CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

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155 S. Seward Street • Juneau, AK 99801

DATE: November 4, 2019

TO: Planning Commission

FROM: Laurel Christian, Planner I
Community Development Department

FILE NO.: SMP2019 0004

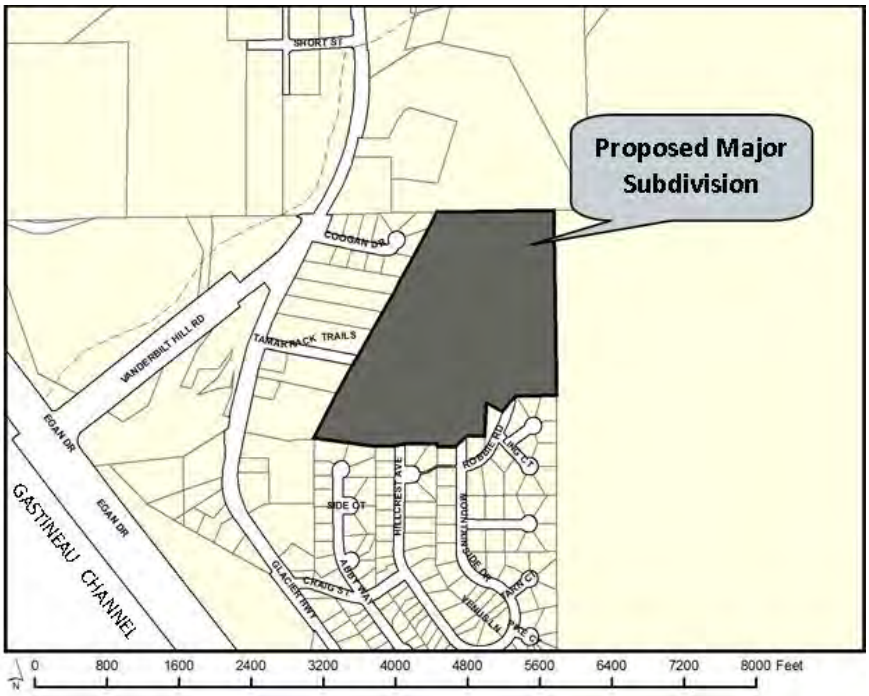
PROPOSAL: Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels)

GENERAL INFORMATION

Applicant:	Michael & William Heumann
Property Owner:	Michael & William Heumann
Legal Description:	Richland Manor Tract B
Parcel Code No.:	7B1001160010
Site Size:	30.67 Acres (1,335,985 square feet)
Comprehensive Plan Future Land Use Designation:	Medium Density Residential (MDR)
Zoning:	D15
Utilities:	Public Water & Sewer Proposed
Access:	Mountainside Drive, Hillcrest Avenue, and Robbie Road through Craig Street
Existing Land Use:	Vacant

Surrounding Land Use:
North – D18 Multi-family
South – Mountainside Estates Subdivision (D5 Single-family Residential)
East – Vacant forested RR
West – D5 and D15 Single-family Residential and Multi-family

VICINITY MAP



ATTACHMENTS

Attachment A – Application
Attachment B – Preliminary Plat
Attachment C – Sketch Plat
Attachment D – Zoning Map and Comprehensive Plan Future Land Use Designation Map
Attachment E – Preliminary Construction Drawings
Attachment F – Agency Comments
Attachment G – Public Comments
Attachment H – Preliminary Plat Corrections MEMO Dated November 1, 2019
Attachment I – Preliminary Drainage Plan
Attachment J – Water Report
Attachment K – Wetlands Delineation
Attachment L – APL20190003 Settlement Agreement

BACKGROUND

The subject parcel was originally platted through US Survey 4807. Over time, US Survey 4807 was subdivided into the Mountainside Estates Subdivision, Vanderbilt Hill Subdivision, and the remaining tract was called Richland Manor. The parcel was originally planned to be developed with the Mountainside Estates Subdivision, however no development has been completed on the parcel and it has remained vacant.

In 2018, the applicants purchased the subject parcel intending to subdivide and develop the parcel in multiple phases for single-family homes and multifamily developments. The applicants applied, and received approval, for a preliminary plat for a phased major subdivision to include 12 single-family lots and 1 large tract (13 lots total) in February of 2019 for the Richland Manor subdivision (SMP20180002). The approved preliminary plat was appealed to the CBJ Assembly (APL20190003). As a result of this appeal, the appellants and the applicants came to a settlement agreement, which resulted in the submittal of a new preliminary plat application. The applicants submitted a new preliminary plat application on September 19, 2019 (Attachment A), preliminary plat (Attachment B) and sketch plat (Attachment C).

It should be noted that the applicants have chosen to change the subdivision name from Richland Manor 2 to Chilkat Vistas.

APL20190003 SETTLEMENT

As stated above, the applicants received preliminary plat approval in February of 2019 for SMP20180002. This Planning Commission decision was appealed to the CBJ Assembly (APL20190003). The applicants, Mountainside Estates Neighborhood Association (MENA), and the CBJ worked developed a settlement agreement, which would suit all parties. This settlement agreement may be found in Attachment L. This settlement agreement resulted in this preliminary plat application (SMP20190004). The settlement agreement is provided as certain aspects of the agreement have guided subdivision development.

Please note that the Planning Commission is not reviewing this settlement agreement and must review the preliminary plat according to CBJ 49.15.400.

PROPOSAL

The applicant requests preliminary plat approval for Phase 1 of the Chilkat Vistas Subdivision (formerly known as the Richland Manor 2 Subdivision). Phase 1 consists of 14 lots for single-family development and one (1) large tract for future development (15 lots total). Phase 1 includes the extension of Hillcrest Avenue and the installation of public water and sewer. For Phase 1, the applicant proposes a mix of bungalow lots, panhandle lots, and standard D15 lots. Future phases

may include a mix of single-family and multi-family development.

ANALYSIS

Phasing – The proposed subdivision is creating 15 total parcels (14 lots for single-family development and one (1) large tract for future development). Phasing is allowed through the major subdivision process, as long as the infrastructure provided accommodates future phases. A sketch plat has been provided to demonstrate the future potential for the remaining tract of land (Attachment C).

According to CBJ 49.15.410(a), the sketch plat serves the following purposes:

> *(1) To inform the applicant of the City and Borough's subdivision requirements, public improvement requirements, and platting procedures before substantial costs are incurred by the developer in preparation of a subdivision application;*
>
> *(2) To inform the department of the applicant's development plans; and*
>
> *(3) To identify issues with the proposed subdivision, such as issues with the subdivision layout, the extent and nature of required improvements, the location and protection of sensitive areas, impacts to adjoining properties, and traffic, platting, drainage, and utilities requirements.*

The settlement agreement (APL2019 0003) resulted in a revised sketch plat, which contains the following features:

- The extension of Hooter Lane;
- Robbie Road terminates and is not to be a point of access to Chilkat Vistas subdivision. Robbie Road may serve as an emergency service access, but not a public through street;
- Hillcrest Avenue terminates at Hooter Lane; and
- Greenbelt buffers are depicted along the property lines shared by the Mountainside Estates and Chilkat Vistas subdivisions.

Zoning – The subject parcel is located in the D15 zoning district, which allows up to 15 dwelling units per acre. The subject parcel is currently 30.67 acres and the total density for the parcel, un-subdivided, is 460 dwelling units. This density does not take into account any land required for roads, utilities, setbacks, parking or other dimensional standard requirements.

A current zoning map zoning map may be found in Attachment D. The subject parcel is zoned D15, and is surrounded by other zoning districts. The Tamarack Trails Condominiums parcel to the west

is zoned D15, while the neighboring parcels to the south, within the Mountainside Estates subdivision, are zoned D5. To the north, parcels are zoned D18 and General Commercial.

Table of Dimensional Standard Excerpts:

Dimensional Standard		D5	**D15**	D18
Min. Lot Size				
	Single-Family	7,000	**5,000**	5,000
	Bungalow	3,500	**3,000**	2,500
	Duplex	10,500	**5808***	4840*
	Commonwall	7,000	**3,500**	2,500
Min. Lot Width				
	Single-family	70’	**50’**	50’
	Bungalow	35’	**25’**	25’
	Commonwall	60’	**30’**	30’
Min. Lot Depth				
	All Uses	85’	**80’**	80’
Setbacks**				
	Front	20’	**20’**	20’
	Rear	20’	**15’**	10’
	Side	5’	**5’**	5’
	Street Side	13’	**13’**	13’

Table Notes: *Minimum lot size for duplex calculated by allowable density. 1 Acre = 43,560 sq. ft. Minimum lot size required for a duplex in D15 is 5,808sq. ft. (43,560 / 15 = 2,904 X 2). **Per CBJ 49.25.400 Table of Dimensional Standards Note 3, *when one zoning district abuts another, the greater of the two setbacks is required for both uses on the common property line*.

All lots created in Phase 1 meet the required dimensional standards for the D15 zoning district. Future phases are required to meet the dimensional standards for the zoning district. The sketch plat shows future phases may feasibly be developed.

The D15 multifamily zoning district allows for residential construction with densities up to 15 units per acre. A lot that measures 5,000 square feet in the D15 zoning district may have one single-family dwelling. Additionally, per CBJ 49.25.510(k)(2)(G)(i) if a lot in the multifamily zoning district is used primarily for a single-family dwelling, that lot may be permitted to have one accessory apartment under certain conditions.

For multifamily development in the D15 zoning district, 2,904 sq. ft. are required per dwelling unit, as density is measured based on 15 units per acre (43,560 sq. ft. / 15 DU per acre = 2,904 sq. ft.

per DU). The following table demonstrates the dwelling units allowed on each lot created through phase 1:

Phase 1 Lot Number	Lot Size	Total # of Dwellings per lot
1, 2, 3	3,080 sq. ft.	1 dwelling unit
5, 6, 10, 11, 12, 13	5,000 sq. ft.	1 Single-family and 1 accessory apartment
14	5,137 sq. ft.	1 Single-family and 1 accessory apartment
4, 7	7,600 sq. ft.	2 dwelling units
8	9,438 sq. ft.	3 dwelling units
9	6,355 sq. ft.	2 dwelling units
Tract B1	28.80 acres	421 dwelling units**

**Note: this does not take into account any land required for roads, utilities, setbacks, parking or other dimensional standard requirements; this count is strictly based on 15 units per acre x 28.80 acres.

Lot Design

Bungalow Lots – CBJ 49.65 Article IV establishes standards for bungalow lots and bungalow lot subdivisions. These standards include the requirement for public utilities and roads, ratios of bungalow to standard lots, and the process for creating a bungalow lot subdivision. Staff finds all conditions of this chapter can be reasonably met. A standard plat note identifying the proposed bungalow lots and the specified use requirements has been added:

> LOTS 1, 2, AND 3 ARE BUNGALOW LOTS. AT TIME OF PLAT RECORDING, STRUCTURES ON LOTS 1, 2, AND 3 BLOCK B WERE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE-FAMILY RESIDENCE PER LOT; OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.

Note: Block information may be removed from this plat note. The note may be revised to include lot and phases information.

