but to the “Precedential Effect of Ord. 2015-02.” (See Section B. 2. Pages 5-6).

So we are in an impossibly unfair, Catch 22 situation tonight and would also be in a Committee of the Whole meeting: 1) our project documents cannot be put into a form specific enough to answer questions until negotiated. The documents cannot be negotiated until the Map Amendment is approved. Under the process staff is proposing we cannot get the Map Amendment approved until we can answer specific questions; 2) because we have no completed documents to which to refer at this point, our answers to questions would only explain concepts. Staff will necessarily speculate on what can go wrong-i.e., worst-case scenarios; and 3) because staff is concerned about the precedential impact on other projects, you will hear reasons opposing the Map Amendment relative to other conceptual projects, not ours. **How can we possibly respond?**

In short, we would be unable to answer questions about other potential projects in a COW meeting. Nor could we answer specific questions about our project until we have been through the process described above with the Planning Commission and staff. So, what more could be accomplished at a COW meeting then can be accomplished tonight?

OUR RECOMMENDATION: The Assembly, Planning Commission, and staff need to meet separate and apart from us to rationalize staff's concerns with Title 49.

The Map Amendment should be approved, thereby allowing us to proceed with the established CBJ process. This would provide an actual remote subdivision plan as a model as you attempt to rationalize status concerns with Title 49.

REQUESTED ACTION: You and the staff have made approval of a Map Amendment the first step in the process. If you fail to approve the Map Amendment the process is done-we cannot proceed. The concept of a backcountry cabin experience accessible to all will die with it – before it is given your detailed consideration.

Accordingly, please pass the Map Amendment tonight. Doing so would simply have the effect of allowing us to negotiate the documents and conditions with the Planning Commission and staff.

When the project is brought back to you the Assembly could then decide whether or not to approve it based upon a complete record.



Engineering & Public Works Department
155 South Seward Street
Juneau, Alaska 99801
Telephone: 586-0800 Facsimile: 463-2606

DATE: 2/25/15

TO: Jesse Kiehl, Chair Assembly Lands Committee

FROM: Rorie Watt, P.E., Director

SUBJECT: Landfill Planning Update

At the COW on 1/26, the Assembly asked for an update on prior CBJ efforts regarding the planning for a second solid waste landfill. I have also been asked whether or not this study is germane to consideration of the proposed Hidden Valley Subdivision, and for that reason I am including this information in the Lands Committee packet.

In 1993 CBJ commissioned the attached report. I did not find any evidence indicating that the report had been adopted by the Assembly, and the possible landfill sites were not given a formal designation in the CBJ's Land Management Plan. Further refinement of the siting of a future landfill was not pursued. The report identified two potential landfill sites in Lemon Creek, referred to as upper (#3) and lower (#2)

Since this report was written, a number of changes have occurred that likely affect the Community's thinking about a future landfill.

Gravel Mining: In the 90's, it was anticipated that once the gravel resource in the Costco/Home Depot area was exhausted that the upper (#3) Lemon Creek site would be a good place to start a new gravel mining operation. This location is accessible by haul road, and gravel mining would not be inconsistent with a possible future land fill site. However in around 2000, CBJ faced many problems with the storage of impounded cars and built a bridge across Lemon Creek, built the CBJ impound lot adjacent to the jail and began mining gravel behind the jail (similar to site #2). The bridge and the gravel mining at the lower site perhaps alter the relative merits of the two sites, increasing the favorability the lower site.

City Land Planning:

Lands near the jail have been considered for residential development as part of the Switzer Creek development study areas. Some of these lands are near to the lower #2 landfill site. Additional residential development in this area would obviously reduce the attractiveness of the lower site as a landfill.

Solid Waste Planning:

In the 2007 WIH plan, recommendations were made to continue using the Waste Management landfill. The draft plan made no recommendation about resuming planning for a

future land fill site, presumably because it was not as high a priority as other solid waste planning activities.

Summary:

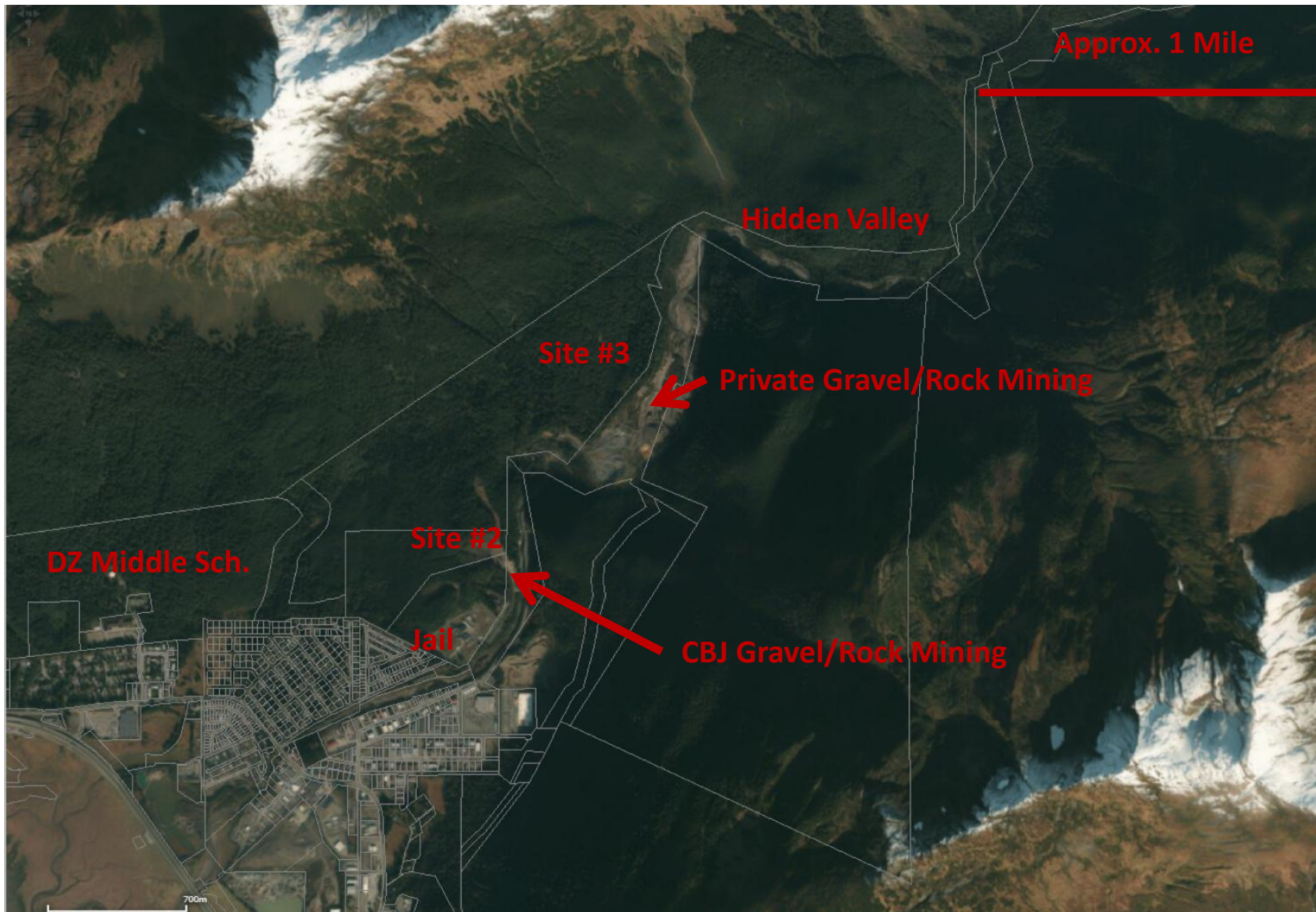
Tonight, the Lands Committee is considering issues with the proposed Hidden Valley property, and needs to understand the import of the attached report. It is possible that a modern day planning effort would select the upper Lemon Creek site as the location of a future municipal landfill, but it remains far from a confirmed conclusion for the following reasons:

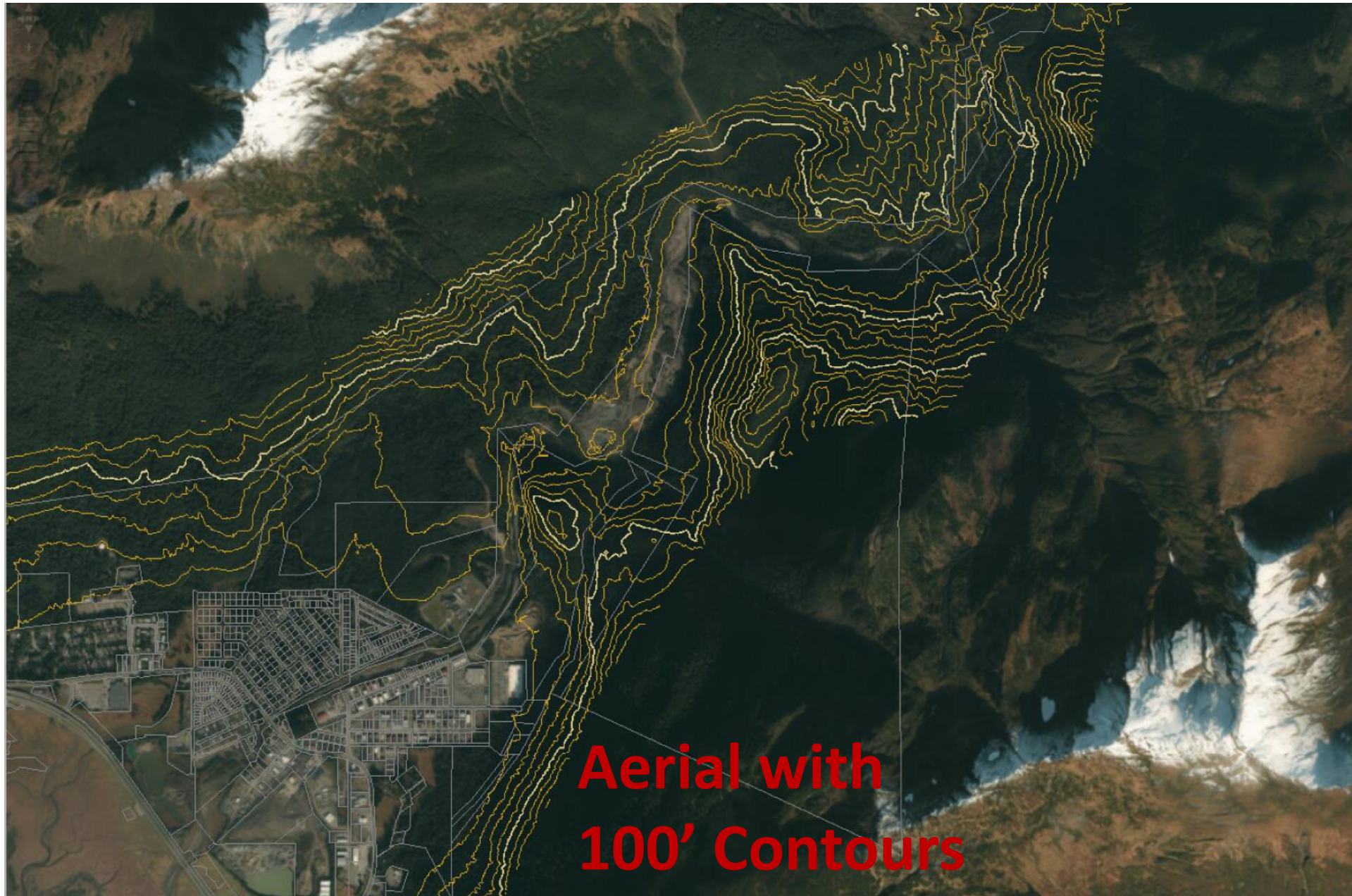
1. Currently, there is no public access through the existing gravel mining and rock quarrying areas. The route is long and not publicly maintained, upgrading to an appropriate road standard would be very costly.
2. Explosives used for construction activities are currently stored along the access route.
3. Millions of yards of sand and gravel would have to be mined from the upper Lemon Creek site (note that this also true for the lower site), representing more than a decade and perhaps several decades of gravel mining.
4. Landfill permitting issues remain unknown.
5. Landfill construction costs remain unknown.
6. Other landfill sites may prove more favorable.
7. Transport of MSW out of town may prove more favorable, local landfilling may eventually be restricted to construction and demolition waste.

Attached to this memorandum are some graphical images of the land parcels discussed. Property lines are overlaid on the aerial photos and are not exactly accurate, but are sufficiently accurate for this discussion.



Lemon Creek Aerial + Approx. Property Lines





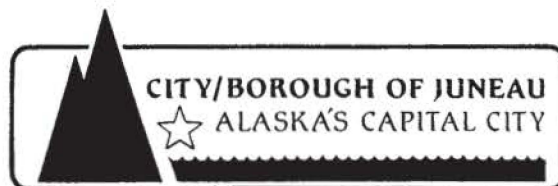
**Aerial with
100' Contours**



Switzer Creek Lands Study Areas

Technical Reconnaissance Study for New Landfill Site Selection

**Final Report
October 1993**



Brown, Vence & Associates

198 Cirby Way, Suite 170
Roseville, California 95678

R & M Engineering

6205 Glacier Highway
Juneau, Alaska 99803

Technical Reconnaissance Study for New Landfill Site Selection

Table of Contents

Section	Page
1 INTRODUCTION	1-1
1.1 Purpose and Scope of the Project	1-1
1.2 Goals and Objectives	1-1
1.3 Project Summary	1-4
1.4 Structure of the Study	1-5
2 METHOD AND CRITERIA FOR SITING A NEW LANDFILL IN JUNEAU .	2-1
2.1 Role of Criteria in the Siting Process	2-1
2.2 Site Selection Process	2-3
3 IDENTIFICATION OF CANDIDATE SITES	3-1
3.1 Application of Severe Limitations Criteria	3-1
3.2 Reconnaissance	3-1
3.3 Descriptions of Selected Candidate Sites	3-4
4 CANDIDATE SITES EVALUATION	4-1
4.1 Application of the Tier 1 Criteria	4-1
4.2 Results of the Tier 1 Criteria Evaluation	4-6
4.3 Application of the Tier 2 Criteria	4-7
4.4 Results of the Tier 2 Criteria Evaluation	4-14
4.5 Results of the Combined Tier 1 and Tier 2 Evaluation	4-15
5 CONCLUSIONS	5-1
5.1 Summary of Study Findings	5-1
5.2 Special Issues Regarding the Candidate Sites	5-2
5.3 Cumulative Impacts	5-5
5.4 Next Steps	5-5

Appendices

Appendix A:	Severe Limitations Maps; Area Map; Site Maps
Appendix B:	List of References Used
Appendix C:	Summary of Subtitle D Landfill Siting Requirements
Appendix D:	Evaluation of the Fish Creek Quarry as a Candidate Landfill Site

SECTION 1 INTRODUCTION

1.1 PURPOSE AND SCOPE OF THE PROJECT

The technical reconnaissance study for new landfill site selection for the City and Borough of Juneau (CBJ) was prepared in accordance with, and under the direction of, the CBJ Division of Lands and Resources. The purpose of this study was to conduct the first of a three-phase project to identify the most suitable location for a new municipal solid waste landfill to meet the long term disposal needs of the Juneau community.

This technical reconnaissance study is the first of three phases to analyze and ultimately select a new landfill site. Phase two of the landfill site selection process will be the public review and comment on the sites identified in this technical reconnaissance study. This will lead to the public's selection of a preferred site from the alternatives developed in the first phase. Phase three will be a detailed engineering study to determine the costs, design, permits, and timing for potential landfill development.

1.2 GOALS AND OBJECTIVES

The CBJ Division of Lands and Resources staff defined the following goals and objectives for development of the technical reconnaissance study. These goals and objectives were used to ensure that the search for new landfill sites emphasized environmental protection, public safety, and cost effective waste management for Juneau residents.

Goals

1. Ensure long-term disposal capacity for the community's solid wastes that cannot otherwise be reduced or recycled.

Objectives

A. Identify future landfill site capable of providing a minimum of 20 years of disposal capacity to the Juneau community.

Goals

2. Establish a systematic process for the objective, technical consideration of future landfill sites within the CBJ.

3. Create a database of current, accurate information on landfill siting issues for future reference and referral.

4. Ensure coordination of, and compliance and cooperation with, all federal, state, and local programs and regulations for siting of solid waste landfills.

5. Identify future landfill site(s) that meet(s) minimum technical/engineering standards.

Objectives

A. Design and carry out a fully documented and methodical site screening, evaluation, and selection process for scrutiny during the public review and engineering phases.

B. Develop and carry out a process that objectively considers all areas within the CBJ for their potential technical suitability for landfill development.

A. Identify and fully document reference data, information, maps and other resources used as part of the landfill siting effort. Provide copies of all documents, when possible.

A. Identify and incorporate federal, state, and local regulations and policies in the criteria development and application process.

B. Ensure that the selected landfill site is compatible with the CBJ Comprehensive Plan and zoning.

A. Develop and apply criteria that consider suitable soils, slope, surface water protection, seismic hazards, unstable terrain, airports, flooding, and hydrogeologic conditions in Juneau.

Goals

6. Identify future landfill site(s) that minimize(s) impacts to nearby residents.

7. Identify future landfill site(s) that maximize(s) public health and safety and minimize(s) impacts to the environment.

8. Identify future landfill site(s) that minimize(s) long-term solid waste management costs to Juneau residents.

9. Identify potential future disposal site(s) in a timely and informative manner for consideration in a public forum.

Objectives

A. Develop and apply siting criteria that consider the impacts to surrounding properties, properties along transportation routes, and local recreation areas in the evaluation of new landfill sites.

A. Develop and apply siting criteria that consider water and air quality impacts, traffic patterns and access, area land uses, visual aesthetics, sensitive habitats, wetlands, and cultural and recreational resources.

A. Develop and apply siting criteria that consider required landfill and access development costs and hauling costs for waste and cover material in the evaluation of new landfill sites.

A. Prepare a ranking of candidate landfill site(s) to initiate a public review process.

B. Provide CBJ staff sufficient information to make informed decisions regarding future landfill site selection.

C. Prepare maps identifying landfill sites appropriate for public review.

1.3 PROJECT SUMMARY

This technical reconnaissance study creates and applies an initial set of "severe limitations" criteria to rule out the most obviously unsuitable areas of the CBJ from further consideration for landfill development. The severe limitations criteria were drawn from topics required for consideration by federal, state, and local regulators and policy setters. They include surface and groundwater protection, structural and seismic risk minimization, airport safety, reasonable access, recreational resources protection, and residential neighborhoods protection.

The application of severe limitations criteria identified a landfill search area comprised primarily of river and creek valleys and some coastal areas distant from population centers. The application of the severe limitations criteria is illustrated in Appendix A, Severe Limitations Maps. The search area was subsequently reconnoitered by staff and consultants to identify potential candidate landfill sites. A total of nine potential sites or areas were identified: west side of Cowee Creek valley at Glacier Highway Mile 40; Herbert/Eagle River valley at Mile 28; vicinity of Peterson Creek along a wood cutting road leaving the Glacier Highway at Mile 26; upper Montana Creek in the vicinity of the confluence of McGinnis Creek; Auke Nu bench lands in the vicinity of Auke Nu Creek at Mile 13.5; upper Lemon Creek valley about 1.3 miles upstream of the Lemon Creek Correctional Center; lower Lemon Creek valley behind the correctional center; Fish Creek Quarry on north Douglas Island; and the north end of Douglas Island in the vicinity of the road terminus. After reconnaissance, three of the nine sites were selected as reasonable candidate sites for evaluation. Site 1, Peterson Creek, is located on a wood cutting road parallel to, and about 0.5 miles east of, Peterson Creek near the Amalga Harbor turnoff from Glacier Highway. Site 2, Upper Lemon Creek, is located about 1.3 miles northeast of the Lemon Creek Correctional Center on the west side of Lemon Creek. Site 3, Lower Lemon Creek, is located about 0.4 miles northeast of the correctional center on bench land above the correctional center and west of Lemon Creek.

A fourth site was originally identified as a reasonable site for evaluation. That site was the Fish Creek Quarry located on north Douglas Island, about 1 mile south of the intersection of North Douglas Road and Fish Creek Road. After completing evaluation of this site, a recalculation of distance to the Juneau Airport found that this site failed to meet the severe limitations criterion of a minimum 10,000 feet distance from airport runway ends. The evaluation of this site has therefore been removed from the body of this study and is included instead as Appendix D. The Fish Creek Quarry site could potentially become a viable option if it can be demonstrated that a landfill at this site would not pose a bird hazard to aircraft. The issue of airport safety and other federal landfill siting criteria are discussed further in Appendix C, Summary of RCRA Subtitle D Landfill Siting Requirements. For the purposes of this study, however, the site fails a severe limitations criterion and so is removed from consideration at this time. Further discussion of candidate sites in this study will refer to three candidate sites.

Appendix A, Site Maps, illustrates the locations of the three sites. Appendix D illustrates the location of the Fish Creek Quarry site.

Each of the three sites was then evaluated against a set of "Tier 1" criteria addressing concerns that are less readily mitigable through landfill planning, design, and/or engineering (e.g., distance to residences, sensitive habitats, cultural resources). Each of the three sites was then evaluated against a set of "Tier 2" criteria addressing concerns that may be readily mitigable through planning, design, and/or engineering (e.g., visibility, cover material, air quality). Finally, the three sites were ranked based on the summation of the Tier 1 and Tier 2 results to determine the best to least suited site for the Juneau community. The final results were as follows:

1. Site 2: Upper Lemon Creek
2. Site 3: Lower Lemon Creek
3. Site 1: Peterson Creek

1.4 STRUCTURE OF THE STUDY

The technical reconnaissance study for new landfill site selection was structured to succinctly document the results of the study and for easy reference by Juneau residents during the public review phase. The document structure is summarized below.

<u>Section</u>	<u>Topics</u>
1.0 Introduction	Purpose and scope; goals and objectives; summary
2.0 Method and Criteria for Siting a New Landfill in Juneau	Role, development, and description of landfill siting criteria
3.0 Identification of Candidate Sites	Application of "Severe Limitations" criteria; field reconnaissance; description of candidate sites
4.0 Candidate Sites Evaluation	Application of Tier 1 criteria; application of Tier 2 criteria; final ranking of sites

<u>Section</u>	<u>Topics</u>
5.0 Conclusions	Summary of findings; special issues; cumulative impacts; next steps

SECTION 2

METHOD AND CRITERIA FOR SITING A NEW LANDFILL IN JUNEAU

This section describes the method and criteria used for identifying and evaluating potential new landfill sites for the Juneau community. In general terms, landfill siting criteria should mitigate potential public health and safety concerns, minimize environmental impacts, and provide an economical means of disposing of solid waste. This section addresses these issues for siting a new landfill in the CBJ.

2.1 ROLE OF CRITERIA IN THE SITING PROCESS

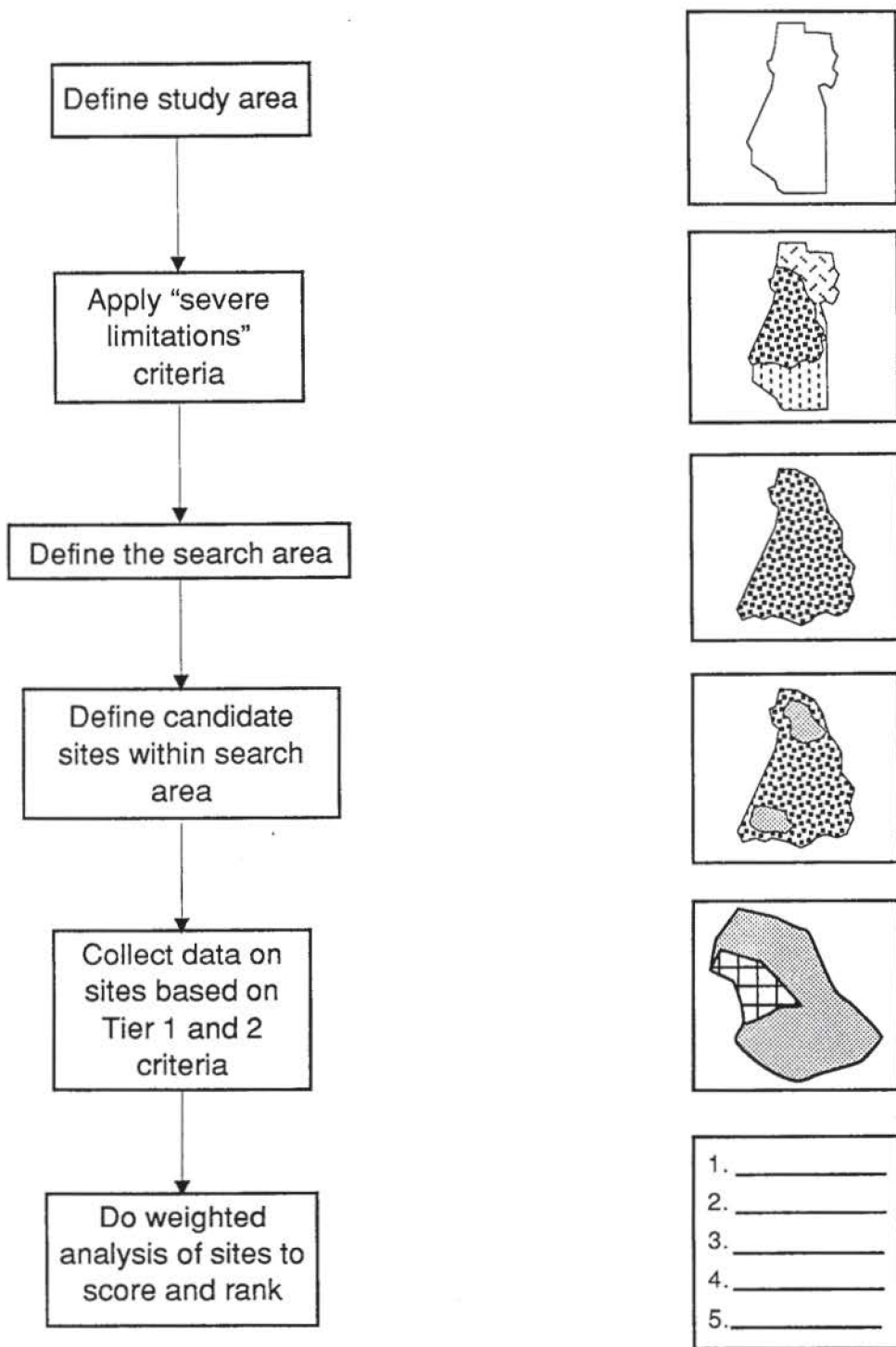
Criteria are standards on which a judgement or decision may be based. Landfill siting criteria are therefore standards which can be applied to areas or parcels of land to judge their suitability for landfill development. Siting criteria should have the following qualities:

- Quantifiable - the degree to which an area or parcel of land meets the criteria can be reasonably and clearly measured.
- Objective - the criteria should impartially measure the suitability of land areas or parcels without bias toward a particular area or site.
- Address community concerns - the criteria can meet the needs and concerns of both the regulatory community and local community members.

Siting criteria are typically divided into two types, those that exclude portions of the study area from further consideration (titled "severe limitations" criteria for the purposes of this study), and those that compare and evaluate the degree of conformity of various candidate sites to local preferences (often called "preferential" criteria). Figure 2-1 illustrates how these criteria are used to select a landfill site. The role of landfill siting criteria for the Juneau community is to: one, exclude those areas of the CBJ that do not meet minimum standards as set forth by regulators and policy setters; and two, compare various sites in an objective manner to determine which site maximizes the Juneau community's needs and desires for a new landfill.

Figure 2-1

Landfill Siting Process for Juneau



2.2 SITE SELECTION PROCESS

The site selection process for Juneau began with the entire CBJ under consideration. At the start, no portions of the CBJ were excluded or otherwise prejudiced as being a possibly "good" or "bad" area for new landfill development. In this approach, all lands were fairly and equally considered. The task of this study was, then, to "boil down" the 3,108 square miles of the CBJ to a set of reasonable, discrete landfill sites. This task was performed through three basic steps:

1. Remove the most obviously unsuited areas to identify a smaller, logical search area
2. Identify candidate sites within the remaining search area
3. Compare and evaluate the candidate sites based on a common set of criteria

These steps and the criteria used are discussed below.

2.2.1 Identifying the Search Area

The first step of the siting study was to remove from consideration those areas of the CBJ that were most obviously unsuited for new landfill development. To do this a set of "severe limitations" criteria was developed to screen out the most unsuited areas and leave a reduced search area within which landfill search efforts could be focused. A total of seven severe limitations criteria were selected for application. The severe limitations criteria are listed in Table 2-1. These criteria were drawn from two sources: the Resource Conservation and Recovery Act Subtitle D; and several CBJ-specific issues offered by CBJ staff.

Regarding RCRA Subtitle D, the U.S. EPA places certain landfill siting restrictions for new municipal solid waste landfills. These restrictions include certain unstable lands, earthquake faults, floodplains, airport zones, and wetlands. RCRA Subtitle D does allow for the possibility to waive some of these minimum criteria if the landfill owner/operator can conclusively demonstrate that the landfill has been designed and engineered to effectively mitigate the hazards addressed by the criteria, and if the Alaska state solid waste program is approved by the EPA. (Status of the EPA's approval of Alaska's solid waste program is discussed in Appendix C.) For the purposes of this study, CBJ staff and consultants determined that providing conclusive demonstration that the hazards have been effectively mitigated for most types of Subtitle D restrictions would be extremely difficult. Furthermore, considering the potential harm to human safety should the mitigation(s) fail, it was felt advisable to hold to most of these minimum standards to ensure maximum protection. In two cases, however, wetlands and seismic impact zones, it was found that removing such areas would exclude most or all of the CBJ from consideration. Specifically regarding seismic impact zones, it is likely that the entire CBJ lies within such a zone. (In fact, it has been documented (Repetto and Bray, 1992) that the vast majority of the western U.S. lies within a seismic impact zone.) Therefore, this study assumes that seismic impact zone risk would be mitigated through appropriate landfill design measures.

These measures consist primarily of constructing less steep slopes on the landfill and reducing the landfill's total height -- common mitigation practices in landfill engineering. In the case of wetlands, they were not excluded from consideration, but they were applied as a preferential criterion in the site evaluation phase. For the CBJ to site a landfill within a wetland or seismic impact zone, the State of Alaska must receive solid waste program approval from the EPA. Specific mitigations described in RCRA Subtitle D would then need to be followed. This issue is discussed further in Appendix C.

Regarding community-specific issues, CBJ staff identified three additional criteria to rule out certain areas from any further consideration. The three criteria address minimum distance from residential neighborhoods¹, exclusion of certain designated recreational lands, and exclusion of lands beyond five miles from existing or planned all-weather roads.

The application of these severe limitations criteria and the resulting search area are discussed in Section 3.

¹ For the purposes of this study, "neighborhood" was defined using best professional judgement on clusters of residential units (e.g., downtown Juneau, West Juneau, Douglas, lower Lemon Creek valley, East Mendenhall valley, Tee Harbor).

Table 2-1
Severe Limitations Criteria for Juneau Landfill Siting

Criteria Source	Criteria	Purpose
RCRA Subtitle D Subpart-B §258.10 through §258.15 (U.S.EPA)	Airport Safety: All areas located within 10,000 feet of any airport runway used by turbojet aircraft or within 5,000 feet of any airport runway used by only piston-type aircraft, will be removed from further consideration.	Minimize aviation risk caused by birds entering aircraft engines.
	Floodplain: All areas within a 100-year floodplain will be removed from further consideration.	Minimize risk of wash-out of waste into streams/ocean.
	Fault Areas: All areas within 60 meters (200 feet) of a Holocene fault (i.e., fault that has undergone displacement within the last approx. 10,000 years) will be removed from further consideration.	Minimize risk of ruptured landfill liners and slopes causing release of waste materials to the environment.
	Unstable Areas: All areas located in unstable areas (e.g., landslide, liquefaction prone areas, avalanche areas) will be removed from further consideration.	Minimize risk of ruptured landfill liners, other containment structures and slopes causing release of waste materials to the environment.
CBJ staff	Proximity to Residences: Exclude any area within 0.5 miles of a residential neighborhood.	Minimize odor, noise and visual impacts to nearby residences.
	Access: Exclude areas greater than 5 miles from existing or planned all weather roads.	Minimize cost of constructing new access roads to the selected site.
	Recreational Areas/Preserves: Exclude local and state parks and refuges, and the U.S. Forest Service Mendenhall Recreational Area.	Minimize odor, noise and visual impacts to nearby recreational areas.

RCRA Subtitle D criteria not applied as "severe limitations":

- **Seismic Impact Zone²:** Seismic Impact Zones will not be removed under the assumption that eventual landfill design will mitigate the seismic risk (e.g., construction of shallow side slopes and lower total landfill height).
- **Wetlands:** Wetlands will not be removed at this level. Wetlands are addressed as a Tier 2 criterion.

² "Seismic Impact Zone" is defined as an areas with a ten percent or greater probability that the maximum horizontal acceleration will exceed 0.1g in 250 years.

2.2.2 Identifying Candidate Landfill Sites

Application of the severe limitations criteria resulted in the exclusion of the most obviously unsuitable lands and creation of a reduced landfill search area. The next step was to identify potential landfill sites within the search area. This was done by first reviewing available soils, hydrology, topography and other map data to identify a set of potentially suitable landfill locations. These locations were then visited by CBJ Division of Lands and Resources staff and a consultant team of land use planners and engineers to determine whether, one, observed field conditions were potentially amenable to landfill development, and two, whether any "fatal flaws" existed at the potential site that would rule it out as a candidate. This field observation basically served to narrow the potentially suitable locations to a subset of reasonable, candidate landfill sites.

The results of this field investigation and the selected candidate sites are discussed in Section 3.

2.2.3 Evaluating and Ranking Candidate Sites

Once a set of reasonable candidate sites was identified, the last step was to evaluate and compare the sites based on a set of common preferential criteria. These preferential criteria evaluated the candidate sites by asking: to what degree do the sites conform with the preferential criteria developed? Specifically for this study, two sets (or tiers) of preferential criteria were created. The Tier 1 criteria addressed preferred soils, ground and surface water protection, habitats and archeological resources, and as well, a reapplication of selected severe limitations criteria. These were selected as Tier 1, or primary emphasis, because these concerns are generally less mitigable through planning, design, and/or engineering. The Tier 2 criteria addressed wetlands, appropriate land uses, human impacts, and economic considerations. These were selected as Tier 2, or secondary emphasis, because these concerns are generally more mitigable through planning, design, and/or engineering.

The Tier 1 and Tier 2 criteria used for the study, and the data sources for each criterion are described in Table 2-2 and Table 2-3, respectively.

Each candidate site was then quantitatively evaluated against each criterion. To determine a numerical score for each site, a scoring and ranking process was undertaken. Each Tier 1 and Tier 2 criterion was assigned a numerical weighting value by participating Citizen Advisory Committee members and selected CBJ staff according to the perceived importance of each criterion to the Juneau community. Participants had 100 points to "spend" among the Tier 1 criteria, and 50 points among the Tier 2 criteria. The lesser amount for Tier 2 reflects the secondary emphasis of these criteria. Each site was then evaluated against each criterion and assigned a score reflecting its level of conformity to each criterion. For example, the site that best conformed to particular criterion would receive all the points assigned to the criterion. The

site that least conformed to the criterion received none of the available points. Sites between best and worst received a direct proportion of the available points for that criterion. The individual scores per each criterion were then summed to determine a single total score for each candidate site. Higher scores indicated sites with total higher conformity with the criteria and thus, more preferred. The highest score possible was 150 points.

Section 4 presents the evaluation of the candidate sites against the Tier 1 and Tier 2 criteria, and the resulting scoring and ranking of these sites.

Table 2-2
Tier 1 Criteria for the City and Borough of Juneau Landfill Siting Study

Criteria		Purpose	Data Source(s)
Reapplication of Selected Severe Limitations Criteria	<u>Distance to Residences:</u> Maximize distance to existing residential neighborhoods. Study Goal #6	Further minimize odor, noise, and visual impacts to nearby residences.	Juneau B-2 SE quadrangle map (1:25000), USGS, 1986. City and Borough of Juneau Comprehensive Plan & Land Use Designation Maps, 1984 City and Borough of Juneau Street and Property Atlas, 1982, revised 1/92. Aerial photos, May 1988
	<u>Road Access:</u> Maximize proximity to existing or planned all-weather roads. Study Goal #8	Further minimize cost of new access road construction to the landfill site.	Juneau B-2 SE quadrangle map (1:25000), USGS, 1986. City and Borough of Juneau Street and Property Atlas, 1982, revised 1/92.
Habitats & Archeological Resources	<u>Plant & Wildlife Habitat:</u> Maximize distance to designated rare, endangered, or threatened plant or animal habitats. Study Goal #7	Minimize impacts to plant and wildlife habitats from new landfill construction.	John Palmes, Dept. of Fish & Game, Habitat & Restoration Division, June 1993.
	<u>Cultural Values:</u> Maximize distance to known historical or archaeological resource areas. Study Goal #7	Minimize disturbance of cultural resources from new landfill construction.	As reported by Richard Dwyer--Goldbelt; Richard Harris--Sealaska; Albert Wallace--Auke Tribe; Dept. of Natural Resources, State Historic Preservation Office; June 1993.

Table 2-2
Tier 1 Criteria for the City and Borough of Juneau Landfill Siting Study

Criteria		Purpose	Data Source(s)
Soils	<u>Suitable Soils</u>: Maximize suitable on-site soils. Study Goals #7 & #8	Maximize the suitability of on-site soils for construction of landfill liners and for daily covering of waste. Generally prefer deep, low permeability soils (e.g., silts, clays, other fine soils) to hold in waste and leachate.	Soils of the Juneau Area, Soil Conservation Service, 1974. Surficial Geologic Map of the Juneau Urban Area and Vicinity, USGS, 1975. Water Resources of the City and Borough of Juneau, 1971. Sludge Disposal Area Report, R&M Engineering, 1989. Lemon Creek Borrow Study, R&M Engineering, 1982.
	<u>Groundwater Quality</u>: Minimize siting over potable groundwater. Study Goal #7	Minimize risk of contaminating high quality ground water resources.	Water Resources of the City and Borough of Juneau, 1971. Hydrologic Map of the City and Borough of Juneau, 1971. Surficial Geologic Map of the Juneau Urban Area and Vicinity, USGS, 1975.
Hydro-geology	<u>Depth to Groundwater</u>: Maximize depth to groundwater level. Study Goals #7 & #8	Minimize risk of contaminating groundwater; maximize opportunity for soils to filter any leachate.	Soils of the Juneau Area, 1974. Surficial Geologic Map of the Juneau Urban Area and Vicinity, USGS, 1975. Sludge Disposal Area Report, R&M Engineering, 1989.

Table 2-2
Tier 1 Criteria for the City and Borough of Juneau Landfill Siting Study

	Criteria	Purpose	Data Source(s)
Surface Water	<u>Watersheds</u> : Minimize landfill siting in watershed used for drinking water supply. Study Goal #7	Minimize risk of contaminating surface drinking water resources.	City and Borough of Juneau Comprehensive Plan, Summary of Sensitive Areas, 1984 and 1988 Bill Joiner, CBJ Public Works, Water Division.
	<u>Water Volume</u> : Minimize mean annual rainfall on the site. Study Goals #7 & #8	Minimize the potential for production of leachate; minimize cost for water run-on and run-off control measures at the site.	Jim Truitt, National Weather Service, June 1993.

Table 2-3
Tier 2 Criteria for the City and Borough of Juneau Landfill Siting Study

Criteria		Purpose	Data Source(s)
Regulatory Compliance	<u>Wetlands</u> : Minimize disturbance of wetlands. Study Goals #4 & #7	Minimize degradation of wetland habitat resources.	Juneau Wetlands Management Plan Atlas, February 1991. Juneau Wetlands Map Index, September 1987. Conversation with Ralph Thompson, Army Corps of Engineers, Juneau, June 1993.
	<u>Recreation</u> : Minimize siting in a local recreational use area as described in the Comprehensive Plan and Juneau Trails Plan. Study Goal #6	Minimize odor, noise, visual impacts to local CBJ recreational areas and trails.	City and Borough of Juneau Comprehensive Plan, 1984. Juneau Trails Plan, January 1993.
Land Use	<u>Land Use Compatibility</u> : Maximize compatibility with Comprehensive Plan designations and Table of Permissible Uses. Study Goal #7	Identify sites compatibility with the Comprehensive Plan and Table of Permissible Uses.	City and Borough of Juneau Comprehensive Plan-Land Use Designations, 1984 & updated 1988. Juneau Table of Permissible Uses, June 1991.

Table 2-3
Tier 2 Criteria for the City and Borough of Juneau Landfill Siting Study

	Criteria	Purpose	Data Source(s)
Human Impacts	<u>Residences Along Access:</u> Minimize number of residences along access road. Measured from the point of convergence with state-maintained major collector roads to the landfill site. Study Goal #6	Minimize the number of residences that may be impacted by vehicle traffic, noise, and/or exhaust.	City and Borough of Juneau Street and Property Atlas, 1982, revised 1/92. Kathleen Bailey, CBJ Community Development Department, June 1993.
	<u>Visibility:</u> Minimize site visibility in "critical" direction(s). Study Goal #6	Minimize visibility of the site from residences and recreational areas.	Visual observations, May 1993.
	<u>Density:</u> Minimize number of residences within a 1 mile radius of the site center. Study Goals #6, #7 & #8	General indicator of potential property acquisition requirements; minimize number of residences impacted by landfill construction and operation.	City and Borough of Juneau Street and Property Atlas, 1982, revised 1/92. Kathleen Bailey, CBJ Community Development Department, June 1993.
	<u>Air Quality:</u> Minimize landfill dust and odor migration to sensitive receptors. Study Goals #6 & #7	Minimize dust and odor effect from landfill construction and operation to nearby residences considering prevailing wind direction and speed.	Jim Truitt, National Weather Service, June 1993.

Table 2-3
Tier 2 Criteria for the City and Borough of Juneau Landfill Siting Study

Criteria	Purpose	Data Source(s)
Economics <u>Haul Distance:</u> Minimize haul distance from waste centroid to landfill site. Study Goal #8	Minimize long-term waste disposal costs by minimizing haul distance for waste. Typical haul cost \$.50 per ton/mile.	Juneau B-2 and B-3 quadrangle maps (1:63360), USGS, 1974.
<u>Utilities:</u> Minimize length of new electric, water and sewer lines. Measured as the summation of the three distances from nearest hook up to edge of site. Study Goal #8	Minimize landfill development costs by minimizing length of new utility lines required. Typical installation comprises 2% to 4% of initial development cost.	Water and sewer: Terry Brenner, CBJ Engineering, June 1993. Bill Zentner, CBJ Community Development Department, September 1993. Electric: Tim MacLeod, AELP, June 1993.
<u>Grading & Site Preparation:</u> Minimize grading and site preparation requirements considering nature of on-site soils, vegetation and degree of existing disturbance. Study Goal #8	Minimize landfill development cost: 1) maximize workable soils (e.g., silt/clay deposits, deep bedrock); 2) minimize land clearing costs (e.g., forests or wetlands); and 3) maximize the extent of existing disturbance (e.g., pre-existing pit) to reduce excavation cost.	Field observations, May 1993. Aerial photos, May 1988. Soils of the Juneau Area, 1974. Water Resources of the CBJ, 1971.
<u>Cover Material:</u> Minimize distance for transporting of cover material. Measured from nearest reasonable, appreciable borrow source. Study Goal #8	Minimize long-term landfill operating costs by minimizing haul distance required for obtaining suitable landfill cover material. Cost may be 10% of annual operating cost (depending on purchase price of material).	CBJ Natural Resources Inventory Report, undated. West Lemon Creek Material Resource Assessment, 1985. Lemon Creek Borrow Study--East Side of Lemon Creek, 1982.

SECTION 3

IDENTIFICATION OF CANDIDATE SITES

This section identifies and describes the candidate landfill sites selected for detailed evaluation, scoring, and ranking.

3.1 APPLICATION OF SEVERE LIMITATIONS CRITERIA

The severe limitations criteria listed in Table 2-1 were used to exclude areas which did not meet minimum standards as set forth by regulators and local policy setters. The severe limitations criteria were applied to remove the most obviously unsuited areas to identify a smaller, logical search area.

All areas within 10,000 feet of the Juneau Airport, 5,000 feet of commonly used seaplane harbors, 100-year floodplains, fault areas¹, and unstable areas (e.g., landslide and avalanche prone areas) were identified and removed from consideration. The remaining area was then reduced further by removing any areas within 0.5 miles of a residential neighborhood; areas greater than 5 miles from existing or planned all weather roads; and recreational parks and refuges, including those designated in CBJ Ordinance Preserving Certain Municipal Land for the Juneau Open Space and Park System, Serial No. 85-76am.

After applying the severe limitations criteria, a greatly reduced search area remained. The application of the severe limitations criteria is illustrated in Appendix A, Severe Limitations Maps. The remaining search area was predominated by creek and river valleys and some coastal areas distant from population centers.

3.2 RECONNAISSANCE

The remaining search area was reviewed using available soils, hydrology, topography and other map data to identify potential sites. Also considered were minimum required landfill size (20 acres), the location of any anadromous fish streams, distance from residentially developed areas, ground cover, and occurrence of any existing ground disturbances that could facilitate landfill development. A total of nine potential sites or areas were identified through this process. The nine potential sites were then field checked. Between May 13 and May 15, 1993, potential sites were visited by CBJ Division of Lands and Resources staff and a consultant team to determine if field conditions were potentially amenable to landfill development, and whether any "fatal flaws" existed at the site that would exclude it as a candidate. Data were recorded on the existing level of disturbance, general soil availability and types, road access, nearest population,

¹ No Holocene faults were identified within the CBJ.

surface water conditions, and any development limitations. A brief discussion of the nine potential sites or areas is presented below.

- **Cowee Creek** -- The area is located on the west side of Cowee Creek valley at approximately Mile 40 on the Glacier Highway, approximately 0.5 miles south of the highway. The area is predominated by rocky cover material on the slopes; the valley floor is generally very marshy with extensive beaver ponding occurring around the creek in proximity to Glacier Highway. Some gravel deposits may exist along the break in slope, however access to these potential areas is poor. Topography is marginally conducive to landfill development. Cowee Creek is a significant anadromous fish stream. No suitable landfill site was identified in this area. It was recommended that this location be eliminated from further consideration.
- **Herbert/Eagle River Area** -- The area is located within the drainage of the Herbert and Eagle Rivers beginning approximately 0.5 miles northeast of the Glacier Highway at Mile 28. The area contains generally thick gravel deposits and deep groundwater. Surface conditions are generally wet. No direct access to suitable soil areas was observed. The area is a heavy recreational use area. No suitable landfill site was identified in this area. It was recommended that this location be eliminated from further consideration.
- **North Peterson Creek** -- The area is located on a fire wood cutting road leaving the east side of Glacier Highway just south of the Amalga Harbor turn-off at approximately Mile 26. The area begins about 0.5 miles south along this road. The area is characterized by thin soils with shallow bedrock and deep groundwater. No appreciable source of on-site soil was apparent. Highway access is good. The wood cutting road would need significant improvement and slope reduction. Topography is generally conducive to landfill development. The area is visually buffered from Peterson Creek and the highway. Peterson Creek is a significant anadromous fish stream. It was recommended that this location be considered for further evaluation.
- **Upper Montana Creek** -- The area is located in the vicinity of the confluence of Montana Creek and McGinnis Creek. The area generally contains rocky and peat soils, with some likely traces of gravel deposits. Extensive wetland areas were observed during reconnaissance. The existing access road is poor with some seasonal flooding. The road is not maintained year-round. The road would require a bridge across Montana Creek to access the area in question. It is a cold valley with a long winter; snow was still present during the May 1993 reconnaissance. The road along Montana Creek is popular for cross-country skiing. Montana Creek is a significant

anadromous fish stream. The general area is designated in the Comprehensive Plan as a potential municipal water supply watershed. There is currently no use of, nor plans for, Montana Creek as a municipal water supply. CBJ Public Works staff do indicate, however, that additional municipal water supplies for the general area are currently being sought and Montana Creek has been noted as an option. No suitable landfill site was identified in this area. It was recommended that this location be eliminated from further consideration.

- **Auke Nu Bench** -- The area is located on bench lands in the vicinity of Auke Nu Creek north of the Glacier Highway at approximately Mile 13.5. The area generally consists of peat and other shallow soil deposits. It is a highly visible area from many areas of Auke Bay and Fritz Cove Road. The area is heavily used for nordic skiing. No suitable landfill site was identified in this area. It was recommended that this location be eliminated from further consideration.
- **Upper Lemon Creek** -- The area is located in the upper Lemon Creek valley in the vicinity of a previously proposed sludge disposal area on the west side of Lemon Creek, about 1.3 miles upstream from the Lemon Creek Correctional Center. An expired borrow area at end of the road was not considered because of very shallow groundwater and immediate proximity to the creek. A scale house is already located along the road to previously proposed sludge disposal area. The site has some minimal disturbance. Much of the area along the road up to and beyond the previously proposed sludge disposal area has been mined for sands and gravels. Some "blue clay" material may be present in or near the previously proposed sludge disposal area. Topography is generally conducive to landfill development. CBJ Public Works staff indicate that additional municipal water supplies are currently being sought and Lemon Creek has been noted as an option. It was recommended that this location be considered for further evaluation.
- **Lower Lemon Creek** -- The area is located in the Lemon Creek valley approximately 0.4 miles northeast of, and behind the Lemon Creek Correctional Center. To access the site, a bridge would likely need to be constructed from the east side of the creek to the west side in the vicinity of the prison. Alternate access would be through a relatively high density residential neighborhood on the west side of the creek. The general area has some minimal disturbance. The topography is relatively flat bench lands above the creek and is generally conducive to landfill development. CBJ Public Works staff indicate that additional municipal water supplies are currently being sought and Lemon Creek has been noted as an option. It was recommended that this location be considered for further evaluation.