Panhandle Lots – CBJ 49.15.423 establishes requirements for panhandle lots; through this chapter, panhandle lots may be created through the subdivision process. Dimensional standards, setbacks, and access and parking standards specific to panhandle lots are established in this section. Staff finds all conditions of this chapter can be reasonably met. Two standard plat notes identifying the

panhandle lots have been added:

> LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B ARE PANHANDLE LOTS. AT TIME OF PLAT RECORDING, FURTHER SUBDIVISION OF LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B IS SUBJECT TO CBJ 49.15.423 'PANHANDLE LOTS'. SEE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.
>
> ACCESS SUBJECT TO CBJ 49.15.423 'PANHANDLE LOTS'. ACCESS TO PANHANDLE LOTS CREATED THIS SUBDIVISION SHALL BE RESTRICTED TO A SINGLE DRIVEWAY APRON IN THE RIGHT OF WAY UNLESS A SECOND DRIVEWAY IS APPROVED BY CBJ. USE OF THE ACCESS EASEMENT DELINEATED ON THIS PLAT IS SUBJECT TO THE REQUIREMENTS SET FORTH IIN THE COMMON DRIVEWAY ACCESS, JOINT USE AND HOLD HARMLESS AGREEMENT RECORDED WITH THIS SUBDIVISION.

Note: Block information may be removed from these plat notes. The notes may be revised to include lot and phase information.

Drainage – CBJ Engineering and Public Works Department (E&PW) has reviewed the preliminary drainage plan and found that the plan is not complete though the plan appears to be feasible (Attachment F). E&PW would like to review a final drainage plan prior to the approval of construction plans. The preliminary drainage plan and report may be found in Attachment I.

The following are recommended conditions of approval:

1. The developer shall utilize Best Management Practices to treat or reduce any harmful particulates that may arise from the development.
2. The developer shall utilize Best Management Practices for storm water runoff to prevent sediment run-off from construction activities into neighboring waterbodies.
3. The developer shall submit a final drainage plan to be approved by CBJ Engineering and Public Works prior to final plat approval. This drainage plan must be signed and stamped by an Alaskan licensed engineer in accordance with CBJ 49.35.510.

Water – The applicant has submitted a water report completed by Jim Dorn of Carson Dorn, Inc. (Attachment J). The purpose of the technical memorandum was to evaluate the water booster pump station at the corner of Craig Street and Hillcrest Avenue and determine if there would be adequate pressure with the addition of the proposed homes. It was determined that an additional 80 residential units could be constructed without significantly reducing water pressures.

E&PW has reviewed this report and believes that there is adequate water pressure for Phase I of development using the above referenced pump station (Attachment F).

Wetlands – The 2008 and 2016 Juneau Wetlands Management Plans did not include the subject

parcel in the study area. The applicant has performed wetlands delineation for Phase 1 and found that there are approximately 3.61 total acres of wetlands (Attachment K). The need for a wetlands delineation will be determined at the pre-application conference for each future phase of development. Additionally a standard plat note has been added:

> WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KAREN BOSWORTH NOVEMBER 2018.

The previous preliminary plat approval application (SMP20180002) was taken to the Wetlands Review Board on February 21, 2019. Phase 1 of the proposed subdivision has not significantly changed, so staff does not recommend an additional review by the Wetlands Review Board. Future phases may require additional review. The Wetlands Review Board made the following recommendation on the previous preliminary plat:

> "The applicant use control measures or storm water best management practices that cause the runoff from the development to infiltrate the ground on-site. Conventional storm water systems transport water into impervious surfaces like streets and driveways which concentrates flow of water and pollutants. On-site infiltration treats water naturally."

Under the drainage section of this report, staff recommends conditions that speak to storm water best management practices. The applicant may need an Army Corps of Engineers (ACOE) permit to fill wetlands on the subject parcel. The applicant is aware of this and is working directly with ACOE.

Habitat – There are no known habitat concerns on the subject parcel. The Alaska Department of Fish and Game (ADF&G) was invited to review the proposed subdivision. ADF&G found no issues with the proposed development (Attachment F).

Access – The subject parcel abuts four CBJ rights-of-way: Hillcrest Avenue, Mountainside Drive, Robbie Road, and Hooter Lane. Phase 1 of the proposed subdivision extends Hillcrest Avenue. Future phases of development extend Hillcrest Avenue and Mountainside Drive to form a connected loop, which then connects to Hooter Lane and feeds out onto Glacier Highway. All lots created through Phase 1 have access and frontage on the extension of Hillcrest Avenue.

The applicants request that the right-of-way width be reduced by 10 feet for the extension of Hillcrest Avenue. Per CBJ 49.35.240(a)(3) streets other than arterials and collectors are required to have a minimum right-of-way width of 60 feet; the applicant proposes 50 feet. This right-of-way width may be reduced in accordance with CBJ 49.35.240(b). According to E&PW, this is an acceptable request and *remaining phases shall also be constructed at a width of 50' unless further engineering indicates this is not feasible* (Attachment F).

In Phase 1, the applicants will construct Hillcrest Avenue to standards that are acceptable for public acceptance and maintenance, as required by CBJ 49.250(a). Preliminary construction drawings may

be found in Attachment E. According to E&PW, *the proposed improvements conform to the requirements of this title and can be feasibly constructed in accordance with Title 49* (Attachment F). Preliminary construction drawings for the extension of Hillcrest Avenue show a 50' wide right-of-way containing a 26' wide travel way with sidewalk on one side of the street. Based on the Average Daily Trips (ADTs) generated by the entire development shown on the sketch plat, sidewalks on two sides of the streets should be required.

Per CBJ 49.35.130(b) the Director of E&PW may prescribe different construction standards than those required in the Table of Roadway Construction Standards. E&PW has reviewed the request for sidewalk on one side of the street and approves this request due to the following:

> *"This request is consistent with the other recent local subdivision determinations of similar size developments and is also consistent with the infrastructure within the Mountainside Subdivision, with sidewalk only constructed on one side of the two main access roads, Mountainside Drive and Craig Street (and no sidewalks on the side streets). The previously platted Hooter Lane right-of-way (ROW), which will provide pedestrian connection from the development to Glacier Highway, is only required to have one sidewalk, making the requirement of two sidewalks within the new development an unnecessary redundancy."*(Attachment F)

Prior to final plat approval, the applicant is required to submit construction drawings to be approved by E&PW for all required improvements, this has been added as a condition of approval.

Traffic Analysis – CBJ 49.40.300 states that a traffic impact analysis is required for developments that are projected to generate 500 or more average daily trips. The proposed development for Phase 1 includes 14 single-family homes and one (1) tract for future development. A single-family home generates 9.52 average daily trips and an accessory apartment generates 6.65 average daily trips.

The below table demonstrates the ADTs generated:

Phase 1 Lot Number	**Total # of Dwellings per lot**	**ADTs**
1, 2, 3 (Bungalow Lots)	1 Single-family	9.52 x 3 = 28.56
4, 5, 6, 7, 8, 9 10, 11, 12, 13, 14	1 Single-family and 1 accessory apartment	16.17 x 11 = 177.87
		TOTAL: 206.43 ADTs

The 14 single-family homes and potential accessory apartments would generate 206 ADTs, so

no traffic impact analysis is required for Phase 1. The potential ADTs generated by the large remaining tract (for future development) is not taken into consideration at this time, because future development of that parcel has not been applied for. All existing phases of the Chilkat Vistas subdivision should be taken into consideration when calculating the ADTs generated by the project as each phase is applied for.

Non-motorized Access – As discussed above, the developer is required to install sidewalks within the subdivision. Sidewalk on one side of the street for Phase 1 of development is required. CBJ 49.35.610(b)(1) requires a minimum width of 5 feet for sidewalks. Dimensional standards for sidewalks will be reviewed with construction drawings after preliminary plat approval.

Street Lighting – E&PW Standard Detail 118 requires street lighting at all intersections with spacing between lights not to exceed 250 feet. This is reviewed as part of the construction drawings, after preliminary plat approval.

Hillside Development – The subject parcel contains slopes that are greater than 18%. According to CBJ 49.70.210 (a), *this article applies to all development on hillsides in the City and Borough that involves the following:*

> *(1) Removal of vegetative cover;*
> *(2) Excavation of any slope in excess of 18 percent;*
> *(3) Creation of new slope in excess of 18 percent for a vertical distance of at least five feet; or*
> *(4) Any hazard area identified on the landslide and avalanche maps dated September 9, 1987…*

At this time, final construction plans have not been submitted. A Hillside Development Permit may be required if any of the above listed activities occur within slopes in excess of 18%. CBJ 49.70.220(b) states that, "*The developer shall apply for and obtain a hillside development endorsement prior to any site work other than land and engineering surveys and soils exploration."* The requirement for a Hillside Development Permit will be reviewed with construction plans for roads and utilities, and again upon submittal of building plans for the single-family dwellings.

AGENCY REVIEW

The proposed subdivision application was sent for review to Capital City Fire & Rescue; Building Division, Assessors Office, Parks and Recreation, Lands and Resources Division, E&PW; the Alaska Department of Transportation and Public Facilities; the Alaska Department of Fish and Game; Army Corps of Engineers; and AEL&P. Agency review comments may be found in Attachment F and are summarized below.

CBJ Assessors Office – Does not anticipate a negative effect on neighboring property values.

Capital City Fire & Rescue (CCFR) – Due to the number of dwellings accessed by a single point (Craig Street) CCFR requires that all homes constructed through Phase 1 be sprinkled. Once there are 200 dwelling units accessed by Craig Street, a second access is required. The requirement for sprinkling has been added as a condition of approval.

CBJ Engineering and Public Works – Comments received from E&PW have been discussed throughout this report.

Alaska Department of Fish and Game (ADF&G) – Found no issues with the proposed development, but recommends employing best management practices for managing waste. Additionally, ADF&G recommends the applicants maintain existing hydrology and drainage channels. No anadromous waterbodies were found on the subject parcel during site visits performed by ADF&G.

Alaska Department of Transportation and Public Facilities (DOT) – No issues at this time. A Traffic Impact Analysis may be required in the future.