- **Fish Creek Quarry, North Douglas** -- The area is located at the Fish Creek Quarry off Fish Creek Road, approximately 0.5 miles south of North Douglas Road. The area has good access except icy conditions on North Douglas Road in the winter, and traffic congestion during peak hours at the Juneau-Douglas Bridge. There is a gravel road leading to the site from Fish Creek Road. The actual site is located in a rock quarry. Minimal cover material was observed in the area. A rocky knoll would need to be removed for the site to be usable. Topography is generally conducive to landfill development. The existing level of disturbance (rock quarry) contributes to the site's potential suitability for landfill development. The Comprehensive Plan includes Fish Creek as a potential municipal water supply watershed. The only known user at this time is the Eaglecrest Ski Area upstream of the Fish Creek Quarry. The actual site lies on a break between the Fish Creek watershed and the Ninemile Creek watershed. It was recommended that this location be considered for further evaluation. As discussed in Section 1.3 of this study, this site was later eliminated upon finding that the site lay within 10,000 feet of a Juneau Airport runway end (i.e., the site failed a severe limitations criterion). Analysis of this site has therefore been removed from the body of this report to Appendix D.
- **North End of North Douglas Road** -- The area is located at the northwest end of North Douglas Road. The area consists of flat benches with some perched water at the surface and generally shallow soil deposits. No suitable landfill site was identified in this area. It was recommended that this location be eliminated from further consideration.

Based on the results of data gathered during the field reconnaissance, the following three candidate landfill sites (excluding the Fish Creek Quarry site) were selected as reasonable sites for evaluation using the Tier 1 and Tier 2 criteria:

- Site 1: North Peterson Creek
- Site 2: Upper Lemon Creek (previously proposed sludge disposal site)
- Site 3: Lower Lemon Creek (bench land northeast of prison)

3.3 DESCRIPTIONS OF SELECTED CANDIDATE SITES

The three candidate landfill sites are described in more detail in this section. Appendix A, Site Maps, illustrates the location of the three candidate sites. The eliminated Fish Creek Quarry site is further described and illustrated in Appendix D. It should be noted that some existing wells and surface water supplies have been identified on the site maps. Only those supplies with a water rights application and current permit from the DNR are illustrated.

Candidate Landfill Site Number 1: Peterson Creek

Site No. 1 is located along a firewood cutting road running east of, and parallel to, Peterson Creek. It is situated on a bench between Peterson Creek and a ridge to the east. The western edge of the potential area is approximately 0.5 miles northeast of, and paralleling Peterson Creek. The center of the site lies at approximately 58° 29' latitude and 134° 46' longitude. Access to the site is the Glacier Highway at Mile 26 to the gravel firewood road just south of the turn-off for Amalga Harbor. The site is approximately 23 acres. Site soils are Tolstoi-McGilvery series generally consisting of bedrock overlain by a shallow peat layer. The firewood road would require improvement and regrading for access by refuse vehicles. The land use designation is Recreation Resource. The site is zoned Rural Reserve. Most vegetation on the site has been removed; the surrounding area is characterized by forested wetlands species. The site is owned by the U.S. Forest Service. The current policy of the U.S. Forest Service is to not authorize or permit new landfill activities on federal lands. Therefore, for this site to be a viable alternative, the lands will likely need to come under CBJ control. This could potentially be done through a land exchange. The U.S. Forest Service does have exchange authority for swapping of lands with CBJ.

The site was selected mainly due to its distance from residential populations, existing level of disturbance, conducive topography for landfill development, and natural visual screening.

Candidate Landfill Site Number 2: Upper Lemon Creek

Site No. 2 is located in the upper Lemon Creek valley, approximately 1.3 miles upstream from the Lemon Creek Correctional Center on the west side of Lemon Creek. It is situated on a bench above Lemon Creek, approximately 0.5 miles upstream from the confluence of Sawmill Creek and Lemon Creek. The center of the site lies at approximately 58° 23' latitude and 134° 28' longitude. The site is approximately 22 acres. It is located in a gravelly deposit between two ridges of shallow bedrock. Site soils are Kupreanof series (gravelly silt and sandy loams). The site was previously proposed as a sludge landfill site in a 1989 study by R&M Engineering. Site access is via a private, unimproved road starting approximately 0.4 miles northeast of the end of Anka Street on the east side of Lemon Creek. A scale house is located along the private access road to the proposed landfill site. The road crosses one small, wood bridge prior to the site; this bridge would likely require upgrade or replacement. A 500 to 1,000 foot road to the site itself would need to be constructed from the existing private road. It is also likely that portions of the existing private road would need to be improved and regraded for improved refuse vehicle access. The land use designation is Resource

Reserve. The site is zoned Rural Reserve. Area vegetation is generally undisturbed and is characterized by forested wetlands species.

The site was selected mainly due to the availability of soil deposits at the site, conducive topography, central location, and high level of existing disturbance in the general area. The site and environs are also generally unsuitable for other community land uses (e.g., residential or major recreational uses).

Candidate Landfill Site Number 3: Lower Lemon Creek

Site No. 3 is located on lower Lemon Creek, about 0.4 miles northeast of the Lemon Creek Correctional Center. It is situated on a bench above the prison and creek, at the point where the slope breaks and steepens. The site lies approximately 650 feet west of Lemon Creek at its southeast edge, 1,600 feet west of Lemon Creek at its northeast edge, and 2,300 feet north of the prison at its southeast edge. The center of the site lies at approximately 58° 22' latitude and 134° 29' longitude. The site is approximately 27 acres. Site soils are type Kupreanof series (KuC - very gravelly sandy loam) with KuA (potential fine grained borrow) located less than one-half mile from site. Access could be via a new road extending from the terminus of Mountain Avenue or via the new commercial development on the east side of Lemon Creek with a new bridge to the west side near the prison and a new road extending to the site. Designated land use is Urban/Low Density Residential, but use is not currently residential within 0.5 miles of the site. The area to the east of the site up to and across Lemon Creek is designated Resource Reserve. The site is currently zoned D-5 (Single family and duplex). Area vegetation is characterized by forested wetlands species.

The site was selected mainly due to its central location, availability of soil deposits including potential low permeability soils on or near the site, central location, and conducive topography.

Section 4 of this study evaluates and scores each of these three sites against a set of Tier 1 and Tier 2 criteria.

SECTION 4

CANDIDATE SITES EVALUATION

This section evaluates the three candidate landfill sites using a common set of criteria to determine which site best meets technical standards for the Juneau community.

4.1 APPLICATION OF THE TIER 1 CRITERIA

Each of the three candidate landfill sites identified in Section 3 was compared and evaluated against a set of "Tier 1" criteria and a set of "Tier 2" criteria. As discussed in Section 2, the purpose of the Tier 1 criteria was to evaluate the three sites against issues and concerns that are not readily mitigable through appropriate landfill planning, design, and/or engineering. Because the concerns are more difficult and/or expensive to mitigate, the Tier 1 criteria received primary emphasis in the site evaluations. Table 4-1 summarizes the findings of each site per each Tier 1 criterion in a matrix format. Section 4.2 then numerically scores and ranks the three sites based on the Tier 1 criteria.

Table 4-1
Candidate Sites Evaluation Against Tier 1 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Selected Severe Limitations Criteria	<u>Distance to Residences</u> : Maximize distance to existing year-round residence. Distances measured in straight miles from nearest edge of site.	0.7 miles to nearest homes at Pearl Harbor.	1.2 miles to residences adjacent to the prison site.	0.5 miles to residences adjacent to the prison site.
	<u>Road Access</u> : Maximize proximity to existing or planned all-weather roads. Distances measured in road miles from nearest edge of site to existing or planned all-weather road.	0.9 miles to Glacier Highway measured along existing woodcutting road. Road not all-weather.	1.3 miles from industrial park construction area on east Lemon Creek. Measured along existing private road--not all-weather. Bridge across Lemon Creek required.	0.5 miles from terminus of Mountain Ave. on west side of Lemon Creek. (This value was used for scoring purposes.) 0.9 miles from east side of Lemon Creek at the industrial park construction area. This approach would require new bridge across Lemon Creek.

Table 4-1
Candidate Sites Evaluation Against Tier 1 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Habitats & Archeological Resources	<u>Plant & Wildlife Habitat</u>: Minimize siting within designated endangered or threatened plant or animal habitats. No points - site contains designated endangered or threatened plant or animal habitats. Half points - no designated habitat, but site identified as a significant fishery resource. All points - no designated habitat, no significant fishery.	Peterson Creek identified as a significant fishery for pink, chum & coho salmon; Dolly Varden, cutthroat, & steelhead trout. Half points	Upper Lemon Creek not identified as a designated habitat or significant fishery resource. Fish & Game describes unnamed tributary adjacent to, and upgradient of, the site as impacted by past gravel removal operations. Tributary is a possible candidate for habitat enhancement. All points	Switzer Creek (tributary to lower Lemon Creek) identified as a significant fishery for pink, chum & coho salmon. It is likely that the site can be designed & engineered for drainage away from Switzer Creek. Lower Lemon Creek not identified as a designated habitat or significant fishery resource. Unnamed tributary adjacent to, and upgradient of, the site identified as having some chum and coho salmon, and Dolly Varden spawning. All points (assuming proper design & engineering)
	<u>Cultural Values</u>: Maximize distance to known historical or archaeological resource areas. No points - known areas on or adjacent to site. Half points - N/A All points - no known areas on or adjacent to site.	None indicated in reviews by Sealaska, Goldbelt, and DNR representatives. All points	None indicated in reviews by Sealaska, Goldbelt, and DNR representatives. All points	None indicated in reviews by Sealaska, Goldbelt, and DNR representatives. All points

Table 4-1
Candidate Sites Evaluation Against Tier 1 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Soils	<u>Suitable Soils</u>: Maximize suitable on-site soils. No points - site predominated by stony soils and/or exposed or very shallow bedrock. Half points - site predominated by very gravelly or sandy loam soils. Moderate to deep bedrock. All points - site predominated by fine gravelly and/or sandy silt loam soils. Deep bedrock.	Site predominated by Tolstoi-McGilvery soils--very stony silt loam with appreciable amount of fines. Typical depth to bedrock 3 feet. Some exposed bedrock. Permeability 0.6"-2.0"/hr. No points	Site predominated by Kupreanof soils--very gravelly silt loam with appreciable amount of fines. Typical depth to bedrock 40 feet. Permeability 0.6"-2.0"/hr. Half points	Site predominated by Kupreanof (KuC) soils--very gravelly sandy loam; appreciable fines. Typical depth to bedrock 60 feet. Permeability 0.6"-2.0"/hr. The soils at this site are generally more silty than the Upper Lemon Creek site. Half points
Hydro-geology	<u>Groundwater Quality</u>: Minimize siting over potable groundwater. No points - site over relatively high quality groundwater. Half points - site over relatively fair (iron-rich) quality groundwater. All points - site over relatively poor quality groundwater area.	Site predominated by undifferentiated bedrock suggesting relatively high groundwater quality. Some shallow permeable, drained material of high water storage capacity in the area. No points	Site predominated by permeable, drained material of high water storage capacity. Water typically iron-rich suggesting fair quality. Half points	Site predominated by impermeable, unconsolidated materials suggesting relatively poor groundwater quality. (Some permeable drained material also exists on site.) All points
	<u>Depth to Groundwater</u>: Maximize depth to average groundwater level for potable aquifers. Measured in feet from surface.	Approximately 50 to 100 feet to groundwater. (75 feet average used for evaluation.) Perched water at 1 to 2 feet.	Approximately 15 feet to groundwater.	Approximately 10 feet to groundwater.

Table 4-1
Candidate Sites Evaluation Against Tier 1 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Surface Water	<u>Watersheds</u>: Minimize landfill siting in watershed used for drinking water supply. No points - site within a designated watershed currently used for municipal supplies. Half points - site within a designated watershed for drinking water supply but not currently used for such. All points - watershed not within a designated watershed for drinking water supply.	Site not within a designated watershed for drinking water supply (Peterson Creek watershed). All points	Site not within a designated watershed for drinking water supply (Lemon Creek watershed). All points	Site not within a designated watershed for drinking water supply (Lemon Creek watershed). All points
	<u>Water Volume</u>: Minimize mean annual rainfall on the site. Measured in average inches per year.	Approximately 77" per year. (Precise measurement not available--NWS approximation for specific use in this study only)	Approximately 160" per year, based on extrapolated data.	Approximately 150" per year.

Table Notes:

1. All distances were measured to the nearest edge of the landfill sites unless otherwise indicated.

4.2 RESULTS OF THE TIER 1 CRITERIA EVALUATION

Table 4-2 shows the averaged weighting value assigned by Citizen Advisory Committee representatives and selected CBJ staff to each Tier 1 criterion (total of 100 available points) and calculates a numerical score for each site based on the Tier 1 criteria. Scores were calculated by determining the level of compliance of each site to each criterion. The site that best conformed to a given criterion was assigned all of the weighting points available for that criterion. The site that least conformed to a given criterion was assigned zero points for that criterion. Sites between best and worst received a direct proportion of the available points for that criterion. In cases where the criteria were more qualitative (e.g., suitable soils criterion), the sites were awarded all, half, or none of the available points depending on which definition they best met in Table 4-1.

Table 4-2
Candidate Sites Scores Based on Tier 1 Criteria

Tier 1 Criteria	Assigned Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score
Distance to Residences	13	3.7	13.0	0.0
Road Access	8	4.0	0.0	8.0
Plant & Wildlife Habitat	7	3.5	7.0	7.0
Cultural Values	6	6.0	6.0	6.0
Suitable Soils	14	0.0	7.0	7.0
Groundwater Quality	14	0.0	7.0	14.0
Depth to Groundwater	13	13.0	1.0	0.0
Watersheds	16	16.0	16.0	16.0
Water Volume	9	9.0	0.0	1.1
Total	100 points	55.2	57.0	59.1

The resulting ranking of sites based on Tier 1 criteria only is as follows:

1. Site 3: Lower Lemon Creek -- 59.1 points
2. Site 2: Upper Lemon Creek -- 57.0 points
3. Site 1: Peterson Creek -- 55.2 points

Site 3: Lower Lemon Creek came out as highest ranked on Tier 1 criteria due primarily to its location outside any designated municipal watershed, relatively poor underlying groundwater quality, good road access, and moderately suitable soils. Site 3 scored poorly on water volume (high average annual rainfall), shallow depth to groundwater (approximately 10 feet), and proximity to nearby residences (about 0.5 miles); however, the site scored sufficiently well on other criteria to offset these weaknesses. The second highest ranked site, Site 2: Upper Lemon Creek, scored significantly higher than the Lower Lemon Creek site on distance to residences (1.2 miles), but poorly on road access and groundwater quality criteria. Site 2 otherwise had similar weaknesses as the Lower Lemon Creek site. Site 1: Peterson Creek, scored highly on the watershed, water volume, and depth to groundwater criteria; however, it scored moderately to poorly on most other Tier 1 criteria.

4.3 APPLICATION OF THE TIER 2 CRITERIA

Each of the three candidate landfill sites identified in Section 3 was next compared and evaluated against a set of "Tier 2" criteria. As discussed in Section 2, the purpose of the Tier 2 criteria was to evaluate the three sites against issues and concerns that are more readily mitigable through appropriate landfill planning, design, and/or engineering. Because these concerns are generally less difficult and/or expensive to mitigate, the Tier 2 criteria received secondary emphasis in the site evaluations. This secondary emphasis was reflected in the study by assigning a total of 50 points to the Tier 2 criteria, rather than 100 points as were the Tier 1 criteria. Table 4-3 summarizes the findings of each site per each Tier 2 criterion in a matrix format. Section 4.4 then numerically scores and ranks the four sites based on Tier 2 criteria.

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Regulatory Compliance	<u>Wetlands</u>: Minimize disturbance of wetlands. No points - development would disturb traditional wetlands. Half points - development would disturb forested wetlands. All points - no wetlands involved.	Presence of hydric soils and hydrophytic vegetation (e.g., hemlock) in the general area suggesting potential forested wetlands. No wetlands mapping available for this area. Access road passes through wetland at intersection with Glacier Highway. Half points	Presence of hydric soils and hydrophytic vegetation (e.g., hemlock) in the general area suggesting potential forested wetlands. No wetlands mapping available for this area. Half points	Presence of hydric soils and hydrophytic vegetation (e.g., hemlock) in the general area suggesting potential forested wetlands. Juneau Wetlands Mgmt. Plan indicates no wetlands on or adjacent to site. Half points

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Land Use	<u>Recreation:</u> Minimize siting in a local recreational use area as described in the Comprehensive Plan and Juneau Trails Plan. No points - site in a local recreational use area Half points - N/A All points - site not in a local recreational use	Designated Recreational Resource Area. Peterson Creek trail passes on east side of creek on the opposite side of the creek from the site, approximately 0.5 miles from site. No points	No Recreational or Open Space designation. Lemon Creek trail passes east of the site and Lemon Creek. All points (assuming adequate visual/noise buffering in landfill design)	No Recreational or Open Space designation. Switzer Creek and Lemon Creek trails not impacted assuming adequate buffering All points
	<u>Land Use Compatibility:</u> Maximize compatibility with Comprehensive Plan designations² and Table of Permissible Uses (TPU). No points - site is not described as an appropriate land use in the Comp. Plan or TPU. Half points - site is compatible with TPU (RR or I designation); site designated Recreational Resource in the Comp. Plan. All points - site is within an appropriate land use designation for the Comp. Plan and TPU (RR or I designation).	National Forest Recreational Resource designation in Comp. Plan. Adjacent lands designated Open Space. RR (Rural Reserve) designation in TPU. Half points	CBJ lands Resource Reserve designation in Comp. Plan. RR (Rural Reserve) designation in TPU. All points	CBJ lands Urban/Low Density Residential (currently undeveloped). Adjacent lands designated Institutional/Public and Res. Reserve. D-5 (single family and duplex) designation in TPU. No points (Land use designation is currently incompatible, however, it should be noted that the site is currently undeveloped and 0.5 miles from the nearest residential development).

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

	Criteria¹	Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Human Impacts	<u>Residences Along Access:</u> Minimize number of residences along access road. Measured from the point of convergence with state-maintained major collector roads to the landfill site. Residences counted using Assessor's maps.	0 residences--access by an unnamed wood cutting road near Amalga Harbor turn-off. State-maintained arterial is Glacier Highway.	8 residences--access by Anka Street. State-maintained arterial is Glacier Highway.	35 residences--access by Davis Street and Mountain Avenue. State-maintained arterial is Glacier Highway. (Option via Anka St.--reduce count to 8 homes, but would require new bridge.)
	<u>Visibility:</u> Minimize site visibility in "critical" ³ direction(s). No points - site not naturally screened. Half points -site partially naturally screened. All points - site completely naturally screened.	Site completely screened from Glacier Highway and coastal recreational areas by a natural ridge line. Site screened from Peterson Creek by slope and heavy vegetation. All points	Site completely screened from nearby residences. Site partially visible from Lemon Creek and trail due to hillside location above creek and previous disturbances in the area. It is likely impact could be mitigated during design phase. All points	Site completely naturally screened from prison, nearby residences, and Lemon Creek by bench flattening and surrounding vegetation. All points
	<u>Density:</u> Minimize number of residences within a 1 mile radius of the site center. Measured as the number of residences using Assessor's maps.	21 residences.	0 residences.	376 residences.

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Human Impacts	<u>Air Quality</u>: Minimize landfill dust and odor migration to sensitive receptors. No points - prevailing wind direction toward residential or recreation areas. Half points - toward commercial or industrial areas. All points - prevailing wind direction primarily toward undeveloped or non-sensitive receptors.	Prevailing wind generally from north in cold season (up to 35 knots sustained in Lynn Canal area, probably less at site). Secondary wind from south up to 50 knots in Lynn Canal at least 10 days each winter. Orientation shelters site from south winds. North or south winds in warm season. Generally undeveloped areas exist immediately down-wind (north and south) of site. All points	Prevailing wind is generally light NE. Generally undeveloped area immediately down-wind of site. New commercial development approx. 2 miles down-wind. Light wind conditions suggest minimal potential impact to this development. All points	Prevailing wind is generally light NE. Residential neighborhood and prison site lie down-wind approx. 0.5 miles. Potential negative impact to sensitive receptors. No points

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

	Criteria¹	Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Economics	<u>Haul Distance:</u> Minimize haul distance from waste centroid ⁴ to landfill site. Measured in road miles.	18.1 miles.	4.0 miles (would require new bridge).	2.6 miles via Davis Ave.-Mountain Ave. route. (This value used for scoring purposes.) 3.5 miles via east Lemon Creek route (would require new bridge).
	<u>Utilities:</u> Minimize length of new electric, water and sewer lines. Measured as the summation of the three distances from nearest hook up to edge of site.	Electric--0.9 miles Water--8.2 miles Sewer--15.7 miles Total--24.8 miles (Electric from Glacier Hwy; water from Lena Cove; sewer from Brotherhood Bridge)	Electric--1.2 miles Water--1.2 miles Sewer--1.2 miles Total--3.6 miles (Assumes measure from the prison site)	Electric--0.5 miles Water--0.5 miles Sewer--0.5 miles Total--1.5 miles (Assumes measure from the prison site)
	<u>Grading & Site Preparation:</u> Minimize grading and site preparation requirements considering on-site soils, vegetation and degree of existing disturbance. No points - High cost anticipated due to very shallow bedrock; heavily vegetated; and/or no existing disturbance. Half points - Moderate cost anticipated due to moderate depth to bedrock; intermediate vegetative cover; and/or some existing disturbance. All points - Lower cost anticipated due to deep bedrock; sparse vegetative cover; and/or extensive disturbance.	Bedrock (\$10.50/cy for excavation and stockpile). Some vegetative disturbance on wood cutting road. Grading and preparation cost high given bedrock excavation requirements. No points	Sand and gravel, assume dense (\$4.25/cy for excavation and stockpile). Moderate vegetative cover. Minimal existing disturbance. Moderate grading and site preparation cost. Half points	Sand and gravel, assume dense (\$4.25/cy for excavation and stockpile). Moderate vegetative cover with minimal existing disturbance. Moderate grading and preparation cost. Half points

Table 4-3
Candidate Sites Evaluation Against Tier 2 Criteria

Criteria¹		Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Economics	<u>Cover Material</u> : Minimize distance for transporting cover material. Measured in road miles from nearest reasonable, appreciable borrow source.	Approximately 4 miles--assuming use of Eagle River source, No. 3, CBJ Natural Resources Inventory Report. Adequate quantities appear available with sandy/gravelly nature, likely with fines.	Zero miles. Adequate material likely available at site or adjacent borrow area.	Zero to 2 miles. Likely material available at site through pit excavation w/supplemental material at nearby Lemon Creek borrow sites. (Zero miles assumed for evaluation purposes.)

Table Notes:

1. All distances were measured to the nearest edge of the landfill sites unless otherwise indicated.
2. For the purposes of this evaluation, "Resource Reserve" was considered an appropriate land use designation for landfill development. The term is defined in the Comprehensive Plan as lands to be managed primarily to identify and conserve natural resources until specific land uses are identified and developed.
3. Critical direction is defined as that direction or directions toward residential or recreational areas within the "view-shed".
4. The waste centroid, or geographic point of average waste generation, was determined to be at a point about 500 feet west of the intersection of Egan Drive and Branta Road (Sunny Point). This was determined using population comparison between East Mendenhall Valley and downtown Juneau.

4.4 RESULTS OF THE TIER 2 CRITERIA EVALUATION

Table 4-4 shows the averaged weighting value assigned by Citizen Advisory Committee representatives and selected CBJ staff to each Tier 2 criterion (total of 50 available points used to reflect secondary emphasis) and calculates a numerical score for each site based on the Tier 2 criteria. Scores were calculated in the same manner as the Tier 1 criteria by determining the level of compliance of each site to each criterion.

Table 4-4
Candidate Sites Scores Based on Tier 2 Criteria

Tier 2 Criteria	Assigned Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score
Wetlands	6	3.0	3.0	3.0
Recreation	4	0.0	4.0	4.0
Land Use Compatibility	4	2.0	4.0	0.0
Residences Along Access	4	4.0	3.1	0.0
Visibility	4	4.0	4.0	4.0
Density	4	3.8	4.0	0.0
Air Quality	5	5.0	5.0	0.0
Haul Distance	6	0.0	5.5	6.0
Utilities	3	0.0	2.7	3.0
Grading & Site Preparation	5	0.0	2.5	2.5
Cover Material	5	0.0	5.0	5.0
Total	50 points	21.8	42.8	27.5

The resulting ranking of sites based on Tier 2 criteria only is as follows:

1. Site 2: Upper Lemon Creek -- 42.8 points
2. Site 3: Lower Lemon Creek -- 27.5 points
3. Site 1: Peterson Creek -- 21.8 points

Site 2: Upper Lemon Creek, was the highest ranked on Tier 2 criteria, scoring generally high on all of the criteria. Site 3: Lower Lemon Creek, was a distant second place, scoring significantly lower on all of the human impacts-related criteria (given its proximity to residences) except visibility. The Lower Lemon Creek site scored slightly better than Upper Lemon Creek site on the economic-related criteria of haul distance and utilities. Third place, Site 3: Peterson Creek, scored generally well on human impact criteria given its remoteness, but scored poorly on all economic criteria.

4.5 RESULTS OF COMBINED TIER 1 AND TIER 2 EVALUATION

The final ranking of the three sites based on Tier 1 and Tier 2 criteria combined is presented in Table 4-5. The Tier 1 and Tier 2 scores for each site were summed to obtain a total score based on 150 points. The last row of Table 4-5 normalizes the sites' total scores back to a 100 point basis.