PUBLIC COMMENTS

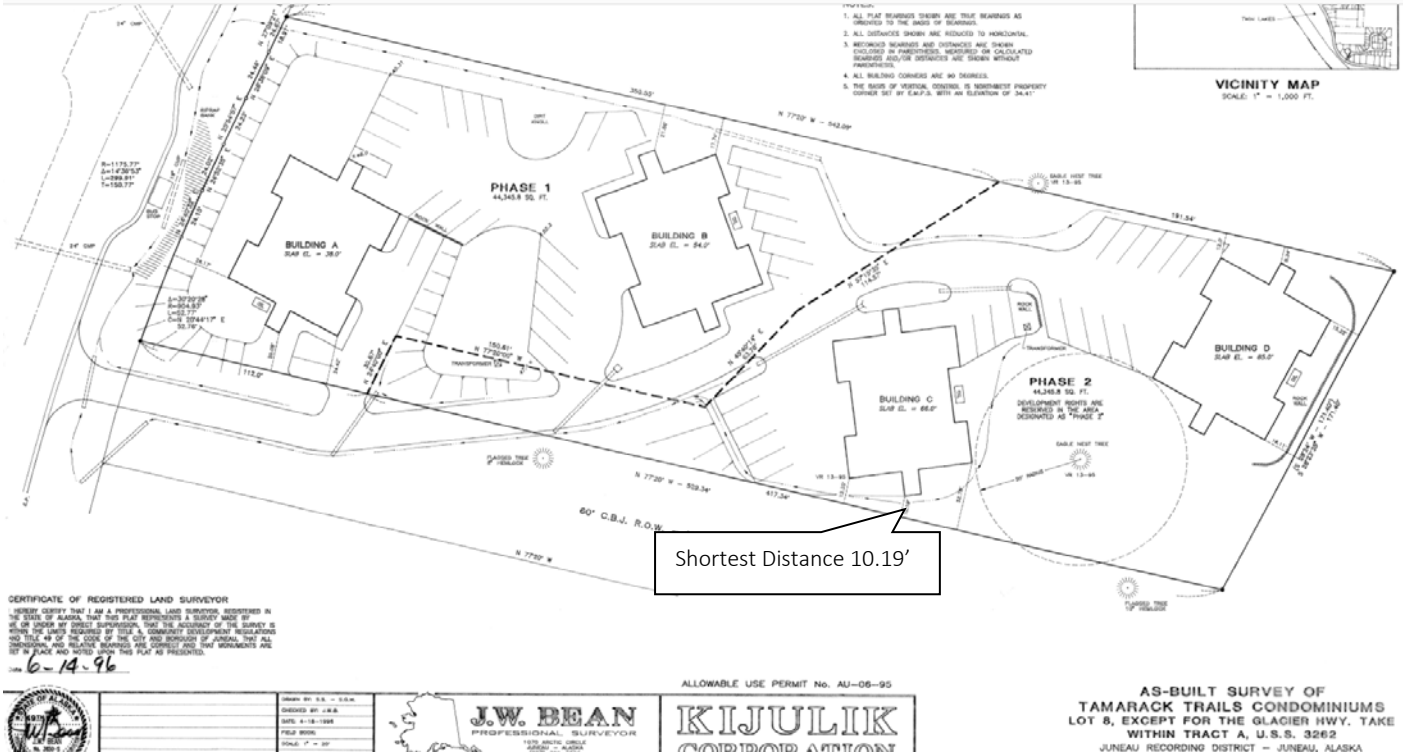
At time of writing this staff report, staff received two (2) public comments (Attachment G).

> *Joan Shorey 10/21/2019* – Ms. Shorey raised concerns over the use of the Hooter Lane right-of-way as an access point for the subdivision. Specific concerns included the loss of parking for the condominium complex and the close proximity of a roadway to buildings within the condominium complex and the potential for impacts on the residents.
>
> *Mountainside Estates Neighborhood Association (MENA) 10/25/2019* – A letter of support for the proposed subdivision was submitted through Paul Grant, representing MENA, in response to the settlement agreement reached between the Applicant and MENA.

Hooter Lane Right-of-Way

The Hooter Lane right-of-way was originally platted in 1971 and re-platted in 1980. The Tamarack Trails Condominiums were permitted in 1995. The undeveloped Hooter Lane right-of-way currently contains the driveway for the Tamarack Trails Condominiums.

According to CDD records, when the Tamarack Trails Condos were constructed, a surveying error was made and one of the buildings was built into the required setback from the Hooter Lane right-of-way (VR-06-96). A variance was approved for this encroachment (VR-06-96). The as-built survey on file for Tamarack Trails Condos shows one building to be within the required setback from Hooter Lane right-of-way and it shows that no structure and no parking are within the Hooter Lane right-of-way. Parking is directly adjacent to the Hooter Lane right-of-way. The following image is a clip from the 1996 as-built survey CDD has on file for Tamarack Trails Condos:



It should be noted that the construction of a public street in the Hooter Lane right-of-way is not proposed in Phase 1 of this subdivision. Hooter Lane is planned to be used as a future second access to the development. During Phase 1, the applicant plans to run a sewer line in the Hooter Lane right-of-way, and use it for construction purposes, but not to construct a full city street at this time.

FINDINGS

CBJ 49.15.402(4) Major Subdivisions, the Director shall prepare and submit a report to the Planning Commission noting any conditions of approval or plat notes recommended, and addressing the following criteria:

(A) Does the preliminary plat comply with CBJ 49.15.411?

Yes. With the conditions listed below, and the plat revisions required, staff finds that the preliminary can comply with CBJ 49.15.411. Required plat corrections can be found in Attachment H, these corrections are required as a condition of approval.

(B) The applicable subdivision development standards of this title are met, or can reasonably be met with conditions?

Yes. Staff finds that applicable subdivision development standards can be reasonably met with conditions.

(C) Will the proposed subdivision will provide building sites suitable for the zoning district?

Yes. Staff finds the proposed subdivision can, with conditions, provide building sites suitable to the D15 zoning district.

(D) Are the proposed street names unique in the City and Borough or are continuations of existing streets and are otherwise acceptable?

Yes. Hillcrest Avenue, platted through Phase 1 of the proposed subdivision is an extension of an existing street.

(E) Has the director of Engineering and Public Works (E&PW) reviewed the application and determined that:

(i) The subdivision can be constructed to conform to applicable drainage and water quality requirements;

Yes. E&PW found drainage and water quality requirements can reasonably be met with conditions (Attachment F).

(ii) The streets, pioneer paths, and pedestrian ways as proposed accommodate anticipated traffic, align, and, where appropriate, connect with streets and pedestrian ways serving adjacent properties;

Yes. E&PW finds the proposed improvements conform to the requirements of this title and can be feasibly constructed in accordance with Title 49 (Attachment F).

(iii) Any proposed improvements conform to the requirements of this title and can feasibly be constructed in accordance with this title; and

Yes. E&PW finds improvements can reasonably be constructed in accordance with this title (Attachment F).

(iv) Where public sewer is not required, the applicant has shown that soils are suitable for individual on-lot wastewater treatment and disposal or has shown the feasibility of alternative methods for wastewater treatment and disposal.

Not Applicable.

CBJ 49.35.240(b)(5) The director shall make written findings supporting right-of-way minimum width reductions granted under this section. The director's findings shall state that:

(A) The applicant has provided room for electric utility features and demonstrates that if the road is upgraded in the future to include additional sidewalks that there is sufficient right-of-way for construction of the sidewalks without need for retaining walls over two feet in height.

(B) There is sufficient right-of-way or easements to allow for drainage improvements required by construction of the sidewalks.

(C) That any driveways shall be constructed to accommodate the elevations of future sidewalks.

(D) No additional right-of-way width will be required in order to provide for sufficient access to abutting lands.

(E) There is sufficient room for snow storage**.**

The Director approves the right-of-way reduction request and finds the above listed conditions can be reasonably met. Additionally, E&PW agrees to this request (Attachment F).

CBJ 49.15.402(5) Major Subdivisions, in issuing its notice of decision on a preliminary plat, the commission may accept, amend, or reject the director's proposed recommendations. The decision of the commission approving or denying a preliminary plat application will be set forth in a notice of decision, and will specify any conditions or plat notes required for final plat approval. If the preliminary plat is denied, the applicant may submit a revised plat application, without paying additional application fees, within 180 days from the date of the notice of decision.

RECOMMENDATION

Staff recommends that the Planning Commission adopt the Director's analysis and findings and **APPROVE** the Preliminary Plat for Phase 1 of the Chilkat Vistas Subdivision. This approval would allow the applicant to submit for the Final Plat Application. The approval is subject to the following conditions:

1. Prior to approval of the final plat, all required plat corrections listed in the MEMO from CDD to Michael Heumann (Applicant), dated November 1, 2019 shall be completed (Attachment H).

2. Prior to approval of the final plat, Certification from the CBJ Treasurer is required showing

that all real property taxes and special assessments levied against the property for the year of recording have been paid.

3. Prior to approval of a final plat, the applicant shall submit a complete set of construction plans for all required improvements to the Community Development Department for review by the director of Engineering and Public Works for compliance with CBJ 49.35.140.

4. Prior to final plat approval, an engineer's estimate for the installation of public utilities and improvements must be submitted to the Community Development Department (CDD) and reviewed and approved by CDD and Engineering and Public Works.

5. Prior to approval of the final plat, the applicant has constructed all required improvements or provided a financial guarantee in accordance with CBJ 49.55.010.

6. The developer shall utilize Best Management Practices to treat or reduce any harmful particulates that may arise from the development.

7. The developer shall utilize Best Management Practices for storm water runoff to prevent sediment run-off from construction activities into neighboring waterbodies.

8. The developer shall submit a final drainage plan to be approved by Engineering and Public Works prior to final plat approval. This drainage plan must be signed and stamped by an Alaskan licensed engineer in accordance with CBJ 49.35.510.

9. The applicant shall pave, or bond for, the portion of the driveway in the right-of-way or the first 20 feet from the edge of the public roadway, whichever length is greater, for all panhandle lots created with this subdivision.

10. Prior to construction plan approval, the applicant shall submit a lighting plan meeting applicable CBJ standards.

11. The applicant shall install a residential sprinkler system that meets Capital City Fire & Rescue requirements in each dwelling unit constructed through Phase 1 of this subdivision.

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

DEVELOPMENT PERMIT APPLICATION

NOTE: Development Permit Application forms must accompany all other Community Development Department land use applications.

To be completed by Applicant

PROPERTY LOCATION

Physical Address
4506 Hillcrest Ave; 4508 Hillcrest Ave; 4510 Hillcrest Ave

Legal Description(s) (Subdivision, Survey, Block, Tract, Lot)
Richland Manor Tract B, A Fraction of US Survey 4807

Parcel Number(s) 7B1001160010

☐ This property located in the downtown historic district
☐ This property located in a mapped hazard area, if so, which _____

LANDOWNER/ LESSEE

Property Owner	Contact Person
William Heumann (50%), Michael Heumann (50%)	Michael Heumann
Mailing Address	**Phone Number(s)**
6000 Thane Rd Juneau, AK 99801	971-261-8014
E-mail Address	
mpheumann@hotmail.com	

LANDOWNER/ LESSEE CONSENT Required for Planning Permits, not needed on Building/ Engineering Permits

I am (we are) the owner(s)or lessee(s) of the property subject to this application and I (we) consent as follows:

A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission.
B. I (we) grant permission for officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.

X _____ 9-19-19
Landowner/Lessee Signature — Date

X _____ _____
Landowner/Lessee Signature — Date

NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property before the scheduled public hearing date.

APPLICANT

If the same as OWNER, write "SAME"

Applicant	Contact Person
SAME	
Mailing Address	**Phone Number(s)**
E-mail Address	

X _____ 9-19-19
Applicant's Signature — Date of Application

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

RECEIVED
SEP 19 2019
PERMIT CENTER/CDD

This form and all documents associated with it are public record once submitted.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

For assistance filling out this form, contact the Permit Center at 586-0770.

Intake Initials	
LC	
Case Number	**Date Received**
SMP 2019 0004	9/19/19

Attachment A - Application

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
COMMUNITY DEVELOPMENT

SUBDIVISION APPLICATION

See subdivision hand-outs for more information regarding the permitting process and the materials required for a complete application.

NOTE: Must be accompanied by a DEVELOPMENT PERMIT APPLICATION form.

To be completed by Applicant

PROJECT SUMMARY

Number of Existing Parcels 4 Total Land Area 30.67 Number of Resulting Parcels 15

HAS THE PARCEL BEEN CREATED BY A MINOR SUBDIVISION IN THE PRECEDING 24 MONTHS

⊗ NO ○ YES Case Number _____

TYPE OF SUBDIVISION OR PLATTING APPROVAL REQUESTED

MINOR SUBDIVISION
(changing or creating 13 or fewer lots)

- ○ Preliminary Plat (MIP)
- ○ Final Plat (MIF)
- ○ Panhandle Subdivision
- ○ Accretion Survey
- ○ Boundary Adjustment
- ○ Lot Consolidation (SLC)
- ○ Bungalow Lot Subdivision
- ○ Common Wall/Zero Lot Subdivision
- ○ Other _____

MAJOR SUBDIVISION
(changing or creating 14 or more lots)

- ⊗ Preliminary Plat (SMP)
- ○ Final Plat (SMF)
- ○ Preliminary Development Plan - PUD (PDP)
- ○ Final Development Plan – PUD (PDF)
- ○ Bungalow Lot Subdivision
- ○ Common Wall/Zero Lot Subdivision
- ○ Other _____

ALL REQUIRED DOCUMENTS ATTACHED

- ☑ Pre-application conference notes
- ☑ Narrative including:
  - ☑ Legal description(s) of property to be subdivided
  - ☑ Existing structures on the land
  - ☑ Zoning district
  - ☑ Density
  - ☑ Access
  - ☑ Current and proposed use of any structures
  - ☑ Utilities available
  - ☑ Unique characteristics of the land or structure(s)
- ☑ **Preliminary Plat checklist**

----------DEPARTMENT USE ONLY BELOW THIS LINE----------

SUBDIVISION/PLATTING FEES	Fees	Check No.	Receipt	Date
Application Fees	$ 1650.00			
Admin. of Guarantee	$			
~~Adjustment~~ Sign	$ 150 + 100 deposit			
Total Fee	$ 1800.00			

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For assistance filling out this form contact the Permit Center at 586-0770.

INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED

Case Number	Date Received
SMP20190004	LC

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PROJECT NARRATIVE September 18, 2019

Michael Heumann and William Heumann purchased Richland Manor (zoned D15), a subdivided tract of land to the North of Mountainside Estates at Vanderbilt Hill (Tract B, Richland Manor, A Fraction of US Survey 4807).

In our first phase we are applying to subdivide a portion of the tract into 14 lots at the end of Hillcrest Drive. Later phases will include additional single and multi-family as shown in our sketch plat. Mountainside Estates (MENA). Following approval of our preliminary plat in February 2019, MENA appealed our subdivision and we have since reached settlement terms that satisfy both city code and the concerns of the appellants. The sketch plat shows a configuration that reflects that settlement. As part of the settlement process, new elevation points were collected by our surveyor and used to confirm the validity of existing LIDAR elevation data. Based on this data, we have confirmed that the roadways depicted in our sketch plat can be constructed at grades of 12% or less.

Other issues of note include:

1. Water System. What is the capacity of the water system to deliver water to additional dwellings without falling below the DEC and Fire Department requirements? Included with this Application is a Memorandum prepare by James Dorn, a local engineer in which he reaches the conclusion that the existing system can meet the demands of an additional 80 residences. As part of our settlement with MENA, we agree to extend a water line to connect with the one on Mountainside Drive. This connection will provide a loop which will reduce frictional pressure losses and thereby increase available flow rates in the upper reaches of Mountainside Estates.
2. Fire Code requirements. The fire code allows for the construction of additional dwellings on extensions of the street system servicing Mountainside Estates, if the water available at the hydrants is 500 gpm and if the new dwellings are provided with residential sprinkler systems. It, also, allows for the construction of new dwellings without sprinkler systems where 1,000 gpm is available. We will provide residential sprinkler systems where necessary.
3. Access. The property is accessed by Hillcrest Avenue, Mountainside Drive, and Robbie Road, as well an undeveloped right-of-way, Hooter Lane. We will develop Hooter Lane as fire access in the near future, and fully develop it as a city street as necessary in a future phase of development.
4. Wetlands. We obtained a Wetlands Delineation and have met with the U.S. Army Corps of Engineers several times. They have stated that the uplands areas should be fully developed in order to justify build within areas designated to delineated to be Wetland. The Preliminary Plat incorporates this into the design. We have requested that the Hillcrest Drive ROW be reduced to 50' to reduce the fill requirements on the back of the downhill lots. Since our February we have made great headway on obtaining permits and expect to have them in hand prior to year's end.

Utilities:

Water. An 8" ductile iron pipe extends onto Richland Manor at the end of Hillcrest Drive and is sufficient to provide for the water requirements of the proposed 14 lots.

Sewer. The planned means to connect to the CBJ sewer system will be to extend the sewer line in Hooter Lane to the proposed lots. It is possible to connect to the manhole between Lot 7 and Lot 8 on Hillcrest drive on the ROW. This would require a sewer lift station.

Unique Characteristics of the land or structure(s). – None

Existing Structures. There is an existing foundation on the land located on the western side of the proposed Hillcrest Avenue extension. This is the only current structure. We hope to use a portion of this foundation for construction of a house in the future.

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ALASKA'S CAPITAL CITY
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PRELIMINARY PLAT CHECK LIST

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Name of Proposed Subdivision: Chilkat Vistas

The following items must be included with the initial submittal of a Preliminary Plat:

- ☑ Application, filled out completely
- ☑ Application fee (see fee schedule)
- ☑ Project Narrative
- ☑ Five (5) – 24" by 36" Copies
- ☑ Pre-application Conference Report
- ☑ Lot Closure Report
- ☑ Disclosure of all known environmental hazards and any proposed mitigation measures recommended in the applicable environmental document.
- ☑ Preliminary Plat Checklist: I have reviewed the checklist and all submittals for completeness and accuracy.

_____ 9-19-19

Applicant or Surveyor - Signature — Date

_____

Applicant or Surveyor - Print Name

GENERAL REQUIREMENTS

- ☑ The preliminary plat shall be prepared by a professional land surveyor, registered in the State of Alaska
- ☑ The preliminary plat shall be submitted on 22 by 34 inch sheets. The director of engineering and public works may approve alternate sheet sizes
- ☑ The preliminary plat shall be drawn with black ink to a scale of one-inch to 100 feet or less, or other suitable scale approved by the director of engineering and public works
- ☑ The preliminary plat shall be oriented with north toward the top of the sheet.
- ☑ A vicinity map shall be located in the upper right-hand corner of the sheet
- ☑ The vicinity map shall be oriented in the same direction as the plat
- ☑ A suitable north arrow shall be shown for the plat and vicinity map
- ☑ All line work and lettering must be of professional quality, and all line widths and lettering sizes must be of such size that all information can be clearly shown without overlap or confusion

GRAPHIC REQUIREMENTS - A preliminary plat shall contain the following information:

Title block - An enclosed title block in the lower right-hand corner containing the following information:

- ☑ The proposed name of the subdivision
- ☑ The legal description of the parcel to be subdivided including U.S. Survey, U.S. Mineral Survey, A.T.S. number or section, township, and range number, as applicable
- ☑ "City and Borough of Juneau, Alaska"
- ☑ "State Recorder's Office at Juneau"
- ☑ The date the preliminary plat was prepared and revised
- ☑ The horizontal scale
- ☑ The name and address of the owner of record
- ☑ The name, address, and telephone number of the surveyor preparing the preliminary plat

Lot, block, and street information:

- ☑ The area of each lot
- ☑ The dimensions in feet and hundredths of a foot
- ☑ An identifying number and letter for lots and blocks
- ☑ Lots numbered consecutively, commencing with the number "1," with no omissions or duplications
- ☑ If the remainder of an original parcel being subdivided is relatively large, it shall be designated as a "tract" with an identifying number
- ☑ All parcels of land intended to be dedicated for public use or reserved for the use of all of the property owners in the proposed subdivision shall be shown as lots, and consecutively numbered. The purpose and any conditions or limitations on the use of the parcel shall be noted on the plat
- ☑ Abutting properties shall be shown with dashed lines, numbers, and/or letters
- ☑ For resubdivisions or public way vacations, the lines and legal description of the previous lots shall be shown with light dashed lines, numbers, and/or letters, or by a separate plat on the same sheet showing the previous lot lines
  - ☑ The minimum data shown for each curve shall be as follows:
    - ☑ Length
    - ☑ Central angle
    - ☑ Radius
    - ☑ Bearing and distance of long chord
  - ☑ Setbacks shall be shown on all corner lots and any lots with multiple frontage. Setbacks shall be shown on typical lots

Boundary lines:

- ☑ All boundary lines of the subdivision with bearings and distances described
- ☑ All retraced boundary lines shall show record and measured bearings and distances where they differ. Record dimension information shall be shown within parentheses and include a record source identification
- ☑ The exterior boundary lines of the subdivision shall be a solid black opaque line that is of a width that distinguishes it from all other property lines shown on the plat
- ☑ If phasing is proposed, then the boundaries and number of each phase, sequential lot numbering, and a subdivision name consistent with previous phases shall be shown

Monumentation:

- ☑ The monuments used to establish the basis of bearing
- ☑ Each monument found or set shall be identified on the plat by a symbol
- ☑ A complete description of the monument, including type and all information printed on the cap. A typical drawing shall be shown for each type of monument cap set
- ☑ A legend showing the symbols for all the types of monuments
- ☑ The identification, description location, elevation, and datum of the benchmark used to establish vertical control

Site access, circulation, and utilities:

- ☑ The widths and names of existing rights-of-way within the subdivision and within 100 feet of the subdivision boundary
- ☑ Proposed rights-of-way, including their widths and proposed names
- ☑ The grades of existing and proposed streets within these rights-of-way
- ☑ The width, ownership, use, and record reference of all proposed and existing easements within the subdivision and within 100 feet of the subdivision boundary
- ☑ The width, ownership, and use of all proposed easements

- ☑ All proposed and existing easements shall have sufficient dimensions shown to determine their location on the ground
- ☑ Existing trails or pathways within the subdivision and within 100 feet of the subdivision boundary, including the width of any associated rights-of way or easements
- ☑ Proposed trails or pathways and widths of their rights-of-way
- ☑ If the plat submitted covers only a part of the tract under the control of the applicant, a sketch plat of the prospective street system of the unplatted part shall be submitted
- ☑ The location of any existing or proposed driveways/curb cuts that access or are proposed to access any existing or proposed street

Topographic information:

- ☑ For slopes of less than five percent, show one foot contour lines and include spot elevations at all breaks in grade, along all drainage channels or swales, and at selected points not more than 100 feet apart in all directions
- ☑ For slopes between five percent and ten percent, show two foot contour lines
- ☑ For slopes greater than ten percent, show five foot contour lines
- ☑ Every fifth elevation contour shall be distinctive and clearly labeled
- ☑ Dashed lines shall represent existing contours
- ☑ Mapping shall include any significant features which can materially affect the design of the subdivision, including, but not limited to, structures, fences, walls, and utility poles
- ☑ If irregular slopes or special features are present, additional contour information may be required by the director of engineering and public works for planning or construction purposes. Additional required information may include projecting the topography of the site after grading has taken place, showing such items as:
  - ☑ Pad elevations and drainage patterns for each lot
  - ☑ Tops and toes of all manufactured slopes, including daylight lines
  - ☑ Existing and proposed retaining wall locations and heights
- ☑ For subdivisions located in hillside areas with slopes greater than eighteen percent, additional requirements apply in accordance with CBJ 49.70, Article II

Sewer and water:

- ☑ Existing sewer and water mains within the tract with pipe sizes and grades
- ☑ A draft plan for proposed water and sewer lines showing the size, approximate slope, and connection points with elevations for the purpose of determining the feasibility of construction

Multisheet plats:

- ☐ When a plat requires more than one sheet, exclusive of a certificate sheet, an index sheet shall be included. When a plat requires more than three sheets, a cover sheet shall also be included, showing the subdivision title, a key map, and all certificates. Each additional sheet shall include the following data:
  - ☑ North arrow
  - ☑ Legend
  - ☑ Surveyor's seal and signature
  - ☑ Title block
  - ☑ Sheet _____ of _____
  - ☑ Scale
  - ☑ All plat notes
  - ☑ Vicinity map