Table 4-5
Final Scoring of Candidate Landfill Sites

Criteria	Total Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score
Tier 1 Criteria	100 points	55.2	57.0	59.1
Tier 2 Criteria	50 points	21.8	42.8	27.5
Total Score	150 points	77.0	99.8	86.6
Normalized Total Score	100 points	51.3	66.5	57.7

The resulting final ranking of sites based on the combined Tier 1 and Tier 2 criteria is as follows:

1. Site 2: Upper Lemon Creek -- 66.5 points
2. Site 3: Lower Lemon Creek -- 57.7 points
3. Site 1: Peterson Creek -- 51.3 points

Based on these results, this study finds that Site 2: Upper Lemon Creek, best overall meets the combined Tier 1 and Tier 2 criteria for new municipal solid waste landfill siting.

SECTION 5 CONCLUSIONS

5.1 SUMMARY OF STUDY FINDINGS

This study finds that Site 2: Upper Lemon Creek (66.5 points out of a total 100 points), best conforms with the combined Tier 1 and Tier 2 criteria for new municipal solid waste landfill siting. In summary, Site 2 scored relatively strong on economic, land use, and human impact criteria, while scoring relatively weak on groundwater (i.e., shallow depth, moderate quality) and water volume (i.e., high annual rainfall suggesting extensive need for run-on/run-off and leachate controls) criteria.

Site 2 does not present any known, significant impact to designated plant or wildlife habitats, nor is Lemon Creek a significant fishery resource. The unnamed tributary east and upgradient of the site was reported by Fish & Game to already be disturbed by previous gravel removal operations. Site 2 is not located within a designated municipal water supply watershed.¹ The site is generally compatible with the Comprehensive Plan land use designation (Resource Reserve) and Table of Permissible Uses (zoned Rural Reserve). Recreational uses of Lemon Creek are relatively small. There are no residences within a one mile radius of the site. The area is generally unsuited to residential or commercial development; the area is not designated as a future growth area in the Comprehensive Plan.

Site 2 demonstrated generally usable soils (gravelly silt loam) for landfill development, though not ideal conditions (e.g., fine silty and/or clay soils). Bedrock is relatively deep (approximately 40 feet) suggesting potentially ample material on and/or adjacent to the site for landfill uses. Deep bedrock also lowers site excavation costs as compared to the Peterson Creek site.

Site 2 scored generally well on the economic criteria suggesting that, along with Site 3, it may be the least expensive site to develop and operate over the long-term. Site 2 lies relatively very close to the calculated waste centroid for Juneau thereby minimizing (along with Site 3) long-term waste hauling costs of the three sites. Site 2 will, however, likely require significant expenditure for water run-on and run-off controls, and leachate management given the very high annual precipitation on the site. Relatively shallow groundwater conditions at Site 2 would also require special engineering considerations such as sub-drains to collect groundwater during peak levels. Site 2 will also require access to, and improvement of (e.g., grading, slope reduction,

¹ CBJ Public Works Department staff indicate that additional water supplies for Juneau are being sought and Lemon Creek has been discussed as one option. There are currently no plans, however, for the development of Lemon Creek as a municipal water source.

and winter maintenance), the existing private road leading to the site. This would include upgrade or replacement of the existing wood bridge crossing Lemon Creek. Access to the site passes just eight residences on Anka Street.

5.2 SPECIAL ISSUES REGARDING THE CANDIDATE SITES

In the course of visiting and evaluating the three candidate landfill sites, some issues unique to each site were identified. These issues are related to the evaluation criteria and are presented in Table 5-1 as additional information for interested readers.

Table 5-1
Special Issues Relating to the Tier 1 and Tier 2 Criteria^{1,2}

Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
Soil is very thin suggesting higher development and operating costs since soil cover will need to be imported and excavation may go into bedrock. This may be partially offset by the moderate level of existing ground disturbance at the site. Upper shallow muskeg layer may be usable as cover material if mixed with other soil or rock. Given the topography and soil conditions, sheet flow of water on to the site would need to be controlled as well as stream flow. Some additional perimeter run-on/seepage controls such as slurry walls or cut-off trenches may be required where the edges of developed areas meet perched water in muskeg layers.	Soil is thick, however, a semi-pervious layer creates a perched ground water condition at the 15 to 25 foot depth level. This semi-pervious layer may provide a good natural base for a landfill liner.	Soil is thick and of fairly low to moderate permeability. Some very large boulders at some locations. High volume of groundwater possible at scattered locations.

Table 5-1
Special Issues Relating to the Tier 1 and Tier 2 Criteria^{1,2}

Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
National Weather Service describes Peterson Creek area as an area of potential for winter air mass inversions that can go unbroken for up to 20 days several times per cold season.	National Weather Service describes Lemon Creek area as of unusually poor ventilation much of the year with inversions that can go unbroken for one month at a time. A new bridge would probably need to be constructed along the access road. A bridge would significantly add to site development costs. Access is via private property. The CBJ is currently attempting to obtain permanent access.	National Weather Service describes Lemon Creek area as of unusually poor ventilation much of the year with inversions that can go unbroken for one month at a time. Access to this site is either via a highly populated access road (Davis Ave. and Mountain Ave.) then 0.5 miles new road construction, or Anka St. and the existing haul road with a new bridge constructed across Lemon Creek near the prison. A bridge would significantly add to site development costs. The Anka St. access would impact a smaller number of homes (8 on Anka St. rather than 35 on Davis Ave. and Mountain Ave.).

Table 5-1
Special Issues Relating to the Tier 1 and Tier 2 Criteria^{1,2}

Site 1: Peterson Creek	Site 2: Upper Lemon Creek	Site 3: Lower Lemon Creek
U.S. Forest Service policy is to not authorize or permit new landfill activity on federal lands. Therefore to become a viable option, the lands will likely need to come under CBJ control through a land exchange process. The site lies approximately 16 miles from the nearest sewer hook-up. Extending the sewer line to the site for the sole use by a landfill would likely be economically unfeasible. Hauling of leachate to an existing treatment facility or construction of an on-site facility may be economically more reasonable.	Lemon Creek has been listed by Alaska DEC as an "impaired water body". DEC will impose more stringent standards on new developments (incl. landfills) impacting Lemon Creek to insure no further degradation of the water body occurs. Standards will be developed specific to the proposed project. Landfill would likely incur higher costs for run-off and leachate control, and monitoring/reporting. Department Fish & Game reports that the unnamed tributary east and upgradient of the site has likely been impacted by past gravel removal operations. Species potentially present include coho and chum salmon and Dolly Varden. The tributary is reported as a possible candidate for fish habitat enhancement and mitigation. CBJ Public Works Department staff indicate (September 1993) that Juneau is currently seeking additional municipal water supplies and Lemon Creek has been discussed as one option. There is, however, no formal plan or proposal for such use at this time.	Lemon Creek has been listed by Alaska DEC as an "impaired water body". DEC will impose more stringent standards on new developments (incl. landfills) impacting Lemon Creek to insure no further degradation of the water body occurs. Standards will be developed specific to the proposed project. Landfill would likely incur higher costs for run-off and leachate control, and monitoring/reporting. Some chum and coho salmon and Dolly Varden spawning and rearing has been documented by the Department of Fish & Game in the unnamed tributary northeast and upgradient of the site. Cutthroat trout spawning and rearing is reported as a possibility. CBJ Public Works Department staff indicate (September 1993) that Juneau is currently seeking additional municipal water supplies and Lemon Creek has been discussed as one option. There is, however, no formal plan or proposal for such use at this time.

Table Notes:

1. For all sites there is a low potential for significant quantities of clay liner/cap soil in the area unless "blue clay" or fines from Gastineau Channel dredging are made available.
2. Unless Alaska becomes an "Approved State" according to RCRA Subtitle D, the regulations prohibit a landfill to be located in a wetland. All sites appear to lie within "forested wetland" conditions.

5.3 CUMULATIVE IMPACTS

A final point of discussion for this study is recognition of cumulative impacts that may be incurred by the development of a new landfill site in Juneau. This study examined, in turn, the impact of each criterion against each candidate landfill site. However, environmental planners and engineers are beginning to recognize that the total impact of a project upon the environment can be greater than the sum of each individual impact. This effect is referred to as "cumulative impacts" and is typically defined as two or more individual effects which, when considered together, compound to increase other environmental impacts. An example of potential cumulative impact from new landfill siting is potential human impacts. Some increased truck traffic on a given residential street may be a small negative impact. Potential landfill dust affecting that street may be a small negative impact. Visibility of the landfill from that street may also be a small negative impact. The sum, however, of these three impacts may be a very large human impact, i.e., unbearable living conditions for residents on that street. The purpose of cumulative impacts consideration then is to, one, identify where and to what level a cumulative impact may be created by a given project, and two, identify mitigation measures to reduce the risk of that cumulative impact forming. Such consideration typically takes place at the point of environmental review for the selected project (e.g., state and local agencies project consistency review). A suggested approach for identifying and mitigating cumulative impacts of landfill siting in Juneau is through preparation of an "environmental assessment" report for all the sites, or preferred subset of sites, after the public review phase. The environmental assessment concept is described in the following section.

5.4 NEXT STEPS

This study has identified three candidate sites (excluding the Fish Creek Quarry site) for potential landfill development, and scored and ranked those sites based on some broad economic, environmental, human impact, and geotechnical criteria. An important next step to determining the suitability/feasibility of landfill development is a more detailed engineering and environmental assessment for the sites, or selected subset of preferred sites, upon completion of the public review phase. The purpose of this next level of investigation is two-fold: one, to identify any "fatal flaws" that would eliminate a site from any further consideration; and two, provide decision makers a complete, detailed understanding of each site so that the most informed decisions can be made for a new landfill. The next steps are outlined below and summarized in Table 5-2.

1) Engineering assessment:

- geotechnical exploration -- exploratory drilling and/or trenching to determine precise soil depths and characteristics; type and characteristics of underlying bedrock (e.g., extent of fracture or shear planes, orientation of bedding plane); analysis of soils grain size, clay content, plasticity, moisture content, and dry

density of on-site soils (and any soils proposed to be imported to the site); amount of material available on-site for landfill liner and cover use.

- hydrological evaluation -- well borings to determine precise depth to groundwater and groundwater quality; groundwater flow direction; identification of shallow groundwater locations and potential remediations; and surface drainage mapping for potential water run-on and run-off quantities/directions.
- geological exploration -- exploratory trenching to identify any landslide features; earthquake fault features; or geomorphic features indicative of potential ground failure.

2) Environmental assessments:

- detailed evaluation of each site relating to existing biology, noise, traffic, air quality, visual resources, and cultural resources.
- potential environmental impact of developing a landfill at each of the sites for each of these topics.
- potential cumulative impacts that may be created.
- potential mitigations to alleviate individual and cumulative impacts.

The resulting environmental assessment document can also be used as a key component of the final site proposal and solid waste disposal application for agencies' review and information.

Upon selection of a preferred site, the following sequential basic steps can then be undertaken:

- 3) land procurement, rezoning, and financing plan (as appropriate).
- 4) preliminary site design and engineering.
- 5) solid waste disposal application and agencies' project consistency review.
- 6) final go/no go decisions and permits submittal.
- 7) final design and engineering incorporating permit conditions and mitigations identified during the agencies' review period.

8) construction.

Experience in other communities suggests the timeframe from preferred site selection to beginning new landfill operations ranges from approximately four to ten years.

Table 5-2
Summary of Next Steps

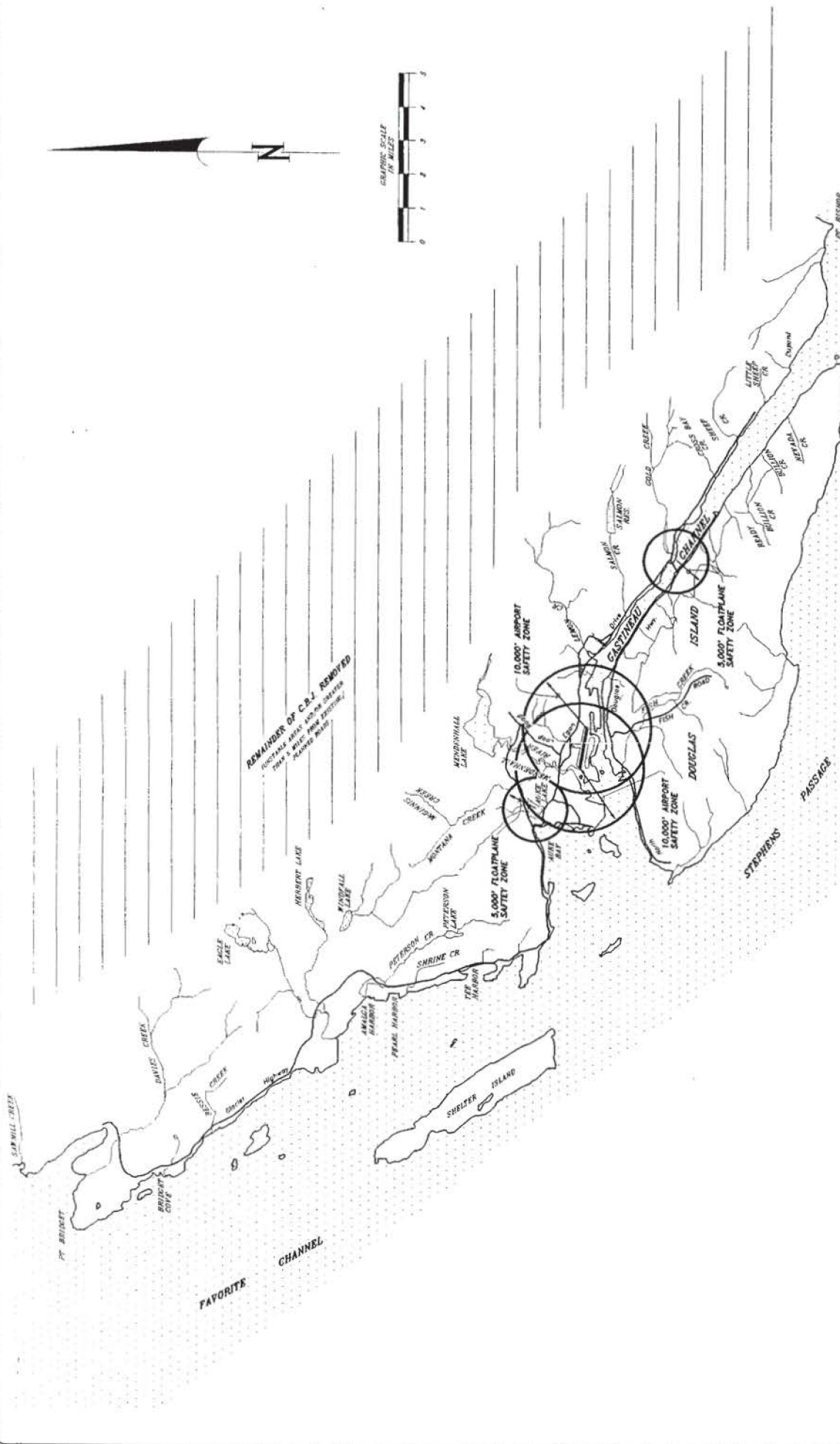
Task	Product	Timing	Cost
Public review of phase I reconnaissance report	Identification of preferred site from public acceptability standpoint	3 months	CBJ staff time
Engineering assessment	Detailed information on physical parameters of site; identification of preferred site from an engineering standpoint.	3 - 6 months Weather dependent	\$30,000 - \$60,000 Dependent on level of analysis desired and number of sites
Environmental assessments	Detailed information on environmental conditions at sites, potential environmental impacts and mitigations.	3 - 6 months Weather dependent; can occur simultaneous to engineering assessment	\$10,000 - \$30,000 Dependent on level of analysis desired and number of sites
Selection of preferred site	Identify preferred site for permitting and development based on public review and detailed engineering/environmental assessment	- -	- -
Land procurement, rezoning, and financing plan (as appropriate)	Obtain land; zoning consistency; financing plan for construction and development of site.	6 months	Cost of land dependent on ownership and existing land use.
Preliminary site design and engineering	Preliminary site specifications, construction drawings, and material needs	6 months	\$30,000 - \$80,000 Dependent on physical characteristics of site

Table 5-2
Summary of Next Steps

Task	Product	Timing	Cost
Solid waste disposal application and agencies' project consistency review	Determination of agencies' concerns and permitting requirements	2 - 3 months	CBJ staff time for application preparation
Final go/no go decisions and permits submittal	Completed permits for agencies' review and decisions	Dependent on number of permits and agencies' time requirements	CBJ staff time for permit(s) preparation
Final design and engineering	Detailed specifications and construction drawings for landfill construction and development	6 - 12 months	\$75,000 - \$150,000 Dependent of physical characteristics of site
Construction	Operational landfill site	12 - 24 months Weather dependent	\$4 million - \$6 million Primarily dependent on material types, length of construction, and materials shipping requirements

APPENDIX A:
SEVERE LIMITATIONS MAPS
AREA MAP
SITE MAPS

SEVERE LIMITATIONS MAPS



REMAINDER OF C.B.I. REMOVED
 (REMARKS ABOVE) (NO. 1000)
 THIS IS A PLANNED ROAD

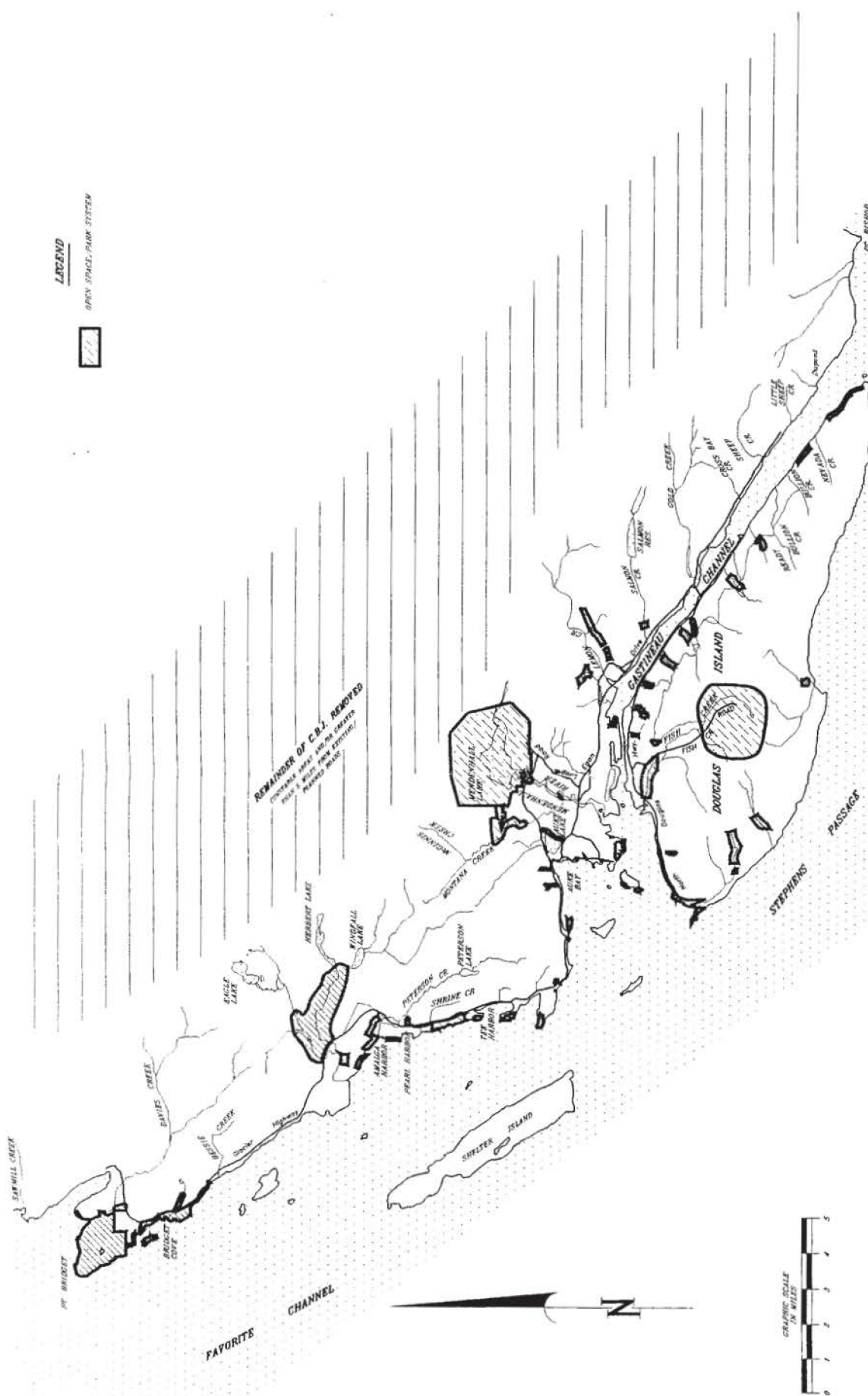
DATE: JUL. 1992 BY: M. J. J. J. J.		SHEET: 1 OF 1	
AIRPORT SAFETY ZONE MAP WITHIN CITY & BOROUGH OF JUNEAU ALASKA			
R & M ENGINEERING, INC. ENGINEERS GEOLOGISTS SURVEYORS			
BROWN, VENCE & ASSOCIATES ENERGY AND WASTE MANAGEMENT ENGINEERING 455 CAPITOL MALL, SUITE 305, SACRAMENTO, CA 95814 (916) 448-0800, (916) 448-1406 FAX			
DESIGNED BY:	DRAWN BY:	CHECKED BY:	APPROVED BY:
DATE:	DATE:	DATE:	DATE:
FILE NO.			



DESIGN: M.A.W.	NO. DATE BY APPROVED BY APPROVED BROWN, VENCE & ASSOCIATES ENERGY AND WASTE MANAGEMENT ENGINEERING 455 CAPITOL MALL, SUITE 205, SACRAMENTO, CA 95814 (916) 448-0900, (916) 448-1406 FAX R & M ENGINEERING, INC. ENGINEERS GEOLOGISTS SURVEYORS	LANDSLIDE/AVALANCHE MAP WITHIN CITY & BOROUGH OF JUNEAU, ALASKA	DATE: DEC. 1991 R & M NO. 851232
DRAWN: F.W.			SHEET 1 of 1
CHECK: M.A.W.			
APPROVED: M.A.W.			

FILE NO.

OPEN SPACE, PARK SYSTEM

[illegible]

LEGEND

0.5 MILES FROM RESIDENTIAL
NEIGHBORHOODS



DATE: 10/15/03
BY: J.M. JENSEN
SHEET 1 OF 1

**RESIDENTIAL LIMITATION
MAP**
WITHIN
CITY & BOROUGH OF JUNEAU ALASKA

R & M ENGINEERING, INC.
ENGINEERS SURVEYORS
GEOLOGISTS

**BROWN, VENCE
& ASSOCIATES**
ENERGY AND WASTE MANAGEMENT ENGINEERING
455 CAPITOL MALL, SUITE 205,
SACRAMENTO, CA 95814
(916) 448-0900, (916) 448-1406 FAX

NO DATE REVISION NO. 1

DESIGNER: J.M.J.
CHECKED: J.M.J.
APPROVED: J.M.J.

CLARK, B.V. - WEST

FILE NO.

AREA MAP

SELECTED CANDIDATE SITES
AREAS RECONSIDERED AND
SUBSEQUENTLY ELIMINATED

 NAME
 NAME
 NAME
 NAME

3407110-8-10 0002

**BROWN, VENCE
& ASSOCIATES**
ENERGY AND WASTE MANAGEMENT ENGINEERING
456 CAPITOL Mall, Suite 205,
SACRAMENTO, CA 95814
(916) 418-0900, (916) 448-1406 FAX

R & M ENGINEERING, INC.

ENGINEERS	GEOLOGISTS	SURVEYORS
-----------	------------	-----------

AREA MAP OF LANDFILL SITES

CITY & BOROUGH OF JUNEAU _____ ALASKA

DATE OCT. 1993
R R NO. 1032

SITE MAPS



FAVORITE CHANNEL

KISHBROCK ISLAND

AMALGA HARBOR

SALT LAKE

U.S.S. 1286
Tr. 6

Huffman Harbor

Glacier

PEARL HARBOR

SHRINE OF
ST. TERESE

National

Forest

Trail

Boundary

Tr. 4
24.5 Miles
To Juneau

Tr. 2
U.S.S. 1196
H.E.S. 103

Tr. 3

Tr. 1

Wood cutting road
To Echo Cove

CANDIDATE SITE



LEGEND



WETLANDS AREAS



SURFACE WATER SUPPLY LOCATION



WELL LOCATIONS

WATER SUPPLY LOCATIONS PROVIDED BY DEPARTMENT OF
NATURAL RESOURCES, DIVISION OF WATER ONLY THOSE
WATER SUPPLIES WITH CURRENT PERMITS ISSUED BY D.N.R.
ARE ILLUSTRATED

SCALE 1:25,000



CAUSED BY A-POST-DWG

DESIGN M.A.M.
DRAFT F.M.
CHECK M.A.M.
APPROVED M.A.M.

FILE NO.

NO.	DATE	REVISION	BY	APPROV.