ADDITIONAL MAPPING OR REPORTS *- At the pre-application meeting, it will be determined if any of the following additional mapping or reports are required to be submitted with the preliminary plat. If required, the following additional mapping or reports shall be submitted:*

Hazard and Special Habitat Areas:

- ☑ Any portion of a special flood hazard area, landslide or avalanche area, habitat area as defined by CBJ 49.70.310, or watersheds, either existing at the proposed subdivision site or shown on the overlay maps, adopted pursuant to this title, to exist at the proposed subdivision site, must be depicted on the preliminary plat
- ☑ The boundaries of any wetland areas must be depicted on the preliminary plat. Boundaries must be determined by a person qualified to perform wetland delineations

Soils report:

N/A

- ☐ A soils report prepared by an engineer licensed by the State of Alaska shall be required if the proposed subdivision is located farther from the existing public sewer system than specified in CBJ 49.35, and the applicant chooses to provide on-lot waste disposal rather than to connect to the public system. A soils report shall include the following:
  - ☐ Certification that the proposed lots are large enough and have soil of sufficient permeability to permit the construction of approved waste treatment systems for on-lot waste disposal
  - ☐ The location and size of drain fields for each lot
  - ☐ The locations and logs of test borings, percolation test results, and a hydrological evaluation of on-site sewage disposal
  - ☐ If the soils report indicates that the soils found on the site are not of sufficient permeability or the lots are not large enough to permit the construction of systems for on-lot waste disposal, the size of the proposed lots must be increased or alternate methods for waste disposal proposed
  - ☐ The soils report shall describe the nature of the subsurface soils and any soil conditions that would affect the design of the proposed development. The soils report shall state whether the proposed subdivision plan is feasible and provide general solutions for all known geotechnical conditions or problems

Drainage report:

- ☑ A preliminary report specifying the method by which the applicant proposes to manage surface and subsurface drainage for the subdivision and the effect of such method on adjacent areas. Unlike the drainage plan required by CBJ 49.35.510, the preliminary drainage report does not need to be prepared by a licensed engineer. The report must address the following:
  - ☑ A calculation of the increase in stormwater runoff resulting from the proposed development as well as the runoff from all drainage areas associated with the site. Runoff calculations shall be based on a fully-developed subdivision and a 25-year storm event
  - ☑ How drainage from the proposed subdivision will join an established drainage channel or channels, unless the director of engineering and public works approves use of an alternative drainage way
  - ☑ An evaluation of existing drainage ways and structures located between the subdivision and the receiving water body, and verification that the existing drainage ways can accommodate the increased runoff. If the increased runoff cannot be handled, the plan must propose solutions to the problem
  - ☑ All required improvements, on or off site, that are shown on the construction plans in accordance with CBJ 49.35, Article V, and that will be constructed as part of the subdivision

Water:

- ☑ For subdivisions of five or more lots, including major subdivisions, the following shall be included, where applicable, in accordance with CBJ 49.15.412:
  - ☐ If a proposed subdivision is located at greater distance from the existing public water system than specified in CBJ 49.35, Article III, and the applicant chooses not to connect to the public system, a statement that the applicant will provide a community water system or that individual wells will be used

☑ A report by a registered engineer or geologist that clearly supports the legal and physical availability of adequate water. Methods for proof of water availability and the standards for quantity are listed in CBJ 49.35, Article III

☐ A copy of the State application for a permit to appropriate water in the quantity required to meet the subdivisions demands

☐ This does not apply to remote subdivisions unless: the subdivider of the remote subdivision chooses to provide potable water, a public water system is available and the subdivision falls within the criteria outlined in CBJ 49.35.310(a), or the subdivision has four or fewer lots.

☐ The director for minor subdivisions, and the planning commission for major subdivisions, may, for good cause, temporarily waive the requirement to provide a water report and proof of water, and condition the approval of the preliminary plat upon the provision of both documents as part of the final plat application and approval process.

Erosion control:

☑ A report explaining the method by which the applicant proposes to control erosion and manage runoff, and potential impacts to adjacent properties or water bodies. The report shall include a plan for preservation of ground cover in areas where runoff and resulting erosion need to be minimized.

Traffic study:

☑ A traffic impact analysis may be required with the preliminary plat in accordance with CBJ 49.40.300. N/A

Shadow plats:

☐ For subdivisions of five or more lots in transition areas, a shadow plat shall be submitted according to CBJ 49.70.710. The shadow plat shall consist of a sketch superimposed on the proposed subdivision layout. This sketch shall reflect any future resubdivision of the parcels into smaller lots consistent with the higher density and the lot size allowed under the transition zoning. N/A

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(907) 586-0715
CDD_Admin@juneau.org
www.juneau.org/CDD
155 S. Seward Street • Juneau, AK 99801

Richland Manor Proposed Subdivision – UPDATED REPORT

Case Number: **PAC2018 0054**

Applicant: **William Heumann**

Property Owner: **Richland Corporation**

Property Address: **4506, 4508, 4510 Hillcrest Avenue**

Parcel Code Number: **7B1001160010**

Site Size: **30.67 acres**

Zoning: **D-15, Multi-family, 15 du/acre**

Comprehensive Plan Land Use Designation: **MDR (Medium Density Residential, 5 – 20 du/acre)**

Existing Land Use: **Vacant**

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Conference Date: **August 29, 2018 (Follow up meeting with Gen. Eng., Fire, and Planning – Nov. 14, 2018)**

Report Issued: September 13, 2018 (Updated Report Issued: November 20, 2018)

List of attendees

Note: Copies of the Pre-Application Conference Report will be emailed, instead of mailed, to participants who have provided their email address below.

Name	Title	Email address
Autumn Sapp	Eng. & Public Works Business Manager	Autumn.Sapp@juneau.org
Laura Boyce	Senior Planner, CDD	Laura.boyce@juneau.org
Sven Pearson	Deputy Fire Marshall	Sven.pearson@juneau.org
Laurel Bruggeman	Planner, CDD	Laura.bruggeman@juneau.org
Dan Jager	Fire Marshall	Dan.jager@juneau.org

Conference Summary

Questions/issues/agreements identified at the conference that were not already identified in the attached reports.
The following is a list of issues, comments and proposed actions, and requested technical submittal items that were discussed at the pre-application conference.

Planning Division:

A major subdivision application is required for the proposed subdivision. A major subdivision is a two-step process – the preliminary plat and the final plat. Both steps require a public hearing and approval by the Planning Commission. Due to the overall potential number of dwelling units on the parcel and the trips generated, a Traffic Impact Analysis will be needed and is required with submittal of the preliminary plat. Additionally, due to the slopes shown on the property, a Hillside Endorsement Development application may also be needed for proposed development in these areas. The slope map is attached to this report.

Requirements for the preliminary plat are listed at CBJ 49.25.411 and final plat requirements are at CBJ 49.25.412. Because this project is projected to be part of a major subdivision development, pursuant to CBJ49.15.401(a) (1) (A), a major subdivision must be applied for.

Because the property is zoned D-15, uses would need to be consistent with the Table of Permissible Uses, CBJ 49.25.300. If single-family development is proposed, as the applicant indicates that some of the development would be adjacent to Mountainside Estates, then lots would need to be consistent with the Table of Dimensional Standards, CBJ 49.25.400. Minimum lot size in the D-15 zone district is 5,000 square feet with lots meeting the minimum lot width and depth of 50 feet and 80 feet, respectively. Common wall lot sizes in D-15 are a minimum of 3,500 square feet and can be a minimum of 30 feet in width and 80 feet in depth.

1. **Zoning** – D-15, a multi-family zone district
2. **Maximum Density** – 460 dwelling units (30.67 acres X 15 du/ac)
3. **Setbacks** – Front – 20 feet, Rear - 15 feet, Side – 5 feet. The property abuts some D-5 zoned lands in Mountainside. When two differing zone districts abut one another, the greater setback of the districts applies. The front and side yards are the same in D-5 and D-15; however, the rear yard is greater in the D-5 zone district, requiring a minimum of a 20 foot setback.
4. **Height** – Maximum height of structures in the D-15 zone district is 35 feet for permissible uses and 25 feet for accessory uses.
5. **Access** – Access to the property is via Hillcrest Avenue, Mountainside Drive, Robbie Lane, and Hooter Lane which is an undeveloped right-of-way. The Planning Commission at its 12/8/1998 meeting stated that any permit for further development must include plans for access/egress as it relates to Mountainside Subdivision, Hooter Lane, and for drainage. Connection to Hooter Lane from development in Mountainside Estates will be required. Platting the right-of-way to it will be required for the first phase of development; however, construction of the ROW will not be required until triggered by Fire Code requirements. CBJ 49.15.400(a)(3), CBJ 49.35.120(a), and CBJ 49.35.210 require a connected street system and connectivity to adjoining unsubdivided lands. Additionally, previous subdivision approvals for Mountainside Estates required future

second access for the subdivision.

Roadway Construction Standards may be waived by the director or Planning Commission as stated in CBJ 49.35.240(i)(4) if the request is for a street reconstruction or new street construction located in a right-of-way platted before 1987 and the waiver request meets the criteria of said chapter. Requests for such waivers shall be in writing.

Privately maintained access in the right-of-way is not allowed as the criteria set forth in CBJ 49.35.273(b) have not been met because the property is located within the Urban Service Area.

The Comprehensive Plan's Land Use Map H shows a future road (alignment not specific) from Tract B to the property to the north. Connection will not be required until that portion of the tract is proposed for development.

6. **Parking** – Parking for multifamily is generally two parking spaces per unit
7. **Lot Coverage** – The maximum lot coverage in the D-15 zone district is 50%.
8. **Vegetative Coverage** – The minimum vegetative cover is 30% in the D-15 zone district.
9. **Lighting** – N/A
10. **Noise** – Noise during construction must not exceed CBJ Code requirements.
11. **Flood** – Flood Zone X, Not in a Floodway
12. **Hazard/Mass Wasting/Avalanche/Hillside Endorsement** – Some portions of the site appear to exceed 18% slope. A Hillside Endorsement may be needed for development in these areas. See attached map.
13. **Wetlands** – According to the applicant, portions of the site contain wetlands. Initial development plans would be on the areas that do not contain wetlands.
14. **Habitat** – The applicant will need to check with Federal Authorities if any eagle nests appear to be on the site. No anadromous streams are located on the property.
15. **Plat or Covenant Restrictions** – The Planning Commission at its 12/8/1998 meeting stated that any permit for further development must include plans for access/egress as it relates to Mountainside Subdivision, Hooter Lane, and for drainage. An overall Tract B master plan will be required.

Building Division:

16. **Building** – N/a
17. **Outstanding Permits** – n/a

General Engineering/Public Works:

18. **Engineering** –

    a. At the time of preliminary plat submittal, submit an erosion control report explaining the method by which the applicant proposes to control erosion and manage runoff, and potential impacts to adjacent properties or water bodies. The report shall include a plan for preservation of ground cover in areas where runoff and resulting erosion need to be minimized.

b. Construction plans to be submitted after the approval of the preliminary plat and before final plat submission. Construction plans must adhere to 49.35.140 and must be signed and stamped by Alaskan licensed engineers for each discipline. Construction plans for this layout of development does not need to include all phases of full buildout of development. For specific requirements, please refer to CBJ code by visiting: http://www.juneau.org/cddftp/ordinances.php and referencing chapter 49.35 – Public and Private Improvements.

c. Prior to final plat, an Engineer's estimate for the installation of public improvements must be submitted. Once this is received, a performance bond amount will be determined and must be paid/posted prior to recording of the final plat. Further discussion regarding the bond can take place once the project phasing is determined. For all options regarding the financial guarantee please refer to 49.55 – Financial Responsibility.

d. Dependent on the construction plan and schedule an inspection deposit will be required and a private inspector may be hired.

e. Street lighting is required and shall not exceed 250' between poles.

19. **Drainage –**

a. Drainage report with the submittal of the preliminary plat does not need to be engineered. At time of construction plan submittals a drainage plan must be submitted and must be signed and stamped by an Alaskan licensed engineer.

b. Preliminary plat requirements do need to be followed see 49.15.411 - Preliminary plat requirements for full listing. Please do note that topographic information shall be shown as outlined under 48.15.411, (6) – Topographic information.

20. **Utilities** – (water, power, sewer, etc.) –

a. At time of preliminary plat, a draft plan for the proposed water and sewer lines shall be submitted showing existing installed utilities including line sizing and connection points with elevations.

b. A report by a registered engineer or geologist that clearly supports the legal and physical availability of adequate water. Methods for proof of water availability and the standards for quantity are listed in CBJ 49.35, article III. Specifically for your project, it may require additional upgrades to the existing water system. It is recommended that a point of contact would be the original designer, Jim Dorn, of the water pump station located on Hillcrest Avenue near the intersection of Craig Street.

c. A copy of the state application for a permit to appropriate water in the quantity required to meet the subdivisions demands will need to be obtained and must be submitted prior construction plan approval.

Fire Marshal:

21. **Fire Items/Access** – Because there is only one access to all of Mountainside Estates, each dwelling will need to be sprinkled. There are approximately 157 lots within Mountainside Estates with only one access road into the subdivision.

Other Applicable Agency Review:

22. The applicant will need to check with Alaska Department of Transportation to see if they have any requirements for this development.

List of required applications

Based upon the information submitted for pre-application review, the following list of applications must be submitted in order for the project to receive a thorough and speedy review.

1. Major Subdivision Application, include Preliminary Plat Checklist
2. Hillside Development Permit
3. Conditional Use permit is required for development of nine or more dwelling units.

Additional submittal requirements:

Submittal of additional information, given the specifics of the development proposal and site, are listed below. These items will be required in order for the application to be determined Counter Complete.

1. A copy of this pre-application conference report.
2. A preliminary plat checklist for the preliminary plat.
3. Traffic Impact Analysis.
4. A final plat checklist will be needed at the final plat stage.

Exceptions to submittal requirements:

Submittal requirements staff has determined **not** to be applicable or **not** required, given the specifics of the development proposal, are listed below. These items will **not** be required in order for the application to be reviewed.

1. N/A

Fee estimates

The preliminary plan review fees listed below can be found in the CBJ code section 49.85.

Based upon the project plan submitted for pre-application review, staff has attempted to provide an accurate estimate for the permits and permit fees which will be triggered by your proposal.

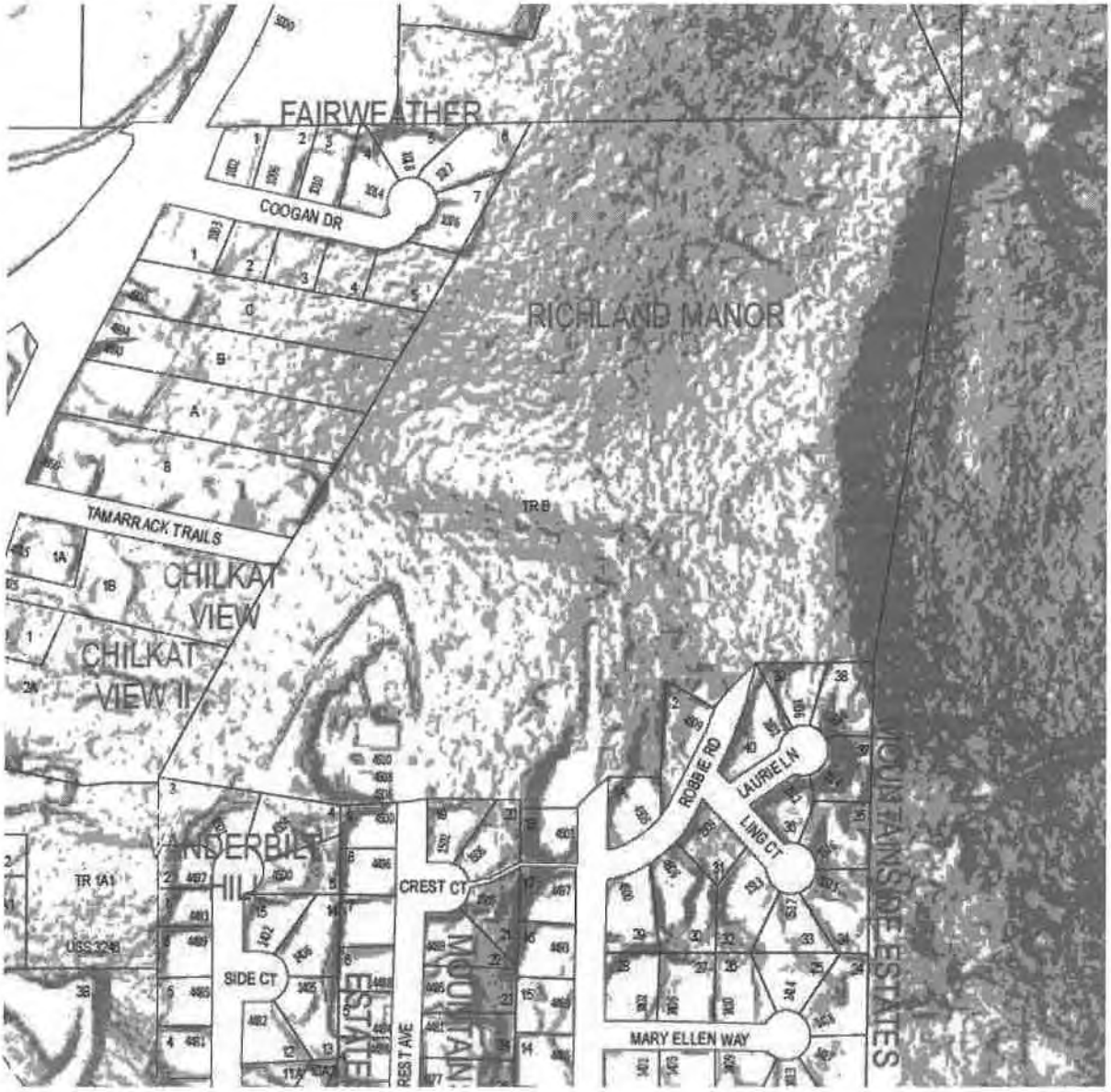
1. Major Subdivision Application (for subdivisions of 14 or more lots) - $110 per resulting lot
    a. Preliminary Plat - $110 for each resulting lot; Public Notice Sign Fee - $150
    b. Final Plat - $70 for each resulting lot; Public Notice Sign Fee (may be required) - $150
2. Hillside Development Endorsement - $60 gross hourly rate for professional review and inspection
3. Prior to plat recording, if the improvements are not in place, a financial guarantee that meets the requirements of CBJ 49.55, Financial Responsibility will be required.

For informational handouts with submittal requirements for development applications, please visit our website at www.juneau.org/cdd.

Submit your completed application
You must submit your application(s) in person with payment to:

City/Borough of Juneau
Permit Center
230 S. Franklin Street,
Fourth Floor Marine View Center
Juneau, AK 99801

Phone: (907) 586-0715
Fax: (907) 586-4529
Web: www.juneau.org/cdd



Slopes

18% - 37%

>37%

RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
CERTIFICATE OF AUTHORIZATION #100662