**BROWN, VENCE
& ASSOCIATES**

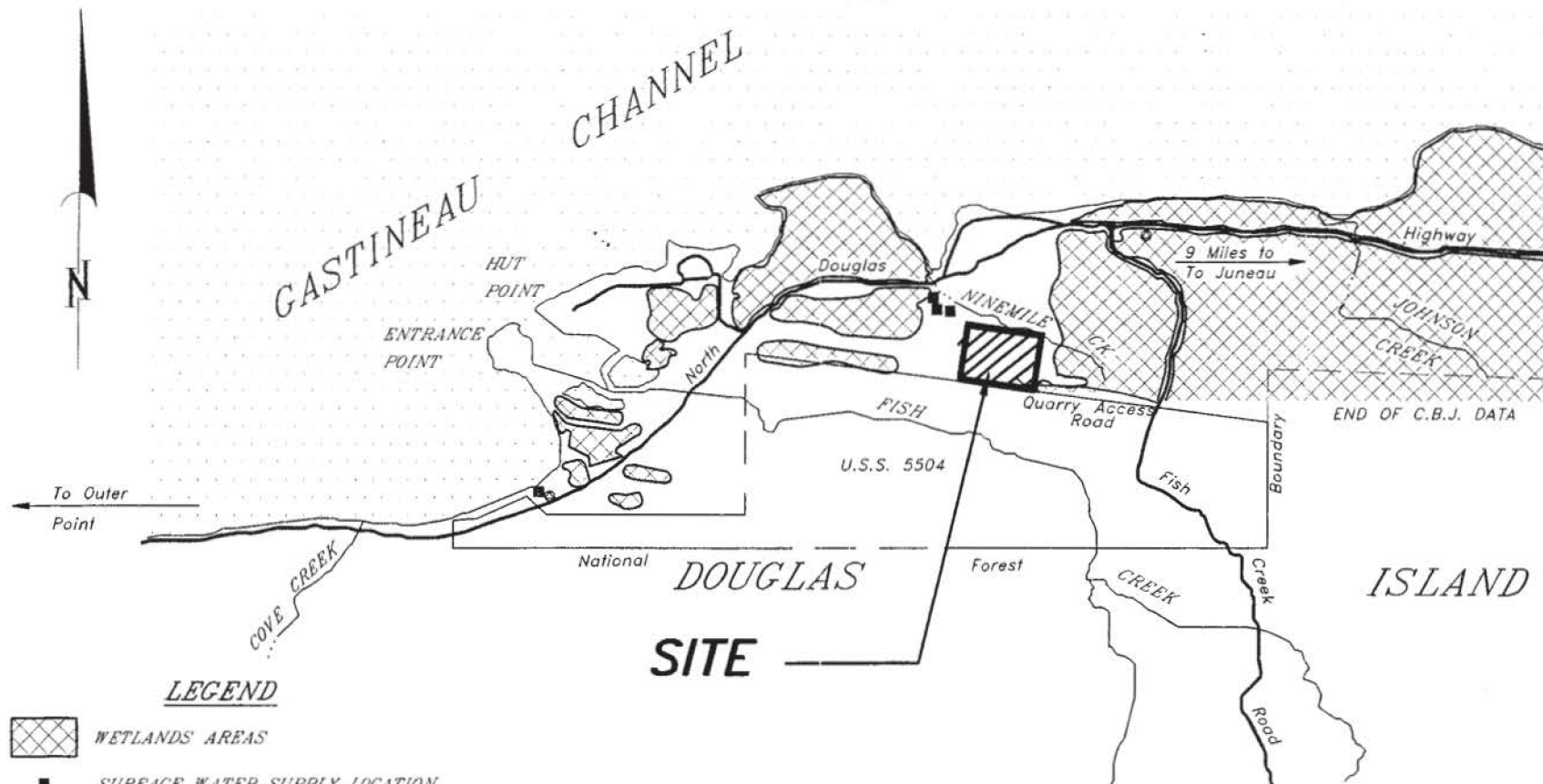
ENERGY AND WASTE MANAGEMENT ENGINEERING
455 CAPITOL MALL, SUITE 205,
SACRAMENTO, CA. 95814
(916) 448-0900, (916) 448-1406 FAX

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

SITE MAP # 1
**PETERSON CREEK
LANDFILL SITE**

WITHIN
CITY & BOROUGH OF JUNEAU ALASKA

DATE: NOV. 1993
R & M NO. 337332
SHEET 1 OF 3



LEGEND



WETLANDS AREAS



SURFACE WATER SUPPLY LOCATION



WELL LOCATIONS

C.B.J. WATER AVAILABLE TO ALL
ALL RESIDENTS

WATER SUPPLY LOCATIONS PROVIDED BY DEPARTMENT OF
NATURAL RESOURCES, DIVISION OF WATER. ONLY THOSE
WATER SUPPLIES WITH CURRENT PERMITS ISSUED BY D.N.R.
ARE ILLUSTRATED

SCALE 1:25,000



DESIGN M.A.M.

DRAWN F.W.

CHECK M.A.M.

APPROVED M.A.M.

FILE NO

NO. DATE REVISION BY APPROVED

BROWN, VENCE & ASSOCIATES

ENERGY AND WASTE MANAGEMENT ENGINEERING
455 CAPITOL MALL, SUITE 205,
SACRAMENTO, CA 95814
(916) 448-0900, (916) 448-1106 FAX

R&M

R & M ENGINEERING, INC.

ENGINEERS GEOLOGISTS SURVEYORS

SITE MAP # 4

**FISH CREEK QUARRY
SITE**

WITHIN

CITY & BOROUGH OF JUNEAU ALASKA

DATE: NOV., 1993
R & M NO. 231522

SHEET
1 OF 1

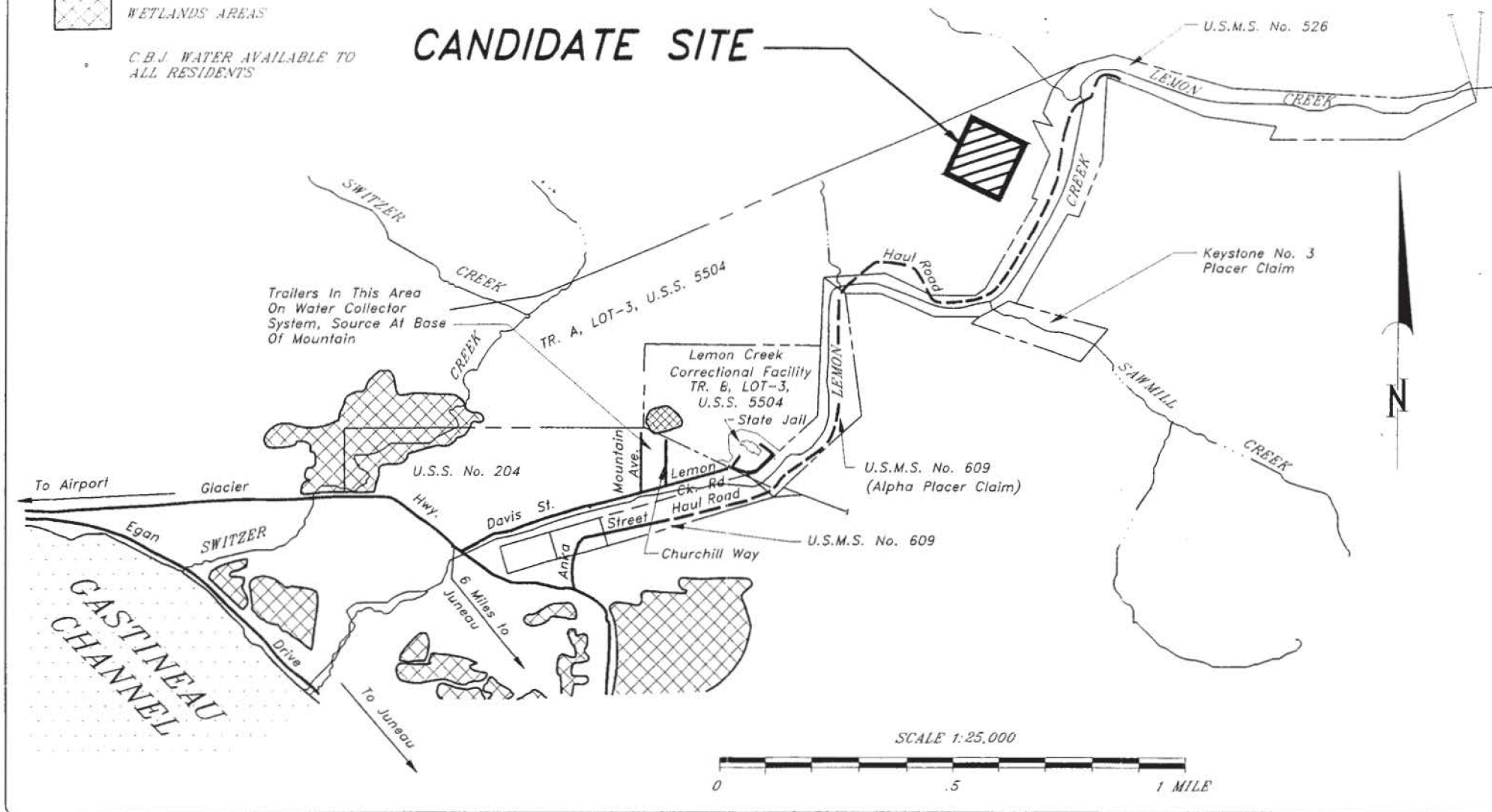
LEGEND



WETLANDS AREAS

C.B.J. WATER AVAILABLE TO ALL RESIDENTS

CANDIDATE SITE



SCALE 1:25,000



CLD: BYA-LENGING

DESIGNER	M.A.M.
DRAWN	F.M.
CHECKED	M.A.M.
APPROVED	M.A.M.

FILE NO.

BROWN, VENCE & ASSOCIATES

ENERGY AND WASTE MANAGEMENT ENGINEERING
455 CAPITOL MALL, SUITE 205,
SACRAMENTO, CA 95814
(916) 448-0900, (916) 448-1406 FAX

R & M ENGINEERING, INC.
ENGINEERS GEOLOGISTS SURVEYORS

SITE MAP # 2
**UPPER LEMON CREEK
LANDFILL SITE**
WITHIN
CITY & BOROUGH OF JUNEAU, ALASKA

DATE	NOV. 1992
BY	R & M ENGINEERING
SHEET	2 of 3

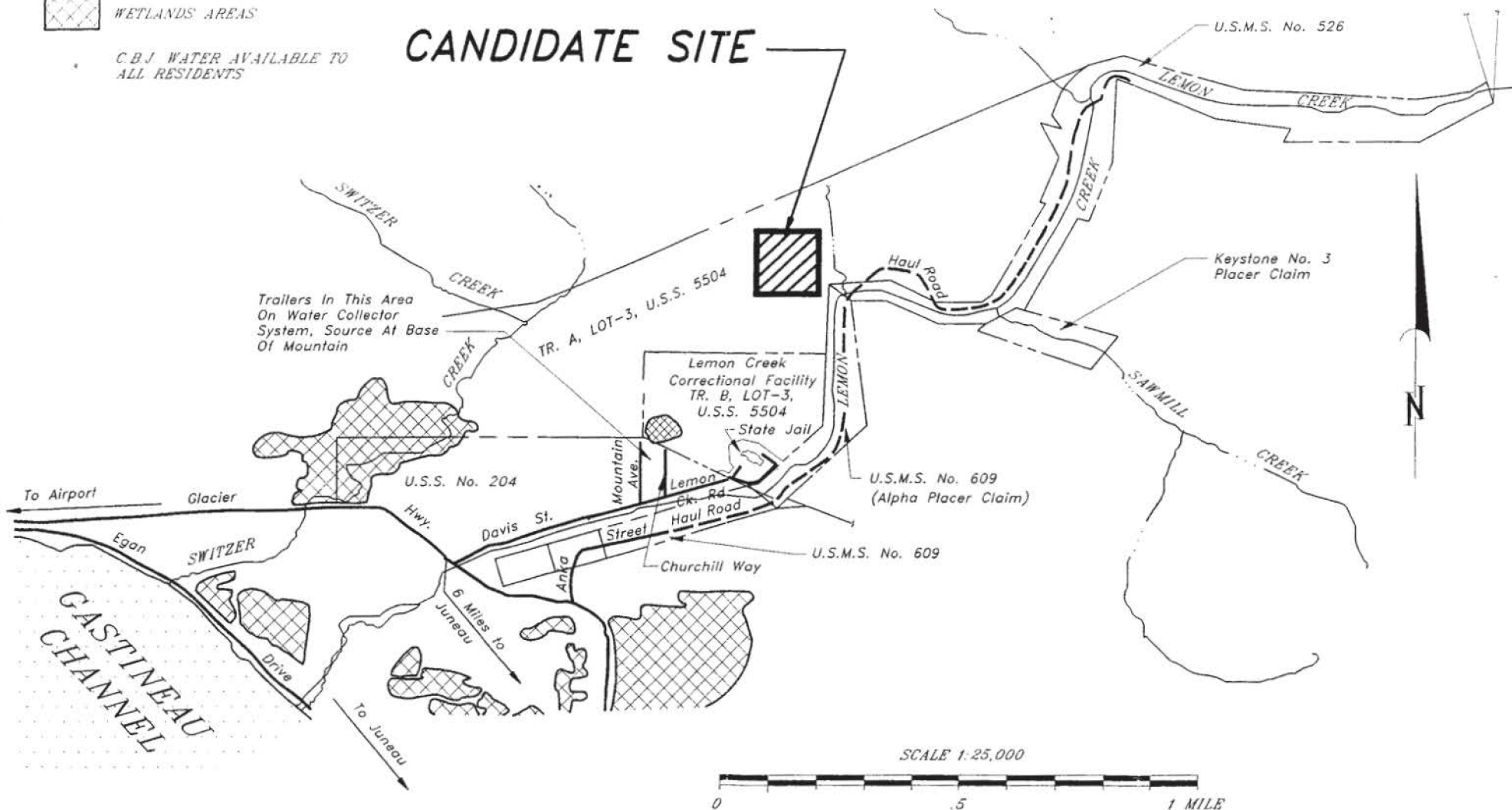
LEGEND



WETLANDS AREAS

C.B.J. WATER AVAILABLE TO ALL RESIDENTS

CANDIDATE SITE



CADD: JWA-LWM-DWG

DESIGN: M.A.M.
 DRAFT: F.N.
 CHECK: M.A.M.
 APPROVED: M.A.M.

FILE NO.

NO.	DATE	REVISION	BY	APPROVED

BROWN, VENCE & ASSOCIATES

ENERGY AND WASTE MANAGEMENT ENGINEERING
 455 CAPITOL MALL, SUITE 205,
 SACRAMENTO, CA 95814
 (916) 448-0900, (916) 448-1406 FAX

R & M ENGINEERING, INC.
 ENGINEERS GEOLOGISTS SURVEYORS

SITE MAP # 3 LOWER LEMON CREEK LANDFILL SITE

WITHIN
 CITY & BOROUGH OF JUNEAU ALASKA

DATE: NOV. 1993
 R & M NO. 931532
 SHEET 3 OF 3

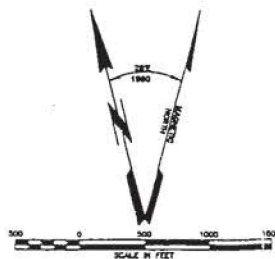
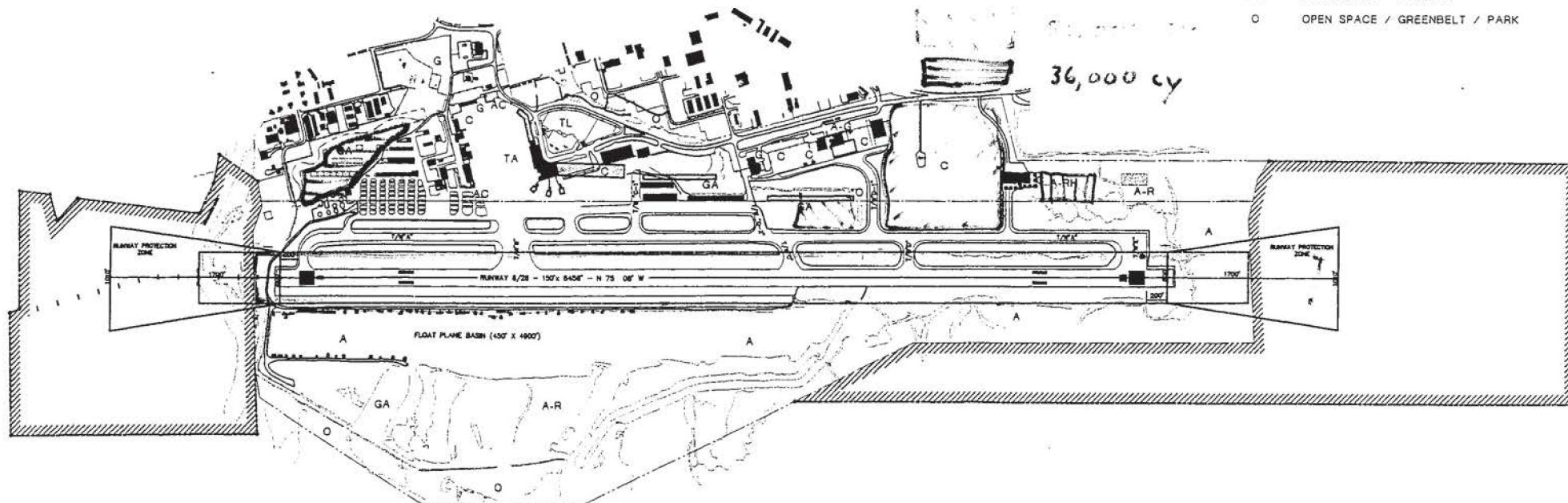
APPENDIX B:
LIST OF REFERENCES USED

LEGEND

- EXISTING PAVEMENT
- - - FUTURE DEVELOPMENT
- ~ WATER LINE
- - - EXISTING PROPERTY LINE
- - - LAND USE BOUNDARY
- /// EXISTING PROPERTY EASEMENT
- EXISTING BUILDINGS
- - - BUILDING RESTRICTION LINE
- FUTURE BUILDINGS

AIRPORT LAND USE LEGEND

- A AVIATION
- TA TERMINAL AREA (AIRSIDE)
- TL TERMINAL AREA (LANDSIDE)
- C COMMERCIAL (AVIATION)
- GA GENERAL AVIATION
- AC AIR CARGO
- A-R AIRPORT RESERVE
- A-RH AIRPORT RESERVE - HELICOPTER
- G GENERAL
- A-G GOVERNMENT - AVIATION
- O OPEN SPACE / GREENBELT / PARK



OPTIONAL APPROVAL BY FAA DATE

APPROVED CITY AND BOROUGH OF JUNEAU DATE

USKH Architecture • Engineering
Land Surveying • Planning

DES. D.L.M. JUNEAU INTERNATIONAL AIRPORT
DR. C.M.B. JUNEAU, ALASKA

CH. D.L.M. AIRPORT LAND USE PLAN
APP. X.X.X.

WO# 500100	JEA-LAND	
REV. NO.	DATE	DESCRIPTION
		APP.
DATE FEBRUARY 1999	EXHIBIT E	SHEET 7 OF 13

APPENDIX B LIST OF REFERENCES USED

Periodicals:

- Baker, James H. "Wetlands, A Valuable Resource." *Pollution Engineering*, April 1993, 38-41.
- Ballesteros, Thomas P. and Kelley, Mark D. "Where Can New Landfills Be Sited?" *Waste Age*, October 1993, 145-152.
- Erkut, Erhan and Moran, Stephan "Locating Obnoxious Facilities in the Public Sector." *Socio-Economic Planning Science*, 1991, 89-102.
- Keely, Stanley et.al. "Bringing Wetlands And Landfills Into Environmental Harmony." *World Wastes*, 56-60.
- Kiser, Elizabeth "Getting to YIMBY: Yes In My Backyard." *World Wastes*, December 1992, 38-41.
- Mazmanian, Daniel and Morell, David "Facility Siting and the Failure of Democratic Discourse." *MSW Management*, July/August 1992, 20-25.
- Nosenchuck, Norman H. "NIMBY, NIMTOO and Reality." *MSW Management*, January/February 1993, 6.
- O'Leary, Phil et.al. "Site Plan Preparation." *Waste Age*, August 1986, 88-92.
- O'Leary, Phil et.al. "How to Evaluate a Potential Sanitary Landfill Site." *Waste Age*, June 1986, 78-99.
- Rydant, A.L. "A Micro Study of NIMBY" *Waste Age*, January 1990, 44-52.
- Shepard, Tom "Blueprint For A Rare California Siting Victory." *Waste Age*, September 1988, 97-102.
- Walsh, Patrick and O'Leary, Phillip "Evaluating A Potential Sanitary Landfill Site." *Waste Age*, August 1991, 121-134.
- Ward, Christopher G. et. al. "Subtitle D: You Have A Choice." *MSW Management*, 1993, 70-175.

Reports, Studies, and Maps:

City and Borough of Juneau Comprehensive Plan, April 30, 1984.

City and Borough of Juneau Open Space Ordinance, 1985.

"Considerations for Seismic Analysis of Landfills", Pedro C. Repetto and Jonathan D. Bray, August 1992.

"Geophysical Hazards Investigation for the City and Borough of Juneau, a Summary Report", Daniel, Mann, Johnson, & Mendenhall, October 1972.

"Juneau Coastal Management Program Comprehensive Plan Part Two", CBJ Community Development Department, November 20, 1986.

Juneau Table of Permissible Uses, June 1991.

"Juneau Trails Plan, Final Plan, A Cooperative Planning Effort", January 1993.

"Juneau Wetlands: Functions and Values Map Appendix"
City and Borough of Juneau and Adamus Resource Management Assessment Inc.,
September 1987.

"Juneau Wetlands Management Plan Atlas", CBJ Community Development Dept., February 1991.

"Lemon Creek Borrow Study East Side Lemon Creek", R & M Engineering Inc., May 5, 1982.

"Natural Resource Inventory Report", R & M Engineering Inc, undated.

"Peak Acceleration from Maximum Credible Earthquakes in California", California Dept. of Conservation, 1992.

"Proposed Regulations, Solid Waste Management, Informal Review Draft", State of Alaska Dept. of Environmental Conservation, March 23, 1993.

"Proposed Regulations, Solid Waste Management, Public Review Draft", State of Alaska Dept. of Environmental Conservation, September 7, 1993.

"Recommended Lateral Force Requirements and Commentary", Seismology Committee Structural Engineers Association of California, 1990.

Resource Conservation Recovery Act, Subtitle D, Subpart B, Location Restrictions.

"Sludge Disposal Area Report", R & M Engineering, 1989.

"Soils of the Juneau Area", Soil Conservation Service, 1974.

"Solid Waste Management Plan Phase I Report, for CBJ", R.W. Beck and Associates, October 1991.

"Solid Waste Management Study, Final Report", Engineering Science, November 1983.

Street & Property Atlas, City and Borough of Juneau, 1982 and revised January 1992.

Surficial Geologic Map of the City & Borough of Juneau, USGS, 1975.

"Water Resources of the City and Borough of Juneau", USGS, 1971.

"West Lemon Creek Material Resource Assessment", R & M Engineering Inc., May 1985.

Zoning Maps, City and Borough of Juneau, June 15, 1992.

Individuals Contacted:

Kathleen Bailey, CBJ Community Development Department 907-586-5230

Judith Bittner, Alaska Department of Natural Resources, Division of Parks and Outdoor Recreation 907-762-2622

Terry Brenner, CBJ Engineering 907-586-5271

Joe Connelly, R&M Engineering, Juneau, AK 907-780-6060

John Dunker, Alaska Department of Natural Resources, Water Division 907-465-3400

Richard Dwyer, Goldbelt 907-463-4846

Ed Emswiler, Alaska Department of Environmental Conservation, Environmental Quality Division 907-465-5353

Steve Gilbertson, Lands and Resources Manager, CBJ Division of Lands and Resources 907-586-5266

Richard Harris, Sealaska Corporation, Resource Planning and Administration 907-586-1512

Richard Heffern, Alaska Department of Environmental Conservation, Air Quality Management 907-465-5100

Glen Jackson, U.S. Geologic Survey, Water Division, Anchorage 907-786-7100

Cynthia Johnson, Solid Waste Management Specialist, CBJ Division of Lands and Resources 907-586-5266

William Joiner, CBJ Public Works Department, Water Division 907-780-6888

Dee Koester, Alaska Department of Natural Resources, Division of Land 907-465-3400

Leif Lie, National Weather Service 907-586-7491

Mario Lim, Office of Water Quality Management, Groundwater Quality 907-465-5336

Timothy McLeod, Alaska Electric Light and Power Co. 907-586-2222

Tim Maguire, CBJ Community Development Department 907-586-5235

Gary Mendivil, CBJ Recreation Department, Eaglecrest Ski Area 907-586-5284

Malcolm Menzies, R&M Engineering, Juneau, AK 907-780-6060

Glenn Miller, Alaska Department of Environmental Conservation, Environmental Quality Division 907-565-5153

Ken Mitchell, US Forest Service, Juneau 907-586-8800

Roman Motyka, Alaska Department of Natural Resources, Geophysical Surveys Division 907-465-2520

Rick Noll, Alaska Department of Natural Resources, Water Division 907-465-3400

John Palmes, Alaska Department of Fish and Game, Habitats and Restoration Division 907-465-4290

Andrew Pekovich, Alaska Department of Natural Resources, Division of Land 907-465-3400

Steve Sharp, USEPA, Seattle 206-553-6517

Ursula Spannagel, Alaska Department of Environmental Conservation, Water Quality Management Division 907-465-5350

Jeanette St. George, CBJ Community Development Department 907-586-5235

Ralph Thompson, US Army Corps of Engineers 907-790-4490

Jim Truitt, National Weather Service 907-586-7491

Paula van Hagen, USEPA, Seattle 206-553-1847

Albert Wallace, Auke Tribe Representative 907-465-2316

Scott Williams, CBJ Community Development Department 907-586-5235

William Zentner, CBJ Engineering 907-586-5271

APPENDIX C:
SUMMARY OF SUBTITLE D LANDFILL SITING REQUIREMENTS

APPENDIX C

SUMMARY OF SUBTITLE D LANDFILL SITING REQUIREMENTS

C.1 BACKGROUND OF RCRA SUBTITLE D

On October 9, 1991, the U.S. Environmental Protection Agency (EPA) published new regulations aimed at improving the safety and environmental protection of solid waste disposal. These regulations were issued as Subtitle D of the Resource Conservation and Recovery Act (RCRA Subtitle D).