1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801

solutions@proHNS.com
www.proHNS.com

DRAWN BY:	S. MOLLER
DESIGNED BY:	L. CHAMBERS
CHECKED BY:	L. CHAMBERS

Attachment A - Application

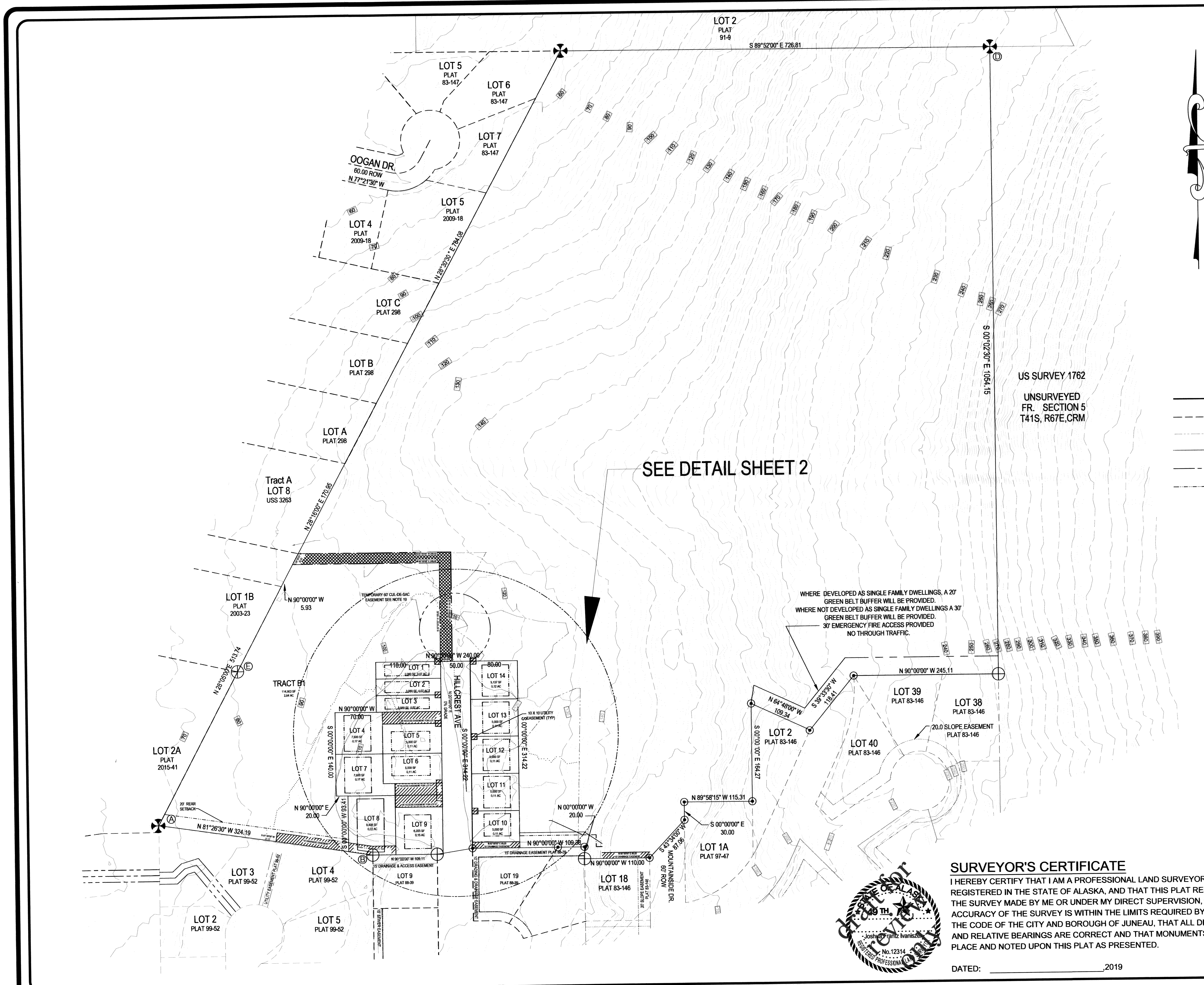
RICHLAND MANOR SUBDIVISION

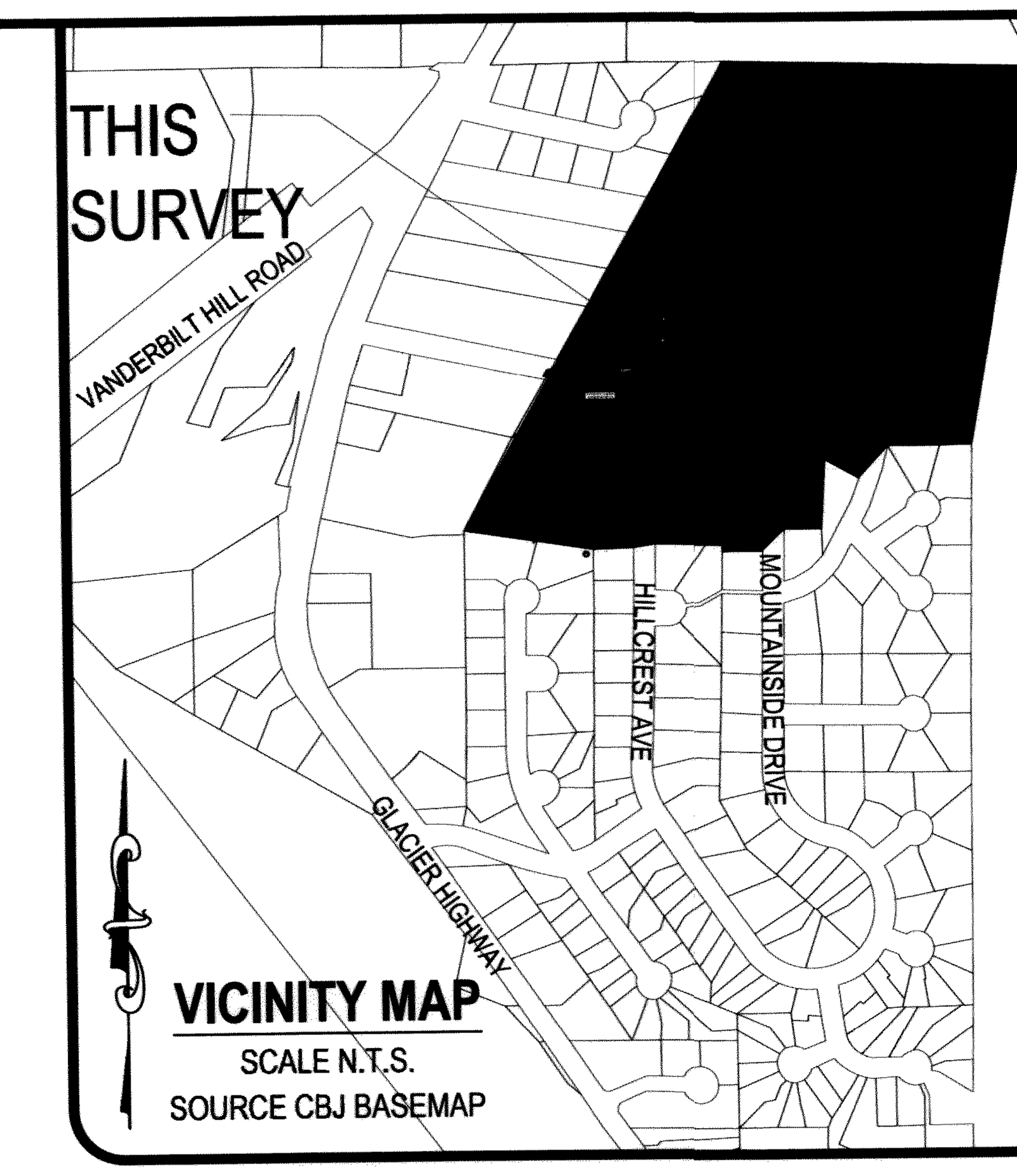
WILLIAM & MICHAEL HUMEAN

ROAD GRADES

SHEET NUMBER 1 OF 1

November 1, 2019 C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\C3D Richland Manor\Sheets\Richland Manor_Road Grades.dwg


LOT 2
PLAT
91-9
S 89°52'00" E 726.81
LOT 5
PLAT
83-147
LOT 6
PLAT
83-147
LOT 7
PLAT
83-147
OOGAN DR.
60.00 ROW
N 77°21'30" W
LOT 5
PLAT
2009-18
LOT 4
PLAT
2009-18
N 28°30'20" E 784.08
LOT C
PLAT 298
LOT B
PLAT 298
LOT A
PLAT 298
Tract A
LOT 8
USS 3263
N 28°16'00" E 170.95
S 00°02'30" E 1054.15
US SURVEY 1762
UNSURVEYED
FR. SECTION 5
T41S, R67E,CRM
SEE DETAIL SHEET 2
LOT 1B
PLAT
2003-23
N 90°00'00" W
5.93
N 28°05'00" E 513.74
TRACT B1
LOT 2A
PLAT
2015-41
N 81°26'30" W 324.19
HILLCREST AVE
N 90°00'00" W 240.00
N 90°00'00" W 245.11
WHERE DEVELOPED AS SINGLE FAMILY DWELLINGS, A 20' GREEN BELT BUFFER WILL BE PROVIDED.
WHERE NOT DEVELOPED AS SINGLE FAMILY DWELLINGS A 30' GREEN BELT BUFFER WILL BE PROVIDED.
30' EMERGENCY FIRE ACCESS PROVIDED
NO THROUGH TRAFFIC.
LOT 39
PLAT 83-146
LOT 38
PLAT 83-146
LOT 2
PLAT 83-146
LOT 40
PLAT 83-146
20.0 SLOPE EASEMENT
PLAT 83-146
N 64°48'00" W
109.34
S 39°33'30" W
118.41
S 00°00'00" E 164.27
N 89°58'15" W 115.31
S 00°00'00" E
30.00
S 43°34'00" W
87.06
MOUNTAINSIDE DR.
60' ROW
LOT 1A
PLAT 97-47
LOT 18
PLAT 83-146
N 90°00'00" W 110.00
N 00°00'00" W
20.00
N 90°00'00" W 109.26
N 90°00'00" E
20.00
N 90°00'00" W
70.00
S 00°00'00" E 140.00
LOT 3
PLAT 99-52
LOT 4
PLAT 99-52
LOT 2
PLAT 99-52
LOT 5
PLAT 99-52
LOT 9
PLAT 88-39
LOT 19
PLAT 88-39
1"=80'
0 80 160 240 320



LEGEND:

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- WETLANDS BOUNDARY
- DRAINAGE
- EASEMENT BOUNDARY
- SETBACK LINES
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- EASEMENT CREATED THIS PLAT
- SEWER AND DRAINAGE EASEMENT CREATED THIS PLAT

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

DATED: ____________________,2019

draft for review only
Joshua Frantz Ivanisze...
No.12314
REGISTERED PROFESSIONAL

PLAT OF
CHILKAT VISTAS
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT ANCHORAGE

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:	SCALE:	DATE:	SHEET NO.
20190004	1" = 80'	10/06/2019	1 OF 3


LEGEND:
BLM PRIMARY MONUMENT RECOVERED
R&M PRIMARY MONUMENT RECOVERED
1410-S SECONDARY MONUMENT RECOVERED
SECONDARY MONUMENT SET THIS SURVEY
PROPERTY LINES
UNSURVEYED LINES
WETLANDS BOUNDARY
DRAINAGE
EASEMENT BOUNDARY
SETBACK LINES
(N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
(N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
(S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
EASEMENT CREATED THIS PLAT
SEWER AND DRAINAGE EASEMENT CREATED THIS PLAT
BASIS OF BEARING:
THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF N 81°26'30" W AS DELINEATED ON THE OFFICIAL PLAT OF VANDERBILT HILL SUBDIVISION, DATED 29 OCTOBER 1999, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK THE NW CORNER OF LOT 3 AND THE NE CORNER OF LOT 4, VANDERBILT HILL SUBDIVISION SHOWN ON THIS PLAT.
HOOTER LANE
N 77°20' W
60.00 ROW
TRACT A
LOT 8
S 3263
LOT 1B
PLAT
2003-23
TEMPORARY 60' CUL-DE-SAC
EASEMENT SEE NOTE 19
S 28°05'00" W 457.06
TRACT B1
114,983 SF
2.64 AC
LOT 2A
PLAT
2015-41
LOT 1
3,080 SF 0.07 AC
LOT 2
3,080 SF 0.07 AC
LOT 3
3,080 SF 0.07 AC
20' ACCESS EASEMENT FOR LOT 5
LOT 4
7,600 SF
0.17 AC
LOT 5
5,000 SF
0.11 AC
LOT 6
5,000 SF
0.11 AC
20' ACCESS EASEMENT FOR LOT 6
LOT 7
7,600 SF
0.17 AC
20' ACCESS EASEMENT FOR LOT 9
LOT 8
9,438 SF
0.22 AC
LOT 9
6,355 SF
0.15 AC
HILLCREST AVE
N 00°00'00" E
0% GRADE
LOT 14
5,137 SF
0.12 AC
LOT 13
5,000 SF
0.11 AC
10 X 10 UTILITY
EASEMENT (TYP)
LOT 12
5,000 SF
0.11 AC
LOT 11
5,000 SF
0.11 AC
LOT 10
5,000 SF
0.11 AC
10' DRAINAGE EASEMENT
20' REAR
SETBACK
20'
SETBACK
LINE (TYP)
25' GREEN BELT
15' DRAINAGE EASEMENT
BASIS OF BEARINGS
S 81°26'30" E 365.33
TRACT 1A1
PLAT
2015-41
20' DRAINAGE EASEMENT
PLAT 2015-41
20' DRAINAGE EASEMENT
PLAT 99-52
LOT 3
PLAT 99-52
15' ACCESS EASEMENT
PLAT 99-52
LOT 4
PLAT 99-52
LOT 9
PLAT 88-39
HILLCREST AVE
60' ROW
LOT 19
PLAT 88-39
THIS
SURVEY
VANDERBILT HILL ROAD
HILLCREST AVE
MOUNTAINSIDE DRIVE
GLACIER HIGHWAY
VICINITY MAP
SCALE N.T.S.
SOURCE CBJ
CHILKAT SURVEYING
BLK B
ROW L 2
L 1
2019
PLS 12314
TYPICAL MONUMENT DETAIL
N.T.S.
5/8" x 36" REBAR WITH 2.5" ALUMINUM CAP
draft for review only
SURVEYOR'S CERTIFICATE
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DATED: ____________________,2019
1"=30'
0 30 60 90 120
PLAT OF
CHILKAT VISTAS
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
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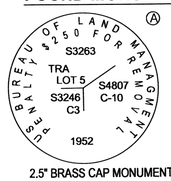
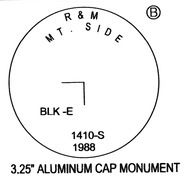
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801
SMP: 20190004
SCALE: 1" = 30'
DATE: 10/06/2019
SHEET NO. 2 OF 3

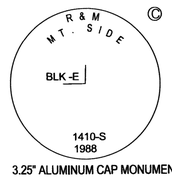
FOUND MONUMENT DESCRIPTIONS:

Ⓐ


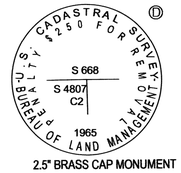
2.5" BRASS CAP MONUMENT

Ⓑ


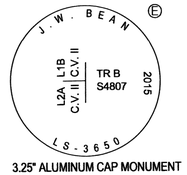
3.25" ALUMINUM CAP MONUMENT

Ⓒ


3.25" ALUMINUM CAP MONUMENT

Ⓓ


2.5" BRASS CAP MONUMENT

Ⓔ


3.25" ALUMINUM CAP MONUMENT

NOTES:

1) THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:10,000.