RCRA Subtitle D sets forth minimum federal criteria for municipal solid waste landfills. These criteria include location restrictions, facility design and operating criteria, groundwater monitoring requirements, corrective action requirements, financial assurance requirements, and closure and postclosure care requirements. RCRA Subtitle D also differentiates between the requirements for existing and new municipal solid waste landfills. Among other things, existing landfills are not required to remove existing waste and construct liners for active cells.

Under the provisions of RCRA Subtitle D, all facilities must comply with the prescriptive standards listed in the regulations unless they are located in a state that has a solid waste program approved by the EPA. An approved state can set forth performance requirements which landfill owners/operators must follow for the purpose of achieving the same results as the federal prescriptive standards. For a state program to become approved, the state must submit an application to the regional EPA solid waste program that demonstrates the program meets the requirements of RCRA Subtitle D.

Compliance dates for new and currently operating landfills are fully described in the regulations.

C.2 LOCATION RESTRICTIONS

The landfill location restrictions of RCRA Subtitle D are contained in Subpart B, §258.10 through 258.16 (§258.17 through 258.19 are reserved for future restrictions). These restrictions are summarized as follows:

- **Airport Safety** -- Demonstrate through design and operation that a landfill located within 10,000 feet of any airport runway end receiving turbojets or 5,000 feet of any airport receiving piston-type aircraft does not pose a bird hazard to aircraft. For new landfills, owners or operators must notify the FAA if a facility is sited within these distance limits.

- Floodplains -- Demonstrate that landfills located within a 100-year floodplain will not restrict flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain, or result in washout of solid waste.
- Wetlands -- Do not locate a new landfill within a wetland unless the following are demonstrated to the director of an approved state:
 - There is not a practicable alternative which does not involve a wetland
 - Construction and operation of the landfill will not contribute to violations of any applicable state water quality standard; violate any applicable toxic effluent standard under §307 of the Clean Water Act; jeopardize the continued existence of endangered or threatened species or adverse modification of a critical habitat protected under the Endangered Species Act of 1973; or violate any requirement under the Marine Protection, Research, and Sanctuaries Act of 1972.
 - The landfill will not cause or contribute to significant degradation of wetlands through erosion, instability of the landfill, soil migration, chemical constituents of waste, catastrophic releases, or any other factors to demonstrate sufficient protection of wetlands.
 - Steps are taken to attempt to achieve no net loss of wetlands under §404 of the Clean Water Act or applicable state wetland laws.
 - Sufficient information is available to make a reasonable determination with respect to the demonstrations described above.
- Fault areas -- Do not locate within 200 feet of a Holocene fault (known or unknown) unless the owner or operator demonstrates to the director of an approved state that a setback of less than 200 feet will prevent damage to the structural integrity of the landfill and protect human health and the environment.
- Seismic impact zones -- Do not locate in seismic impact zones unless the owner or operator demonstrates to the director of an approved state that all containment structures are designed to resist the maximum horizontal acceleration in lithified earth material for the site.
- Unstable areas -- Demonstrate that engineered measures to ensure structural integrity have been incorporated into the landfill's design if it is located in an unstable area.

In determining whether an area is unstable, an owner or operator must consider the following:

- On-site or local soil conditions related to differential settlement
 - On-site or local geologic or geomorphologic features
 - On-site or local human-made features or events (surface and subsurface)
- Closure of existing municipal solid waste landfill units -- existing landfills which cannot comply with the necessary siting restrictions must be closed according to the schedule specified in §258.16. Since this requirement does not apply to landfill siting, it was not considered in this study.

For a description of how the RCRA Subtitle D landfill location restrictions were developed into siting criteria as well as additional siting criteria used in this study, see Section 2 of this study.

C.3 IMPACT AND STATUS OF STATE APPROVAL

RCRA Subtitle D is set up such that individual state solid waste programs can be approved by the EPA so that solid waste disposal within that state will be regulated by state regulations and agencies. In order for a state to become approved, the state's lead agency must submit an application to their EPA regional office. This application must demonstrate how the state's program meets the requirements of Subtitle D. Current statutes dictate that states must be approved (either fully or partially) by October 9, 1993; this date is termed "the effective date." Initially states can apply for full approval of all solid waste disposal programs or partial approval of only the state programs which meet the Subtitle D standards. Alaska Department of Environmental Conservation staff have indicated that Alaska will initially be seeking partial approval. If Alaska applies for and receives partial approval by October 9, 1993, it must obtain full approval by October 9, 1995, or entirely lose its approved state status for all programs. The EPA has proposed measures which could extend the effective date from October 9, 1993, to April 9, 1994, in some cases. This provision may apply to Juneau's existing landfill. Because of the public comment and EPA review periods necessary, states should plan to submit their applications for approval at least three months prior to the effective date of the regulations. Assuming the October 9, 1993, effective date, applications should have been submitted by July 1, 1993. The significance for Juneau is that the strict Subtitle D performance standards will hold and deviations from those standards will be subject to potential citizen law suit until such time that the state gains EPA approval.

State approval offers potential flexibility to landfill owners/operators for the siting of a landfill, design, and other standards.¹ In an approved state, RCRA Subtitle D is based on performance standards that allow states to consider local conditions in setting appropriate controls for landfills. Use of performance standards will be beneficial to Juneau. For example, landfills may only be sited in wetlands where the director of an approved state approves numerous demonstrations (including "no net loss" demonstration) made by the landfill owner/operator. If a state is not approved, a landfill likely cannot be sited in a wetland area.² For Juneau, the location restrictions which will require approved state status for potential landfill siting flexibility are wetlands, fault areas, and seismic impact zones. In general, unless a state is approved, landfill owners/operators must follow the prescriptive standards listed in RCRA Subtitle D and cannot propose to follow any of the performance standards allowed in approved states. Data gathered in this landfill siting study suggest that all of the candidate landfill sites for Juneau lie within forested wetlands. In fact, vast areas of the CBJ appear to exhibit some type of wetland condition. All of the candidate sites (and all of the CBJ) likely lie within a seismic impact zone. Therefore, EPA approval of Alaska's solid waste program will be important if the City and Borough of Juneau wishes to pursue landfill siting at any of these locations.

In addition to these requirements, it should also be noted that the State of Alaska draft solid waste regulations currently include a requirement for landfill permit applicants to prepare a solid waste management plan as part of the application. The plan must demonstrate consideration of waste reduction, recycling, and treatment so as to reduce the amount of waste requiring disposal. This requirement is not included within RCRA Subtitle D.

As of September 1993, the State of Alaska solid waste program has not yet prepared and submitted their RCRA Subtitle D application to the EPA regional office. Staff of the Alaska Department of Environmental Conservation, Division of Environmental Quality, Office of Solid and Hazardous Waste Management, stated that they will be issuing revised regulations necessary for the state to submit an application which complies with Subtitle D standards. Draft regulations for public comment were issued September 8, 1993. The public comment period will run through November 30, 1993. Following public comment, summary, and revision, the

¹ It should be noted that the term "potential flexibility" is used here because RCRA Subtitle D is ultimately enforced through citizen law suits. Therefore, even with approved state status, a successful citizen law suit could potentially restrict the ability of a landfill owner/operator to deviate from the exact landfill siting, design, or operational standards set forth in Subtitle D.

² The State of Alaska current draft solid waste regulations have proposed additional wording to RCRA Subtitle D language addressing the goal of no net loss of wetlands. The proposed wording is: "The level of mitigation determined to be appropriate and practicable...may lead to individual permit decisions which do not fully meet this goal [i.e., no net loss] because the mitigation measures necessary to meet this goal are not feasible, not practicable or would accomplish only inconsequential reductions in impacts."

regulations will be re-issued. Department of Environmental Conservation staff are anticipating at least partial program approval by mid-1994.

APPENDIX D:

**EVALUATION OF THE FISH CREEK QUARRY (NORTH DOUGLAS
ISLAND) AS A CANDIDATE LANDFILL SITE**

APPENDIX D

EVALUATION OF THE FISH CREEK QUARRY (NORTH DOUGLAS ISLAND) AS A CANDIDATE LANDFILL SITE

The purpose of this appendix is to illustrate the performance of the Fish Creek Quarry site against the Tier 1 and Tier 2 evaluation criteria had it remained a candidate landfill site for this study. As discussed in Section 1, the Fish Creek Quarry site was initially identified as a viable, candidate landfill site, however, upon rechecking the site against the severe limitations criterion of distance to airports (i.e., minimum 10,000 feet distance from the nearest airport runway end) it was found that the site did not meet this criterion. The east end of the Juneau Airport runway lies approximately 8,500 feet from the site. Given this result, the Fish Creek Quarry site was removed from analysis in the main body of this study. It is possible that this site could become a viable option if (as discussed in Appendix C, Section C.2, Location Restrictions) it can be adequately demonstrated that operation of a landfill at the Fish Creek Quarry site does not pose a bird hazard to aircraft. Given this possibility, the analysis and comparative ranking of this site is included in this appendix for reader information. Also included is a map illustrating the location and other information for this site.

For the purposes of this appendix, the Fish Creek Quarry site is labeled as Site #4.

D.1 DESCRIPTION OF THE FISH CREEK QUARRY SITE

The Fish Creek Quarry site is located on the north end of Douglas Island off of Fish Creek Road. The site is centered around the Fish Creek Quarry off of an unnamed gravel, graded access road approximately one mile south of the intersection of Fish Creek Road and North Douglas Road. The site is approximately 450 feet south of Ninemile Creek at its northeast edge and 600 feet southwest of Ninemile Creek at its southeast edge. The center of the site lies at approximately 58° 20' latitude and 134° 34' longitude. The site is approximately 22 acres of disturbed area with approximately 10 acres within the quarry boundary. Surrounding areas are typically muskeg with shallow bedrock formations. Designated land use at the site is Resource Reserve. A Comprehensive Plan designated "conceptual new growth area" lies immediately northeast of the site. Designated open space area lies to the east of the site along Fish Creek Road. The site is zoned Rural Reserve. Most vegetation on the site has been removed; surrounding areas are characterized by forested wetlands/muskeg species.

D.2 APPLICATION OF THE TIER 1 CRITERIA

The Fish Creek Quarry site was compared and evaluated against the set of Tier 1 criteria and Tier 2 criteria through the process described in Section 2. Table D-1 summarizes the findings for the site per each Tier 1 criterion in a matrix format. Section D.3 then numerically scores and ranks the site based on the Tier 1 criteria.

Table D-1
Fish Creek Quarry Site Evaluation Against Tier 1 Criteria

Criteria¹		Site 4: Fish Creek Quarry
Selected Severe Limitations Criteria	<u>Distance to Residences</u> : Maximize distance to existing year-round residence. Distances measured in straight miles from nearest edge of site.	0.2 miles to nearest household on North Douglas Road immediately south of site.
	<u>Road Access</u> : Maximize proximity to existing or planned all-weather roads. Distances measured in road miles from nearest edge of site to existing or planned all-weather road.	0.4 miles to Fish Creek Road. Measured along quarry access road--not all-weather.
Habitats & Archeological Resources	<u>Plant & Wildlife Habitat</u> : Minimize siting within designated endangered or threatened plant or animal habitats. No points - site contains designated endangered or threatened plant or animal habitats. Half points - no designated habitat, but site identified as a significant fishery resource. All points - no designated habitat, no significant fishery.	Fish Creek identified as a significant fishery for pink, chum & coho salmon. Likely that site can be designed & engineered for drainage to Ninemile Creek (no designated habitat or significant fishery resource). All points (assuming proper design & engineering)
	<u>Cultural Values</u> : Maximize distance to known historical or archaeological resource areas. No points - known areas on or adjacent to site. Half points - N/A All points - no known areas on or adjacent to site.	None indicated in reviews by Sealaska, Goldbelt, and DNR representatives. All points

Table D-1
Fish Creek Quarry Site Evaluation Against Tier 1 Criteria

Criteria¹		Site 4: Fish Creek Quarry
Soils	<u>Suitable Soils</u>: Maximize suitable on-site soils. No points - site predominated by stony soils and/or exposed or very shallow bedrock. Half points - site predominated by very gravelly or sandy loam soils. Moderate to deep bedrock. All points - site predominated by fine gravelly and/or sandy silt loam soils. Deep bedrock.	Site (existing quarry) predominated by Wadleigh (WaB) soils--very stony silt loam. Appreciable fines. Typical depth to bedrock 3 feet. Permeability 0.6"-2.0"/hr. Surrounding soils predominated by Maybeso (MaB) soils-- peat. No points
	<u>Groundwater Quality</u>: Minimize siting over potable groundwater. No points - site over relatively high quality groundwater. Half points - site over relatively fair (iron-rich) quality groundwater. All points - site over relatively poor quality groundwater area.	Undifferentiated bedrock within the existing disturbed area suggests some relatively high quality groundwater in the area. (Site surrounded by permeable, drained material of high water storage capacity. Water typically iron-rich suggesting fair quality for surrounding areas). No points
Hydro-geology	<u>Depth to Groundwater</u>: Maximize depth to average groundwater level for potable aquifers. Measured in feet from surface.	In excess of 100 feet to groundwater. Perched water in surrounding muskeg at 1 to 2 feet.
	<u>Watersheds</u>: Minimize landfill siting in watershed used for drinking water supply. No points - site within a designated watershed currently used for municipal supplies. Half points - site within a designated watershed for drinking water supply but not currently used for such. All points - watershed not within a designated watershed for drinking water supply.	Site lies on break between drainage to Fish Creek and Ninemile Creek. Fish Creek is a designated watershed for drinking water supply but not currently used for such (except Eaglecrest Ski Area, above the site), nor are there plans for such. It is likely site can be engineered for drainage to Ninemile Creek (non-designated watershed). All points
Surface Water	<u>Water Volume</u>: Minimize mean annual rainfall on the site. Measured in average inches per year.	Approximately 77" per year (at mouth of Fish Creek).

Table Notes:

1. All distances were measured to the nearest edge of the landfill sites unless otherwise indicated.

D.3 RESULTS OF THE TIER 1 CRITERIA EVALUATION

Table D-2 shows the averaged weighting value assigned by Citizen Advisory Committee representatives and selected CBJ staff to each Tier 1 criterion (total of 100 available points), and calculates a numerical score for the Fish Creek Quarry site based on the Tier 1 criteria. The scores of the other three candidate sites are provided for comparison purposes. Scores were calculated through the process described in Section 4.

Table D-2
Sites Scores Based on Tier 1 Criteria

Tier 1 Criteria	Assigned Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score	Site 4 Fish Creek Quarry Score
Distance to Residences	13	6.5	13.0	3.9	0.0
Road Access	8	3.6	0.0	7.1	8.0
Plant & Wildlife Habitat	7	3.5	7.0	7.0	7.0
Cultural Values	6	6.0	6.0	6.0	6.0
Suitable Soils	14	0.0	7.0	7.0	0.0
Groundwater Quality	14	0.0	7.0	14.0	0.0
Depth to Groundwater	13	9.4	0.7	0.0	13.0
Watersheds	16	16.0	16.0	16.0	16.0
Water Volume	9	9.0	0.0	1.1	9.0
Total	100 points	54.0	56.7	62.1	59.0

The resulting ranking of sites based on Tier 1 criteria and including the Fish Creek Quarry site is as follows:

1. Site 3: Lower Lemon Creek -- 62.1 points
2. Site 4: Fish Creek Quarry -- 59.0 points
3. Site 2: Upper Lemon Creek -- 56.7 points
4. Site 1: Peterson Creek -- 54.0 points

The Fish Creek Quarry site scored relatively high on the Tier 1 criteria primarily due to its location outside any designated municipal watershed¹, large depth to groundwater, and relatively low average annual rainfall amounts. The site scored poorly, however, on key criteria including: distance to residences (0.2 miles), suitable soils (shallow, peat and stony soils) and groundwater quality (likely relatively high groundwater quality at the site).

D.4 APPLICATION OF THE TIER 2 CRITERIA

The Fish Creek Quarry site was next compared and evaluated against a set of Tier 2 criteria through the process described in Section 4. The purpose of the Tier 2 criteria was to evaluate sites against issues and concerns that are more readily mitigable through appropriate landfill planning, design, and/or engineering. Table D-3 summarizes the findings of the Fish Creek Quarry site per each Tier 2 criterion in a matrix format. Section D.5 then numerically scores and ranks the site based on Tier 2 criteria.

¹ The Fish Creek Quarry lies at the break between the Fish Creek and Ninemile Creek watersheds. Fish Creek is a designated municipal watershed (but currently unused except for Eaglecrest Ski Area); Ninemile Creek is not a designated watershed.

Table D-3
Fish Creek Quarry Site Evaluation Against Tier 2 Criteria

Criteria¹		Site 4: Fish Creek Quarry
Regulatory Compliance	<u>Wetlands</u>: Minimize disturbance of wetlands. No points - development would disturb traditional wetlands. Half points - development would disturb forested wetlands. All points - no wetlands involved.	Presence of hydric soils and hydrophytic vegetation (e.g., hemlock) in the general area suggesting potential forested wetlands. Juneau Wetlands Mgmt. Plan indicates wetlands adjacent to the site on the east, south and west sides. Access road passes through muskeg. Half points
Land Use	<u>Recreation</u>: Minimize siting in a local recreational use area as described in the Comprehensive Plan and Juneau Trails Plan. No points - site in a local recreational use area Half points - N/A All points - site not in a local recreational use	No Recreational or Open Space designation on site, adjacent lands are designated Open Space. Fish Creek trail passes north and east sides of Fish Creek within approx. 0.25 miles south of landfill site. All points (assuming adequate visual/noise buffering in landfill design)
	<u>Land Use Compatibility</u>: Maximize compatibility with Comprehensive Plan designations² and Table of Permissible Uses (TPU). No points - site is not described as an appropriate land use in the Comp. Plan or TPU. Half points - site is compatible with TPU (RR or I designation); site designated Recreational Resource in the Comp. Plan. All points - site is within an appropriate land use designation for the Comp. Plan and TPU (RR or I designation).	CBJ lands Resource Reserve designation. Adjacent lands designated Open Space and a conceptual growth area. RR (Rural Reserve) designation in TPU. All points

Table D-3
Fish Creek Quarry Site Evaluation Against Tier 2 Criteria

Criteria¹		Site 4: Fish Creek Quarry
Human Impacts	<u>Residences Along Access:</u> Minimize number of residences along access road. Measured from the point of convergence with state-maintained major collector roads to the landfill site. Residences counted using Assessor's maps.	0 residences--access by Fish Creek Road. State-maintained arterial is North Douglas Road.
	<u>Visibility:</u> Minimize site visibility in "critical" ³ direction(s). No points - site not naturally screened. Half points -site partially naturally screened. All points - site completely naturally screened.	Site partially naturally screened. Location on sparsely vegetated bench. May become partially visible from coastal and marine recreational areas depending on final height of landfill. Half points
	<u>Density:</u> Minimize number of residences within a 1 mile radius of the site center. Measured as the number of residences using Assessor's maps.	84 residences.
	<u>Air Quality:</u> Minimize landfill dust and odor migration to sensitive receptors. No points - prevailing wind direction toward residential or recreation areas. Half points - toward commercial or industrial areas. All points - prevailing wind direction primarily toward undeveloped or non-sensitive receptors.	Area generally sheltered from high winds. Sheltered from south and somewhat sheltered from north winds. Prevailing light wind conditions (5 -10 knots), winds from north up to 15-20 knots sustained. Generally undeveloped area down-wind from N winds. Residential neighborhood (Bayview and homes along Douglas Road) lies down-wind of S winds approx. 0.4 miles to road and 0.7 miles to Bayview. All points (for N winds, sheltered from S winds)

Table D-3
Fish Creek Quarry Site Evaluation Against Tier 2 Criteria

	Criteria¹	Site 4: Fish Creek Quarry
Economics	<u>Haul Distance</u> : Minimize haul distance from waste centroid ⁴ to landfill site. Measured in road miles.	13.5 miles.
	<u>Utilities</u> : Minimize length of new electric, water and sewer lines. Measured as the summation of the three distances from nearest hook up to edge of site.	Electric--1.1 miles Water--1.1 miles Sewer--7.7 miles Total--9.9 miles (Electric and water from N. Douglas Road, sewer from the Juneau-Douglas Bridge)
	<u>Grading & Site Preparation</u> : Minimize grading and site preparation requirements considering nature of on-site soils, vegetation and degree of existing disturbance. No points - High cost anticipated due to very shallow bedrock; heavily vegetated; and/or no existing disturbance. Half points - Moderate cost anticipated due to moderate depth to bedrock; intermediate vegetative cover; and/or some existing disturbance. All points - Lower cost anticipated due to deep bedrock; sparse vegetative cover; and/or extensive disturbance.	Bedrock knob (\$10.50/cy for excavation and stockpile). Remaining area shallow bedrock at same cost for earthwork. Most vegetation cleared in proposed area. High disturbance. Grading and prep. cost high given bedrock excavation requirements. No points
	<u>Cover Material</u> : Minimize distance for transporting cover material. Measured in road miles from nearest reasonable, appreciable borrow source.	Approximately 6 miles--assuming use of Ludwig Pit, No. 39, CBJ Natural Resource Inventory Report. Adequate quantities appear available with some fine, silty material.

Table Notes:

1. All distances were measured to the nearest edge of the landfill sites unless otherwise indicated.
2. For the purposes of this evaluation, "Resource Reserve" was considered an appropriate land use designation for landfill development. The term is defined in the Comprehensive Plan as lands to be managed primarily to identify and conserve natural resources until specific land uses are identified and developed.
3. Critical direction is defined as that direction or directions toward residential or recreational areas within the "view-shed".
4. The waste centroid, or geographic point of average waste generation, was determined to be at a point about 500 feet west of the intersection of Egan Drive and Branta Road (Sunny Point). This was determined using population comparison between East Mendenhall Valley and downtown Juneau.

D.5 RESULTS OF THE TIER 2 CRITERIA EVALUATION

Table D-4 shows the averaged weighting value assigned by Citizen Advisory Committee representatives and selected CBJ staff to each Tier 2 criterion (total of 50 available points used to reflect secondary emphasis), and calculates a numerical score for the Fish Creek Quarry site. The scores of the other three candidate sites are provided for comparison purposes. Scores were calculated through the process described in Section 4.

Table D-4
Sites Scores Based on Tier 2 Criteria

Tier 2 Criteria	Assigned Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score	Site 4 Fish Creek Quarry Score
Wetlands	6	3.0	3.0	3.0	3.0
Recreation	4	0.0	4.0	4.0	4.0
Land Use Compatibility	4	2.0	4.0	0.0	4.0
Residences Along Access	4	4.0	3.1	0.0	4.0
Visibility	4	4.0	4.0	4.0	2.0
Density	4	3.8	4.0	0.0	3.1
Air Quality	5	5.0	5.0	0.0	5.0
Haul Distance	6	0.0	5.5	6.0	1.8
Utilities	3	0.0	2.7	3.0	1.9
Grading & Site Preparation	5	0.0	2.5	2.5	0.0
Cover Material	5	1.7	5.0	5.0	0.0
Total	50 points	23.5	42.8	27.5	28.8

The resulting ranking of sites based on Tier 2 criteria and including the Fish Creek Quarry site is as follows:

1. Site 2: Upper Lemon Creek -- 42.8 points
2. Site 4: Fish Creek Quarry -- 28.8 points
3. Site 3: Lower Lemon Creek -- 27.5 points
4. Site 1: Peterson Creek -- 23.5 points

The Fish Creek Quarry site scored a distant second place to the number one ranked the Upper Lemon Creek site. The Fish Creek Quarry site scored generally well on the land use-related criteria and moderately well on human impacts-related criteria. The site scored relatively poorly, however, on the economic-related criteria due in part to shallow bedrock and surrounding muskeg conditions, and distance from the waste centroid.

D.6 RESULTS OF COMBINED TIER 1 AND TIER 2 EVALUATION

The final ranking of the Fish Creek Quarry site based on Tier 1 and Tier 2 criteria combined is presented in Table D-5. The scores of the other three candidate sites are provided for comparison purposes. The Tier 1 and Tier 2 scores for each site were summed to obtain a total score based on 150 points. The last row of Table D-5 normalizes the sites' total scores back to a 100 point basis.

Table D-5
Final Scoring of Landfill Sites

Criteria	Total Weighting Factor	Site 1 Peterson Creek Score	Site 2 Upper Lemon Creek Score	Site 3 Lower Lemon Creek Score	Site 4 Fish Creek Quarry Score
Tier 1 Criteria	100 points	54.0	56.7	62.1	58.0
Tier 2 Criteria	50 points	23.5	42.8	27.5	28.8
Total Score	150 points	77.5	99.5	89.6	86.8
Normalized Total Score	100 points	51.7	66.3	59.7	57.9

The resulting final ranking of sites based on the combined Tier 1 and Tier 2 criteria is as follows:

1. Site 2: Upper Lemon Creek -- 66.3 points
2. Site 3: Lower Lemon Creek -- 59.7 points
3. **Site 4: Fish Creek Quarry -- 57.9 points**
4. Site 1: Peterson Creek -- 51.7 points

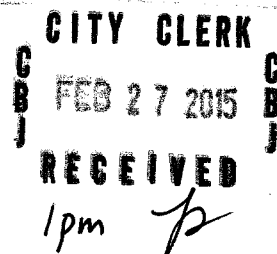
Based on these results, this study finds that Site 2: Upper Lemon Creek, still best overall meets the combined Tier 1 and Tier 2 criteria for new municipal solid waste landfill siting. The Fish Creek Quarry site ranks third place just behind the Lower Lemon Creek site. Site 1: Peterson Creek, remains the least preferred site based on the combined Tier 1 and Tier 2 criteria.

D.7 SPECIAL ISSUES FOR THE FISH CREEK QUARRY SITE

In the course of visiting and evaluating the Fish Creek Quarry, some issues unique to the site were identified. These issues are related to the evaluation criteria and are presented below as additional information for interested readers.

- Soil is very thin suggesting higher development and operating costs since soil cover will need to be imported and excavation may go into bedrock. Costs may be partially offset by the moderate level of existing ground disturbance at the site. Upper shallow muskeg layer may be usable as cover material if mixed with other soil or rock.
- There is a low potential for significant quantities of clay liner/cap soil in the area unless "blue clay" or fines from Gastineau Channel dredging are made available.
- The site lies on a topographic high point with 270° drainage away from the site suggesting potential decreased costs for control of water running onto the site.
- Some additional perimeter run-on/seepage controls such as slurry walls or cut-off trenches may be required where the edges of developed areas meet perched water in muskeg layers. Grading of the site for drainage toward Ninemile Creek will be important to protecting the significant anadromous fishery of Fish Creek.
- Access along North Douglas Road could be icy in the winter due to the northern exposure. Travel from North Douglas Road across the Juneau-Douglas Bridge during peak traffic hours may be difficult. This may require scheduling of routes to avoid peak hours or modification of traffic patterns at the intersection of North Douglas Road and the bridge. Fish Creek Road experiences heavy traffic during the winter from people going to and from the Eaglecrest Ski Area. The road is used by bicyclers, runners and hunters in the summer.
- The site borders a conceptual new growth area to the south along North Douglas Road (Juneau Comprehensive Plan).
- Unless Alaska becomes an "Approved State" according to RCRA Subtitle D, the regulations prohibit a landfill to be located in a wetland. This site appears to lie within "forested wetland" conditions.
- Unless Alaska becomes an "Approved State" according to RCRA Subtitle D, the regulations prohibit a landfill to be located within 10,000 feet of a jet runway end. This site lies within approximately 8,500 feet of a jet runway end.

Mr. Robert Provost
PO Box 35214
Juneau, AK 99803
February 26, 2015



Mr. Zack Worrell

Dear Mr. Zack Worrell:

I am a long time resident of our city, and am writing to express my support for cabins available for purchase in the Upper Lemon Creek Valley. Growing up in Juneau, I have spent a lifetime enjoying the great outdoors, especially at the public use cabins nearby. I would very much like the opportunity to purchase a cabin of my own for my family and I that is nearby and within hiking distance. In recent years the state and federal operated public use cabins have become harder and harder to rent, and rental price increases make the prospect of owning my own cabin even more appealing. Cabins available for purchase in our local markets are scarce, especially those that do not require a boat to reach. The opportunity for Juneauites to purchase cabins within hiking distance would be a great one for our community, I hope you will consider this prospect.

Sincerely,

Mr. Robert Provost

RE: Lemon Creek Cabin Site

To whom it may concern:

I've been interested in developing a lot in the back of Lemon Creek Valley since the minute I heard it was going to be subdivided. My hopes were that I could start building the summer of 2015 as that was when I had understood that the lots could possibly be purchased.

Much like any Juneauite I enjoy nature and the outdoors and would like to call a remote cabin my own. I work in the construction industry in Juneau and in the summer my free time is limited, therefore having a little get away cabin of my own with vehicular access would be a dream.

I've started building a cabin with Icy Straits Lumber as a promotion; however I have considered buying it myself and erecting it on one of the future cabin sites in the Upper Lemon Creek Valley. I was told that the lots would be available by the Summer of 2015.

It is my desire to support this project in order to ensure that the sites are available as soon as possible. I encourage you to approve the proposed subdivision in a timely manner so Juneauites may have the opportunity to recreate in this natural setting.

Thank you,

Bryce Iverson

907.321.2637

February 26, 2015

Kim Kiefer, City Manager
City/Borough of Juneau
155 S. Seward Street
Juneau, AK, 99801

Dear Ms. Kiefer,

I am writing to express my support of the proposed Wavery Keeling subdivision.

As the wife of a commercial gillnetter based out of Juneau, I consider myself very fortunate to be a frequent visitor to your great city. Juneau has much to offer both residents and tourists, including a rich history with stories told by numerous state of the art museums, spectacular scenery and easy access to outdoor recreation, and vibrant dining and music scenes. Amenities for frequent or seasonal visitors and residents are plentiful. I look forward to my time in Juneau each summer during the fishing season.

Unfortunately inexpensive and convenient lodging is not easy to find in Juneau. My trips have included both short- and long-term stays, and in both instances I struggle to find facilities that are affordable, provide the amenities my husband and I desire, and are located reasonably close to our place of employment (in our case, our boat!). Although brief stays at downtown hotels are a wonderful treat (the Silverbow bakery is to die for!), I can't afford to stay more than a few nights. Long-term rentals during the summer are very difficult to secure. Affordable temporary housing is one of the few dark spots in an otherwise positively delightful city.

As I understand it, the Wavery Keeling subdivision would take steps towards solving at least some of the issues that I have experienced and described above. By providing basic, off-the-grid remote homes that can be conveniently and safely accessed during the summer and winter, regardless of weather conditions, some of the burden on affordable housing would be eased. The Subdivision might even provide an avenue for frequent, middle-class visitors to have the opportunity to build and maintain a summer or vacation home, which is not financially feasible for my family at this time given the confines of the current real estate market in Juneau. Although it's just one development, it's an important step towards increasing the affordable housing supply in Juneau, benefitting both permanent residents as well as visitors like myself.

As I wrote above, I adore Juneau. It's a thriving city in a gorgeous setting. It offers all the conveniences and comforts of city life while still maintaining an important connection to the outdoors. I believe the Waverly Keeling subdivision would enhance and enrich Juneau, and strongly encourage the City to consider moving forward with the plans for its development.

Thank you for your consideration.

Sincerely,



Ally Bujacich
3815 Vernhardson Street
Gig Harbor, WA 98332
253-579-6654

To whom it may concern:

I was very excited to hear of the future plans for the Upper Lemon Creek parcel development. It seems like a balanced plan of recreation and conservation. This project would allow tourist and residential enjoyment without exploiting Alaska's greatest resource which I believe is the wilderness.

This type of development seems to be gaining traction with the new generation who is disgusted by the sight of clear cut forests and total habitat loss. I believe the proposed cabin site development is an environmentally responsible use of the land that will greatly benefit Juneau residents and visitors.

My family and I have been vacationing in and around Juneau each summer for the past 6 years. We have done Forest Service cabins, short term rentals, and in one instance chartered a yacht. Owning our own summer cabin residence near Juneau would allow us to come to Juneau more often, and stay longer. Unfortunately, we have not been able to find any affordable recreation property that does not require a boat or seaplane to access.

The cabin subdivision that Zach has designed would be a great fit for our family cabin. A family cabin that is convenient, close to amenities, inexpensive to access, and in a great natural setting.

I hope you will consider these points when evaluating Zach's proposal.

Sincerely,

Kevin Willoughby

1714 harbor place Gig Harbor WA 98335

Ms. Laura Martinson
4493 Abby Way
Juneau, AK 99801
February 12, 2015

Dear Zack:

I am writing in support of the opportunity to build or purchase cabins in the Upper Lemon Creek Valley. As a life-long resident of Juneau, I, like many other Juneau residents truly relish my time spent in our incredible wilderness. Here in Juneau we are very fortunate to experience the outdoors directly from our doorsteps. My family and I have spent a great deal of weekends enjoying the public use cabins available for rent in our vicinity, these cabins have afforded us countless memories, and have helped to forge an invaluable reverence for the majesty of Southeast Alaska.

In recent years, the public use cabins provided by the State of Alaska and The United States Forest Service have become increasingly popular. While it pleases me to see the growing demand for time spent outdoors, there are some unfortunate ramifications of this demand. Local public use cabins are booked immediately as they are available, six months in advance, and the cost per night to rent these cabins continues to rise. For Juneau residents who do not own boats, the diminishing availability of cabins to rent, and the scarce amount of cabins on the market to purchase leaves us with very few options to recreate in the Tongass wilderness.

I am so pleased to learn of the potential for my family to purchase a cabin of our own in the Upper Lemon Creek Valley. This location would be ideal for those of us Juneau locals who are searching for an alternative to renting public use cabins, and would like the chance to purchase accessible cabins in the Juneau area.

Thank you very much for your consideration.

Sincerely,

Laura Martinson

268 Lorton Ave. #6

Burlingame, CA 94010

To whom it may concern,

In June of 2014, I became aware of Zack's plan to offer cabin sites subdivided from an old mining parcel in the upper Lemon Creek Valley. The purpose of my letter is to support this plan so we might have the option to purchase one of the sites when the project is complete.

I own/operate a commercial fishing vessel home based in Juneau, and spend the majority of spring, summer, and fall in Alaska. My wife's employment as a flight attendant allows her to visit me in Juneau for extended periods of time before and after the season, as well as between the different fisheries I participate in.

In past years, we have rented apartments on a month to month basis in order to spend time together away from the fishing scene and enjoy our time together in Juneau. It has always been difficult to find short term rentals in Juneau, and it seems to be getting more difficult and expensive each year.

Zack's proposed cabin site subdivision is very appealing to my wife and I because:

- We are tired of the hassle and expenses associated with temporary housing in Juneau
- The majority of the activities we do in and around Juneau involve spending time outdoors. The natural setting of the remote cabin subdivision fits with our desire to spend time enjoying nature
- From what I have heard, the cost of these parcels will be affordable as compared to real estate on the grid
- We are planning to have children, and would like to have a family cabin in a convenient setting

Please keep these thoughts in mind while making your decision whether or not to allow the cabin site subdivision.

Sincerely,

Dale Hoppen

A handwritten signature in black ink, appearing to read 'Dale Hoppen', written over the printed name.

2-24-2015

Dear Mr. Worrel,

I understand you have property for sale in the Hidden Valley Area in Juneau and I would be interested in purchasing a small piece of property so my family and I can go camping on the weekends. I also have a friend of mine that is interested as well.

We would also be interested in possibly building a small cabin on this site.

Please contact me if you have any available lots for sale.

Malissa DeGroat

907-321-4405

malissa.degroat@gmail.com

Hidden Valley Subdivision

To whom it may concern,

My name is DeOle Hill. I am a full-time seasonal employee for SECON here in Juneau. Through the last five summers since I was hired, I have found that it is very difficult to find an affordable local short term rental property. Although I predominantly work in Juneau, I am oftentimes sent to work in other Southeast Alaska towns without much advanced notice. Renting a room or leasing an apartment in Juneau is not ideal under these circumstances.

The new Hidden Valley Subdivision is an ideal opportunity for me. It provides rural property to build a small recreational cabin to live in when I am in Juneau, while allowing a very private and natural setting for my family and I to enjoy without having to travel too far from Juneau. We are very excited about the prospect of having a local and relatively easily accessed remote property that does not have any city utilities to deal with. We have lived "off-the-grid" before and greatly enjoy that lifestyle.

I am not aware of any other properties like this in Juneau that are not accessed by boat or plane only. I have considered some of those options, but they are just not feasible for me with my unusual work schedule.

I sincerely hope you take these thoughts into consideration and urge you to approve the Hidden Valley subdivision.

Sincerely,

DeOle Hill

2/23/15

Dear Zach,

I understand you have several lots available in the Hidden Valley area and would like to express my interest in purchasing a site to build a small cabin on it for a weekend getaway. Please contact me when these parcels are available.

Thank you,

Scott Watson

907-723-6930

February 25, 2015

To Whom It May Concern:

I am writing this letter in support of the Waverly Keeling Subdivision project. As a Realtor in Juneau for the past 8 years, I see this project as an exciting opportunity for those folks who enjoy "living off the grid," or for those who would like a weekend cabin site away from town.

Over the years I have had many requests from people who are interested in this type of living. What makes this project unique is access. Most "remote" locations outside of Juneau require a boat to access them. This project will allow much easier and safer access than the current alternatives. I feel there are many people that live in Juneau that would love to live year round or seasonally in a subdivision like this.

One area that is similar to this concept is the trail along Tee Way, where folks have to access their property by trail. I know several people that live out there and love it. I have also had people interested in Spuhn Island, but access by boat and the housing restrictions placed on the subdivision have limited the interest. This project would have better access and would not have the housing restrictions that Spuhn Island has, so I feel it would be much more desirable.

Due to the shortage of housing, and the expensive prices for houses in Juneau, I feel this subdivision would be an alternative for some folks. I hope you will support the Waverly Keeling Subdivision project, as I think it could evolve into a really great project. I feel there are many people in Juneau that would find this type of living appealing.

Sincerely,

A handwritten signature in dark ink, appearing to read "JoAnn Birt". The signature is fluid and cursive, with the first name "JoAnn" and last name "Birt" clearly distinguishable.

JoAnn Birt

Realtor, Remax of Juneau

Dear Mr. Worrel,

I have been looking for a small piece of property to build a small cabin. Your property in Hidden Valley would be somewhat ideal as its not as inaccessible as the Taku river area, but its not a heavily populated area. The location of your property would serve as a great weekend getaway for the family.

If you have any lots or acreage available to purchase please contact me. The cabin plan would be small, similar to the Forrest Service cabins.

Thank you,

Chris Rathbone

907-723-0332

February 26, 2015

Mr. Worrel,

My family and I have recently moved to Juneau and are looking for a piece of property to build a small cabin. The Hidden Valley area would be a perfect location. It is accessible, yet remote enough to feel like we are able to have a place to just "get away." When we lived in Washington, we had a cabin and would spend weekends, holidays and anytime we just wanted to get away and relax with friends and family. We have very fond memories of those times, and looking to build more memories here in Juneau.

Please contact me when the parcels in Hidden Valley become available for sale.

A handwritten signature in dark ink, reading "E. Marea Nichols". The signature is fluid and cursive, with the first name "E." and last name "Nichols" clearly legible.

E. Marea Nichols
406-217-6041
mareanichols@netscape.net

DRAFT

DECLARATION OF COVENANTS, CONDITIONS AND RESTRICTIONS OF WAVERLY KEELING SUBDIVISION

Draft as of December 11, 2014,

Know all persons by these presents, that Zack Worrell and Jim Eliason (herein Developers) is the owner of that certain real property situated in the City and Borough of Juneau, Juneau Recording District, First Judicial District, State of Alaska, more particularly described in Exhibit A attached hereto (herein referred to as the Waverly Keeling Subdivision); and

Whereas, Zack Worrell and Jim Eliason plan to develop and sell The Waverly Keeling Subdivision and desire to prescribe certain standards relating to the use and occupancy of lots in the Waverly Keeling Subdivision; and

Whereas, the purchasers of lots in the Waverly Keeling Subdivision, in consideration of the purchase agreement, agree to abide by the restrictions contained herein; and

Whereas, the purpose of this Declaration is to insure the use of the Waverly Keeling Subdivision lots for rustic residential and recreational single family detached dwellings that are harmonious with the natural setting and surroundings of Hidden Valley, to prevent nuisances, uphold the value of the property, and increase the attractiveness of the Waverly Keeling Subdivision;

Now therefore, Zack Worrell and Jim Eliason declares that all conveyances of the lots in the Waverly Keeling Subdivision shall be made and accepted upon the express conditions, provisions, restrictions and covenants of this Declaration which shall apply to and bind the purchasers of the lots, their heirs, successors, and assigns. The Declaration is imposed as a general plan for the improvement of Waverly Keeling Subdivision, and the Declaration is imposed on each and every lot, except for parcels A, and B which are not bound by this Declaration, as follows:

USES

1. No lots shall be used for any purposes except residential and recreational purposes. Only one single family detached dwelling is permitted to be constructed on each lot, together with one out building per lot as authorized herein.

2. Modular construction, mobile homes and trailers are prohibited. Temporary use of mobile homes and other forms of temporary quarters shall be permitted only during the construction of permanent detached dwelling. In this instance, a mobile dwelling unit may be utilized for a maximum of 6 months.

3. No lot shall be subdivided.

4. There shall not be stored, kept, maintained or permitted to be upon any lot, any portion of any lot, any old metal, broken down machinery or material, trash, garbage, abandoned or junked vehicles or boats, broken down tools, junked or abandoned or broken appliances, litter, refuse, or junk.

5. No noxious or offensive activity shall be carried on upon any lot, nor shall anything be done on any lot which may be or may become an annoyance or nuisance to any Waverly Keeling Subdivision lot owner. There shall be no excessive, loud, unnecessary or unusual noise which disturbs the peace or quiet of all or any portion of Waverly Keeling Subdivision or which causes discomfort or annoyance to any reasonable person of normal sensitivity residing in the Subdivision. Noise shall be judged in accordance with the standards set forth in CBJ Code section 42.20.095(a) as subsequently amended and revised. Before 7:00 am and after 10:00 pm there shall be no operation of any machinery or power tools, provided power plants and generators may operate continuously so long as the noise created by the power plants and generators is muffled so that the natural sound aesthetic of Waverly Keeling is not diminished.

6. Domestic pets shall be allowed but any pet which becomes a nuisance must be leashed at all times.

REVIEW AND APPROVAL

7. Prior to the commencement of any construction on any lot, the Developer, and once the Association is created by the Developer pursuant to paragraph 26, then the Association, shall review and approve and issue in writing an Approval Of Construction. Plans and specifications and any other documentation requested shall be provided as part of the review process. Review shall insure that the proposed construction conforms to the requirements of this Declaration, and that the construction preserves the quality, natural setting, harmony and value of the Waverly Keeling Subdivision. Any building permits or other governmental permissions shall conform to the Approval Of Construction received pursuant to this paragraph 7. Upon completion of the construction, the Developer or the Association, as the case may be, shall inspect, themselves or through representatives, the construction to determine that the construction conforms to the Approval Of Construction. If conformance is found, the Developer or the Association, as the case may be, shall issue in writing a Certificate of Construction Approval. If conformance is not found, the lot owner shall bring the construction into conformance so that a Certificate of Construction Approval is secured. Until receipt of a Certificate of Construction Approval is received the lot owner shall not occupy the lot.

8. Following receipt of the Certificate of Construction Approval, any work, construction, remodeling, improvements or other changes that involve anyone or more of the provisions of this Declaration shall require a new review in accordance with paragraph 7 herein and issuance of an Approval Of Construction Plans and subsequent Certificate of Construction Approval.

STANDARDS

9. The wooded nature of Hidden Valley shall be maintained, so only the minimum number of trees shall be removed for the construction of single family dwellings and other construction permitted by this Declaration. Removal of any trees shall require approval pursuant to paragraph 7 review and approval shall be given for no more than the minimum number of trees necessary to accomplish the construction. No construction shall occur inside the Stream Setback Area.

10. No trailer, camper, job shack, basement, tent, shack, garage, barn or other outbuilding or temporary structure shall be used as a temporary residence longer than 6 months for construction purposes.

11. From written approval pursuant to paragraph 7 herein, until receipt of a Certificate of Construction Approval as described in section 8, no more than twenty four (24) months shall elapse.

12. No outbuildings, including but not limited to tool sheds, storage sheds, sheds, garages, smokehouses, play houses, and tree houses, shall be constructed unless approved pursuant to the paragraph 7 review process. There shall be only one outbuilding per lot. An outbuilding must be in harmony with the detached single family dwelling located on the same lot.

13. Fences, walls and hedges shall not exceed a height of seven (7) feet, and must be approved pursuant to the paragraph 7 review process.

14. All aspects of all water systems, wells, sewage, septic and waste systems shall be approved pursuant to the paragraph 7 review process, and be approved by ADEC. Septic systems shall be inspected and pumped out at least every three years.

15. Utilities are not provided and will be lot owners responsibility and be onsite and not public. Garbage shall be composted and hauled out by the lot owner. Burning is allowed in a proper burning container

16. Exteriors of all single family detached houses, and all outbuildings, shall be natural or painted wood or brick. Roofs shall be composed of cedar or metal. The architectural style and design of all structures must conform to the purposes of this Declaration.

17. No sign of any kind shall be displayed to the public except for: (a) a sign no more than one square foot, and (b) a house for sale sign of not more than five square feet.

18. There shall be no plywood finishes.

EASEMENTS

19. Easements for the installation and maintenance of utilities, drainage and access are reserved as shown on the recorded plat of Waverly Keeling Subdivision. The easement through which the subdivision access road is routed serves all lots within the subdivision, and will also serve Parcel A, Parcel B, the remainder of USMS 526, and USMS 582.

LOT OWNERS ASSOCIATION

20. Upon the sale and development of fifty percent of the lots, the Developer shall create the Waverly Keeling Subdivision Lot Owners Association (herein Association) which shall be incorporated as a nonprofit corporation pursuant to AS 10.20 et. seq. Each lot owner shall be a member of the Association.

The Association shall enact bylaws and regulations for the governance and benefit of the Association and Waverly Keeling Subdivision. Each lot shall have one vote regarding the affairs of the Association.

The Association may levy assessments against each lot. Each lot shall be assessed an equal amount. The amount, payment and enforcement of the assessments shall be in accordance with this Declaration and the by laws and regulations of the Association. Assessments shall be a lien on the lot assessed. The lot owner shall be personally responsible for the payment of the assessments. The Association may sue the lot owner to secure payment of the assessments. The lien on the lot may be enforced pursuant to AS 09.45.170-220.

The Association shall be responsible for: (a) the enforcement of this Declaration; (b) the maintenance, repair and necessary improvements of (i) paths and trails in Hidden Valley, (ii) accesses and easements shown on the plat of Waverly Keeling Subdivision. (c) such other matters as the Association determines are necessary and desirable to preserve the quality, natural setting, harmony and value of Waverly Keeling Subdivision; and (d) access issues as set out in paragraph 21 of this Declaration.

ACCESS

21. Waverly Keeling is accessible by an easement through MS 609 and Hidden Valley Tract A. These easements are partially shared with others that include Highway and Off Highway vehicles and will require care when traveling. The access road to this subdivision is a backcountry road and should not be assumed to be passable at all times. Winter snow removal will not be done on a regular basis and should not be counted on. The access road will be gated, and lot owners will be responsible for locking the gate.

DURATION, ENFORCEMENT, AMENDMENT

22. This Declaration shall run with the land for twenty-five (25) years from the date the Declaration is recorded in the Juneau Recording District, First Judicial District, State of Alaska. Thereafter the Declaration shall automatically extend for successive periods of ten years unless, before the commencement of an automatic extension, an instrument signed by lot owners who own at least eighty percent (80%) of the lots in the Waverly Keeling Subdivision is recorded in the Juneau Recording District, First Judicial, State of Alaska terminating this Declaration.

23. This Declaration may be amended or modified at any time after three (3) years of its recording by an instrument containing the amendment or modification signed by lot owners who own at least eighty percent (80%) of the lots in the Waverly Keeling Subdivision.

24. Any lot owner in the Waverly Keeling Subdivision, the Developer, or the Association may enforce this Declaration provided at least twenty (20) days written notice specifying the violation of the Declaration is given to the persons or entities claimed to be violating the Declaration. After notice is given, suit may be filed in the Superior Court, First Judicial District, State of Alaska at Juneau to remedy the violation. Alaska law shall govern the interpretation and enforcement of this Declaration. In addition to any other remedy available at law or equity, either or both of the following may be obtained for violation of the Declaration; (a) an injunction to enforce this Declaration, and, (b) due to the difficulty in determining damages, liquidated damages of Two Hundred Dollars (\$200) per day commencing on the date of the written notice specifying the violation of the Declaration.

25. Invalidation of any one or more of the provisions of this Declaration shall in no way affect any of the other provisions, which shall remain in full force and effect.

Waverly Keeling Subdivision Narrative

Purpose:

Currently, Juneau residents seeking a convenient weekend getaway in a remote setting are limited to Lucky Me (across Gastineau Channel from Thane), Shelter Island, Horse/Colt Island, and other locations further from town. The areas listed above require a boat trip, or in some cases, a tidally dependant beach walk of 3 miles or more in order to gain access. Owning and maintaining a boat is very expensive. In order to visit a remote island cabin, several hours are required for maintaining the boat, stowing gear, towing to the launch, finding parking, etc. Then there is travel time, and very often poor weather can prevent you from reaching or returning from your remote cabin.

The Waverly Keeling Remote subdivision will be accessible by 4 wheel drive vehicle and/or a short walk. Travel time from the Juneau road system to the cabin sites should not require more than 30 minutes under any circumstance. Reliable, convenient, and inexpensive access to the remote subdivision will ensure far greater utilization than the other remote cabin opportunities near Juneau.

Benefits of this are as follows:

- a. Easy and quick accessibility allows those employed 5 days per week in Juneau to enjoy weekends or afternoons in an off grid wilderness setting
- b. No boat operation experience required, and no boat ownership, maintenance, or operating expenses
- c. No cancelled trips to your cabin due to adverse weather conditions
- d. Opportunity to enjoy your wilderness cabin during all months of the year

Location:

The Waverly Keeling Remote Subdivision will be located in the Upper Lemon Creek Valley, near Juneau, Alaska. The subdivided lots are bounded by Lemon Creek to the South, and Blackerby Ridge/Thunder Mountain to the North. The nearest residential area is the Lemon Creek neighborhood at approximately 4 miles from the site. The nearest retail area is the Home Depot/Costco area at approximately 3.5 miles from the site. The nearest industrial area is the SECON Quarry, at approximately 1 mile from the site. The parcel being subdivided is relatively narrow, resulting in a double and single row of cabin sites. The overall length of the subdivision is just under 5,000ft, and width varies between zero and 620ft.

Access:

Access is gained to the site VIA easements through CBJ Owned Mineral Survey 609 and USS 5504, as well as SECON owned Hidden Valley Tract A.

The public road system ends at Anka St. adjacent to Oreily Auto Parts. From this point, the existing haul road through USMS 609, USS 5504 and a portion of Hidden Valley Tract A terminates within 1 mile of the subdivision. From here, an abandoned logging skid trail through the remainder of Hidden Valley Tract A and Hidden Valley Tract B has been brushed to allow limited access for suitable AWD vehicles. Wintertime AWD access could be made possible with snow plowing effort. If plowing activities are not performed, wintertime access will be restricted to cross country skiing or walking.

Parcels:

The preliminary plat for the Waverly Keeling Remote Subdivision shows 23 individual parcels and 2 remainder parcels subdivided from the original 66.08 acre tract, known as Hidden Valley Tract B.

Individual cabin site parcels as shown on the preliminary plat range from .83 of an acre, up to 1.86 acres. As indicated on the preliminary plat, the first 10 parcels are in a single row. Parcels 11-23 are in a double row with a 40ft width trail access

easement splitting the upper and lower row. The arrangement, orientation, and size of the parcels may be subject to minor change prior to final platting.

Site Features:

The Lemon Creek basin makes up the subdivision's South boundary. The North Boundary backs up to the base of Blackerby Ridge. Underlying soil is predominantly made up of sand and gravel. Surface water on the site (excepting Lemon Creek) is minimal. There are a few small rivulets scattered throughout the subdivision, and one larger tributary drainage located East of the subdivision. The site ranges in elevation from approximately 160ft above sea level to approximately 370ft above sea level.

Utilities and services:

- a. Electricity: The Waverly Keeling Remote Subdivision parcels will not have electrical service. Parcel owners may elect to install a solar, wind, or combustion engine driven generator.
- b. Water service: The Waverly Keeling Remote Subdivision parcels will not have water service. We believe that the predominant soil type lends itself to relatively easy well installation. Parcel owners may elect to install a well, cistern, or catchment system. It will be the parcel owner's responsibility to comply with any local, state, or federal regulations regarding the design and installation of a fresh water system.
- c. Sewer Service: The Waverly Keeling Remote Subdivision parcels will not be connected to the CBJ sewer system. Parcel owners may elect to install an outhouse or incinerating toilet. Alternatively, an Alaska Department of Environmental Conservation permit may be obtained in order to install a conventional septic tank and drain field system.
- d. Other utility services: The Waverly Keeling Remote Subdivision will have no provisions for services including but not limited to internet, telephone, and garbage disposal.
- e. The Waverly Keeling Remote Subdivision is outside of the CBJ's Service Area 9. Locations outside of service area 9 will receive a lesser benefit (increased

response time) of CBJ fire, emergency medical services, and police services than locations within service area 9.

Covenants

A complete list of covenants has been included with the preliminary plat submission.

Remote Subdivision Areas

5000 0 5000 Feet

-  Remote
-  Not Remote
-  City & Borough of Juneau Boundary

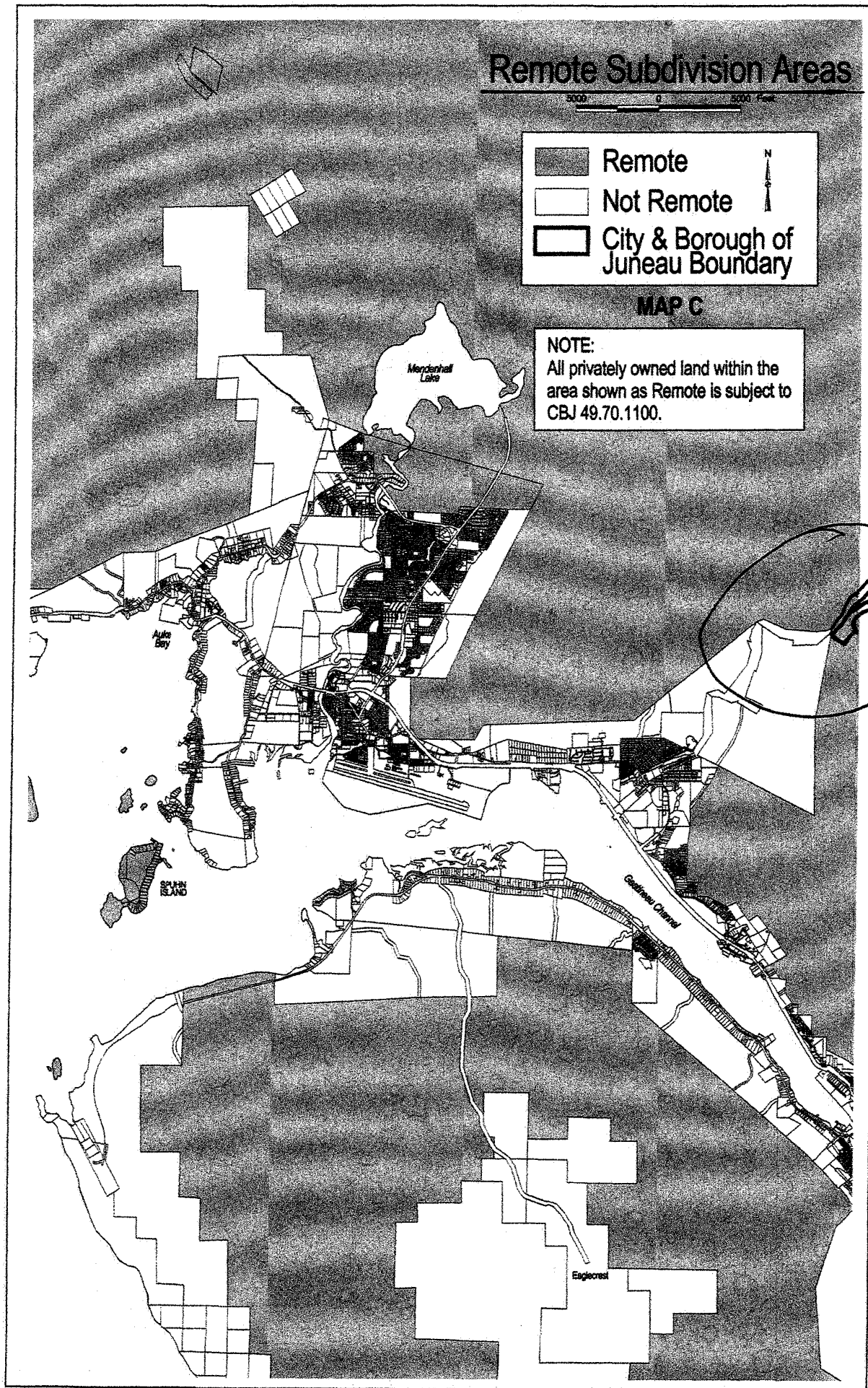


MAP C

NOTE:

All privately owned land within the area shown as Remote is subject to CBJ 49.70.1100.

USMS S82
 & S26
 Remainder
 (Remote)

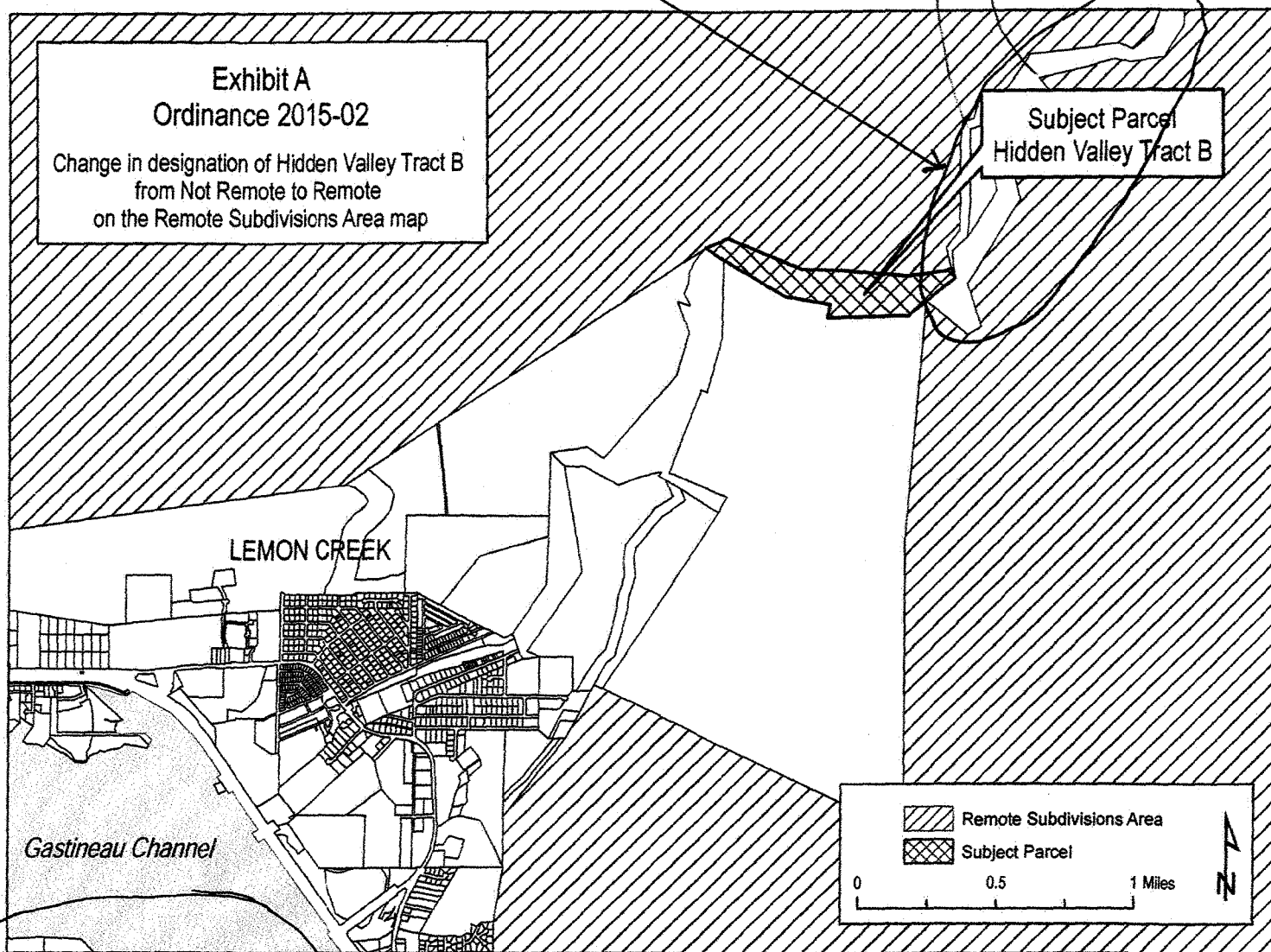


Incorrect map submitted by CBS Law Department

Both of These parcels are currently
designated "Remote" - See Remote
Subdivisions Area Map

Remainder of USMS 526

USMS 582



Map created 5/14/14 Revised 12/15/14

P:\gis_work\Quinn\Projects\CDD\zoning_ordinances_3.mxd

APPLICANTS' ATTORNEY'S TESTIMONY

Good evening. My name is Jim Clark. I reside at 1109 C Street in Juneau. I represent Zack Worrell and Jim Eliason, the proponents of the Hidden Valley subdivision.

We request that you recommend approval of ordinance 2015 – 02 to the Assembly. Ordinance 2015 – 02 would amend the CBJ remote subdivision overlay map to include Hidden Valley Tract B. **Doing otherwise simply “kicks the can down the road” without providing the Assembly the information about the project’s subdivision plans or requested easements that it needs to reach a decision. Doing so would allow us to go through the process created by the CBJ for working out subdivision and easement conditions with the Planning Commission and staff. You could then decide whether or not to allow the project to proceed based upon a completed process, completed documents, and a complete record.**

WHAT WE WANT TO DO: We are seeking to create a remote, backcountry, Forest Service cabin-like experience for those who would like an Alaska cabin surrounded by trees and solitude. There would be no water, electricity, and no flushing toilets. It would be reached by a 14 foot to 16 foot private, gated, rustic, rough logging-type trail.

NO CBJ FINANCIAL RESPONSIBILITY: Central to our plan is the concept that the CBJ would never have to pay for utility or road improvements. Our subdivision’s covenants (submitted to CDD on January 7th 2015) dictate the formation of a community LID that effectively indemnifies the CBJ from any responsibility to provide a road or utilities to the site. Again, our intent is to create a remote, no-amenities subdivision. **Because the Map Amendment has not been approved, the covenants we have submitted to CDD staff for approval have not yet been negotiated.**

THE PROCESS: The Planning Commission has twice unanimously approved our application for a Map Amendment, most recently on December 9, 2014. There were two parts to that decision: 1) the implicit determination (per the Spuhn Island decision) that the wording of CBJ 49.75 1120 gives the Planning Commission discretion to authorize the type of subdivision we have proposed; and 2) the Planning Commission exercised its discretion to grant a Map Amendment designating the Hidden Valley subdivision as Remote. Whether to affirm or reject the Planning Commission’s unanimous Map Amendment decision is what is before you tonight.

The Map Amendment is just the first step in the process. The next step is to negotiate the conditions for the subdivision with CDD and the Planning Commission. We expect the Planning Commission will also give us direction regarding the routing of needed easements, the conditions of which will be negotiated with staff. At that point the easements must come to the Assembly for approval. **At that time the Assembly will have completed, definitive documents to consider for approval.**

THE PRECEDENT ISSUE: The staff is concerned that approving a map amendment for the Hidden Valley project would subject the CBJ to requests to develop other subdivisions connected to a road. The concern is based on the fact that if the developer does not put in sewer,

water, electricity, streetlights, sidewalks and curbs, the new property owners will call upon the Assembly to fund such amenities.

The Hidden Valley subdivision property owners will have covenants in their deeds that prohibit such development. It would be out of character with the theme of this subdivision. So, the trail to Hidden Valley and bridges on the trail would not be maintained or repaired by the CBJ. No amenities could be added except if all of the property owners agree in which case the covenants would provide that the property owners pay for such amenities themselves.

Accordingly, the policy issue which gives rise to the precedent concern will be resolved by the covenants that will run with the deeds. Assuming that satisfactory covenants can be developed, there would no be longer a precedent issue about which the CBJ needs to be worried.

THE PROCESS DISCONNECT: The staff report says: "The Planning Commission recommends the Assembly approve Ordinance 2015 – 02, but the Community Development Department and the Lands Division have substantial reservations about Ordinance 2015 – 02." The staff report also says that the concerns of CDD and Lands are not connected to our specific project, but to the "Precedential Effect of Ord. 2015-02." (See Section B. 2. Pages 5-6).

So we are in an impossibly unfair, Catch 22 situation tonight: 1) our project documents cannot be put into a form specific enough to answer specific questions until negotiated; and 2) the documents cannot be negotiated until the Map Amendment is approved.

REQUESTED ACTION: Approval of a Map Amendment the first step in the process. If the Assembly fails to approve the Map Amendment we cannot proceed. The concept of a backcountry cabin experience accessible to all will die with it – before it is given CBJ's detailed consideration.

Accordingly, please recommend Assembly passage of the Map Amendment tonight. Doing so would simply have the effect of allowing us to negotiate the documents and conditions with the Planning Commission and staff. **When the project is brought back to the Assembly it could then decide whether or not to approve the subdivision and trail based upon completed documents and a complete record.**



Community Development

City & Borough of Juneau • Community Development
155 S. Seward Street • Juneau, AK 99801
(907) 586-0715 Phone • (907) 586-4529 Fax

To: CBJ Lands Committee

From: Laura A. Boyce, AICP, Senior Planner *Laura A Boyce*
Community Development Department

Date: March 2, 2015

Re: AME2014 0004 Hidden Valley Remote Map Amendment (Ord. 2015-02)

The purpose of this memo is to illustrate the difference between what improvements are required for a remote subdivision and a rural subdivision (located outside the urban service boundary).

If the subject property is approved for remote designation, the project would be subject to the following standards within the subdivision:

REMOTE SUBDIVISION STANDARDS

Requirement	Standard	Code Reference
Minimum right-of-way width	Not defined	CBJ 49.70.1100
Minimum roadway width	Not defined	CBJ 49.70.1100
Roadway surface type	Not defined	CBJ 49.70.1100
Water system	None required	CBJ 49.35.310(d)
Sanitary system	Private wastewater facilities	CBJ 49.35.430(a)

Although the subdivision improvement standards in a Remote Subdivision are not defined, the Planning Commission has some authority to require improvements if it determines the health, safety, and welfare of the residents and the community would otherwise likely be harmed. *E.g.*, CBJ 49.40.330 (traffic impact mitigation). The Planning Commission also has authority to waive improvement standards in remote subdivisions. CBJ 49.35.240(c)(8).

Additionally, CBJ 49.15.460(5)(A) states that if the property is designated remote, the requirement that each lot have frontage on a dedicated right-of-way is not required, but the Commission must make a finding that:

- (i) *Sufficient and practical access is provided by at least 30 feet of frontage on a navigable waterway; and*
- (ii) *There is no reasonable probability in the foreseeable future that frontage on a dedicated right-of-way will be necessary for access to the lot.*

Because the subject property is not on navigable water, CBJ 49.15.460(5)(A) cannot be satisfied as written.

If the Remote Area Map amendment is not approved, the development would be subject to the following improvement standards:

RURAL SUBDIVISION IMPROVEMENT STANDARDS

Requirement	Standard	Code Reference
Minimum right-of-way width	60 feet	CBJ 49.35.210(e)(3)
Minimum roadway width	24 to 28 feet (depending upon ADT)	CBJ 49.35.240(b)
Roadway surface type	Gravel	CBJ 49.35.240(b)
Water system	Community water system or individual wells	CBJ 49.35.310(b)
Sanitary system	Private sewerage facilities	CBJ 49.35.430(a)

Each lot would then need to front on a dedicated right-of-way. CBJ 49.15.460(5)(A); CBJ 49.15.460(4)(A). The existing access road to the subject property does not currently meet the right-of-way standards, and it would need to be improved. CBJ 49.15.460(5)(D).

**ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA**

Lands Fund Overview

ATTACHMENTS:

	Description	Upload Date	Type
☐	Memo providing an overview of the Lands Fund	2/26/2015	Appeal
☐	FY15_Lands_Fund_Budget_Summary	3/3/2015	Exhibit

MEMORANDUM

CITY/BOROUGH OF JUNEAU

Lands and Resources Office
155 S. Seward St., Juneau, Alaska 99801
Greg.chaney@juneau.org



Voice (907) 586-0205
Fax (907) 586-5385

DATE: February 25, 2015

TO: Assembly Lands Committee

FROM: Greg Chaney
Lands and Resources Manager

A handwritten signature in black ink that reads "Greg Chaney".

SUBJECT: Lands Fund

The following is information on the Lands Fund including the land management policy, land fund revenues, and the current fund balance.

CBJ 53.09.010 Land Management Policy

It is the policy of the City and Borough to manage its real property as a municipal resource and to use, retain and dispose of both improved and unimproved land to realize the maximum benefit of the municipality and its residents, including encouraging beneficial private economic activity and facilitating the provision of public services, guiding a rational growth pattern, preserving land for public and private use for present and future generations of City and Borough residents, meeting the need of City and Borough residents for private ownership, and stabilizing land values without making land available for purposes of speculation.

CBJ 53.09.600 Municipal Lands Fund Revenues.

- (a) The revenue from all disposals of land, interests in land, or resources under this chapter shall be credited to the account of the municipal land fund, except the following:
 - (1) Revenues from the lease, sale or other disposal of land, interests in land, or resources which are accounted for as an asset held for a service area or for an enterprise operation, such as the airport, small boat harbors, transit system, Eaglecrest ski area sewer and water utilities, shall be credited to the account of the service area or enterprise; and
 - (2) Proceeds from the sale of tax foreclosed land shall be distributed in accordance with applicable state law with any remainder being deposited in the fund.
- (b) Unless specifically appropriated from a different source or account, all expenses for or associated with the acquisition, subdivision, development or disposal of City and Borough

lands, interests in land or resources shall be expenses of the municipal land fund; except that such expenses which are primarily for the benefit of an enterprise operation or a service area shall be expenses of that enterprise or service area.

The Lands Fund is a Special Revenue Fund which provides funding for management of City resources through the Lands and Resources Division. The Lands Division manages dozens of leases, several rock quarries and gravel pits along with land disposals and providing staff support for the Affordable Housing Commission. Lands is called on to help achieve other CBJ goals and assist other departments, such as providing funding for noise abatement loans for quieter aircraft engines, hosting the Builders Forum with Community Development and operating the Air Quality Program in the Mendenhall Valley.

Precise figures for the FY15 Lands budget were not available from the Finance Department by the packet deadline however these figures will be presented at the Lands Committee meeting. The following trends are clear however:

In FY15 total costs for operating the Lands Division were budgeted to be higher than revenue generated from land sales, leases and material sales. This would have left a projected shortfall. However with a frugal approach to spending, projected expenditures for FY15 are likely to be less than anticipated. Due to aggressive land sales combined with large volume rock and gravel sales, the income for FY15 is estimated to be more than anticipated. The outcome of reduced expenses combined with higher than projected revenues is that during FY15, the Lands Fund actually increased.

While this increased fund balance was in part due to staff efforts, it was only possible because of Juneau's strong economy in FY15. If the economy begins to slow, the Lands Division may be running a deficit again. This is a normal pattern because large projects such as the Lena Subdivision or Stabler Quarry took years to provide a return on the initial investment which has been the source of much of the revue for FY15. Therefore it is critical for the Lands Division to be operated with a long view toward the future. Although there has been significant progress in the past year on the Switzer and Pederson Hill subdivisions, these projects will not be ready for cover the income shortfall during lean periods and to insure projects will be ready for the market when the demand returns.

Lands Fund Balance

While the FY15 projected Fund balance will be higher than the fund has been in recent years, it is extremely important to keep a buffer to absorb future operating expenses. Costs of developing large projects such as the new Lemon Creek gravel pit or the proposed Peterson Hill subdivision exceed the current Land Fund's capacity. For example the 2010 DOWL HKM *Pederson Hill Access Study* estimated that developing property in this area would cost at least \$8,000,000. The approach to develop these large projects has typically been to use a blend of CIP and Lands Funds to cover costs of development, but in any case it is critical to keep a healthy fund balance so CBJ can continue to provide a responsible land management program in the future.

Lands
OVERVIEW

		FY15		FY16	
	FY14 Actuals	Amended Budget	Projected Actuals	Approved Budget	Revised Budget
EXPENDITURES:					
Personnel Services	\$ 409,700	423,100	442,700	442,000	439,800
Commodities and Services	226,300	436,900	297,800	464,900	470,800
Support to:					
General Fund	17,000	-	-	-	-
Marine Passenger Fee	1,514,600	-	-	-	-
Total Expenditures	2,167,600	860,000	740,500	906,900	910,600
FUNDING SOURCES:					
Licenses, Permits and Fees	7,600	1,000	16,900	1,000	6,000
Land Sales	124,300	93,400	366,800	94,600	100,600
Gravel & Rock Sales	129,300	195,600	442,600	200,000	200,000
Land Leases	236,700	240,400	262,100	241,600	252,400
Investment & Interest Income	18,000	12,000	17,800	9,300	17,600
Support from Capital Projects	-	-	-	-	-
Fund Balance (To) From	1,651,700	317,600	(365,700)	360,400	334,000
Total Funding Sources	\$ 2,167,600	860,000	740,500	906,900	910,600
STAFFING	3.00	3.00	3.00	3.00	3.00
AVAILABLE FUND BALANCE	\$ 2,935,500	2,617,900	3,301,200	2,940,800	2,967,200