2) ALL DISTANCES ARE MEASURED IN U.S. SURVEY FEET.

3) RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015 ON FILE WITH IN THE JUNEAU RECORDING DISTRICT.

4) WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFRENCED TO A RECORDED PLAT (R#).

5) DOMESTIC WATER & SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.

6) SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

7) THE STORMWATER RUNOFF IS ACCEPTABLE PER CHILKAT VISTAS SUBDIVISION DRAINAGE PLAN IN APPROVED CONSTRUCTION PLAN SET. ALL REQUIRED CHILKAT VISTAS SUBDIVISION PUBLIC IMPROVEMENTS INCLUDING SURFACE DRAINAGE, DRIVEWAYS AND ROADSIDE DRAINAGE SHALL BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE FOR MAINTENANCE BY CBJ PUBLIC WORKS. MODIFICATIONS TO THE APPROVED PLANS WILL NOT BE ALLOWED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12.120 BEST MANAGEMENT PRACTICES.

8) LOTS 1 , 2, AND 3 ARE BUNGALOW LOTS. AT THE TIME OF PLAT RECORDING, STRUCTURES ON LOTS 1 & 2 & 3 BLOCK B WERE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE-FAMILY RESIDENCE PER LOT; OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.

9) LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B ARE PANHANDLE LOTS. AT THE TIME OF PLAT RECORDING, FURTHER SUBDIVISION OF LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B IS SUBJECT TO CBJ 49.15.423 'PANHANDLE LOTS', SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.

10) WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KOREN BOSWORTH NOVEMBER 2018

11) HOOTER LANE WILL BE DEVELOPED AS A PUBLIC TWO-WAY STREET, AS SET OUT IN THE ALTERNATIVE PLAT, SUBJECT TO CBJ PUBLIC IMPROVEMENT STANDARDS, IN CBJ 49.35.

12) HOOTER LANE FROM GLACIER HIGHWAY TO HILLCREST AVENUE, AND HILLCREST AVENUE AND MOUNTAINSIDE DRIVE SHALL BE DEVELOPED WITH A A SIDEWALK ON ONE SIDE. THE NUMBER OF SIDEWALKS IN THE REMAINDER OF RICHLAND MANOR WILL BE DETERMINED AT THE TIME OF FUTURE DEVELOPMENT APPLICATIONS.

13) DENSITY: IT IS AGREED THAT THE LOOP ROAD OF HILLCREST AVE. AND MOUNTAINSIDE DRIVE WILL BE DEVELOPED AS SINGLE FAMILY HOMES, AS DEPICTED ON THE ATTACHED ALTERNATIVE PLAT.

14) ROBBIE ROAD DEVELOPMENT THAT IS CONNECTED TO MOUNTAINSIDE ESTATES SHALL BE LIMITED TO NOT MORE THAN 7 SINGLE FAMILY HOMES, 3 OF WHICH MAY HAVE ACCESSORY APARTMENTS.

15) ROBBIE ROAD SHALL TERMINATE AND SHALL NOT BE A POINT OF ACCESS TO RICHLAND MANOR, UNLESS REQUIRED, AND GATED, FOR FIRE/EMERGENCY SERVICE ACCESS ONLY.

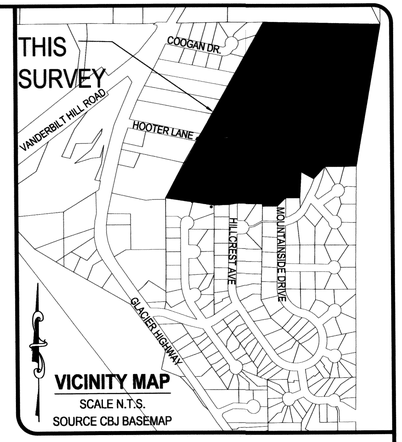
16) HILLCREST AVENUE SHALL TERMINATE AT HOOTER LANE. HILLCREST AVENUE MAY CONNECT TO HOOTER LANE WEST OF THE EXISTING HILLCREST ALIGNMENT AS SHOWN IN THE ALTERNATIVE PLAT (EXHIBIT C). ALTERNATIVELY ROAD ACCESS TO THE NORTHEAST PORTION OF TRACT B-1 MAY CONNECT TO THE EAST/WEST PORTION OF MOUNTAINSIDE DRIVE ACROSS FROM THE ENTRANCE TO THE "POCKET" BETWEEN HILLCREST AND MOUNTAINSIDE.

17) GREENBELT BUFFERS WILL BE IMPLEMENTED AND PRIVATELY MAINTAINED BY LOT OWNERS AS DELINEATED ON THE ALTERNATIVE PLAT, EXHIBIT B (AND AS MORE CLEARLY DRAWN FOR ILLUSTRATIVE PURPOSES IN EXHIBIT C) TO SEPARATE SINGLE FAMILY HOMES FROM MULTI-FAMILY DEVELOPMENT. EXCAVATION FOR PURPOSES OF SLOPE STABILIZATION MAY TAKE PLACE IN THE GREENBELT BUFFERS PROVIDED THEY ARE ALLOWED TO REVEGETATE FOLLOWING CONSTRUCTION. IN THE EVENT THIS BECOMES NECESSARY HEUMANN WILL CONSULT WITH ADJACENT HOMEOWNERS ABOUT THE IMPACTS.

18) OTHER THAN SHOWN, THERE IS AN IMPLIED PRIVATE DAINAGE EASEMENT ALONG ALL SIDE PROPERTY LINES WITHIN THE SUBDIVISION BEING 10 FEET IN WIDTH CENTERED ON EACH ADJOINING PROPERTY LINE.

19) TEMPORARY CUL-DE-SAC EASEMENT SHALL BE VACATED UPON EXTENSION OF HILLCREST AVENUE UNLESS THE DIRECTOR DETERMINES ALL OR A PORTION OF THE CUL-DE-SAC MAY REMAIN.

20) ACCESS SUBJECT TO CBJ 49.15.423 'PANHANDLE LOTS'. ACCESS TO PANHANDLE LOTS CREATED THIS SUBDIVISION SHALL BE RESTRICTED TO A SINGLE DRIVEWAY APRON IN THE RIGHT OF WAY UNLESS A SECOND DRIVEWAY TO IS APPROVED BY CBJ. USE OF THE ACCESS EASEMENT DELINEATED ON THIS PLAT IS SUBJECT TO THE REQUIREMENTS SET FORTH IN THE COMMON DRIVEWAY ACCESS, JOINT USE AND HOLD HARMLESS AGREEMENT RECORDED WITH THIS SUBDIVISION.



VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

DATED: _____,2019

OWNERSHIP CERTIFICATE:

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

DATE: _____,2019

_____
WILLIAM C. HEUMANN

DATE:_____,2019

_____
MICHAEL P. HEUMANN

NOTARY ACKNOWLEDGEMENT:

UNITED STATES OF AMERICA)
)SS
STATE OF ALASKA)

THIS IS TO CERTIFY THAT ON THIS___ DAY OF _____, 2019, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED WILLIAM C. HEUMANN AND MICHAEL P. HEUMANN TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY SIGNED AND SEALED THE SAME FREELY AND VOLUNTARY FOR THE USES AND PURPOSES THEREIN MENTIONED AUTHORIZED TO DO SO.

WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

_____
NOTARY PUBLIC FOR ALASKA

MY COMMISSION EXPIRES: _____

PLANNING COMMISSION PLAT APPROVAL

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT SAID PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION NO. _____, DATED _____, 2019, AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT RECORDING OFFICE, ANCHOORAGE, ALASKA.

_____DATED _____, 2019
CHAIRMAN OF THE PLANNING COMMISSION
CITY AND BOROUGH OF JUNEAU

ATTEST:

_____
MUNICIPAL CLERK
CITY AND BOROUGH OF JUNEAU

RECEIVED
STATE OF ALASKA
RECORDS OFFICE

1"=80'

0 80 160 240 320

PLAT OF
CHILKAT VISTAS
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
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STATE RECORDERS OFFICE AT ANCHORAGE

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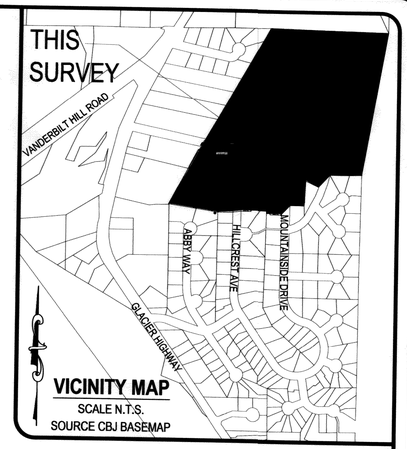
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:	SCALE:	DATE:	SHEET NO.
20190004	1" = 80'	10/06/2019	3 OF 3

CURVE	ARC LENGTH	RADIUS	Δ ANGLE	CHORD BEARING	CHORD DISTANCE
C1	66.55'	150.00'	25°25'18"	N 74°55'57" W	66.01
C2	60.41	150.00	23°04'26"	S 50°47'21" E	60.00
C3	60.41	150.00	23°04'26"	N 27°42'54" W	60.00
C4	9.44	150.00	3°36'16"	S 14°22'33" E	9.43
C5	9.41	210.00	2°34'03"	S 11°17'24" E	9.41
C6	37.73	210.00	10°17'36	S 04°51'34" E	37.68
C7	33.67	150.00	12°51'39"	S 06°08'36" E	33.60
C8	13.19	150.00	5°02'21"	N 02°48'24" E	13.19
C9	121.62	90.00	77°25'35"	S 51°17'13" E	112.58
C10	78.67	100.00	45°04'37"	S 67°27'42" W	76.66
C11	42.10	25.00	96°29'14"	N 86°50'00" W	37.30
C12	36.44	25.00	83°30'46"	N 03°10'00" E	33.30
C13	39.34	50.00	45°04'37"	N 67°27'42" E	38.33
C14	78.67	100.00	45°04'37"	N 67°27'42" E	76.66



VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP

LEGEND:

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
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- WETLANDS BOUNDARY
- DRAINAGE
- EASEMENT BOUNDARY
- SETBACK LINES
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- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- EASEMENT CREATED THIS PLAT
- SEWER AND DRAINAGE EASEMENT CREATED THIS PLAT

1"=80'

0 80 160 240 320

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DATED: _____,2019

Joshua Franz Ivanisze
No.12314

SKETCH PLAT OF
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A FUTURE SUBDIVISION OF
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A FRACTION OF US SURVEY 4807
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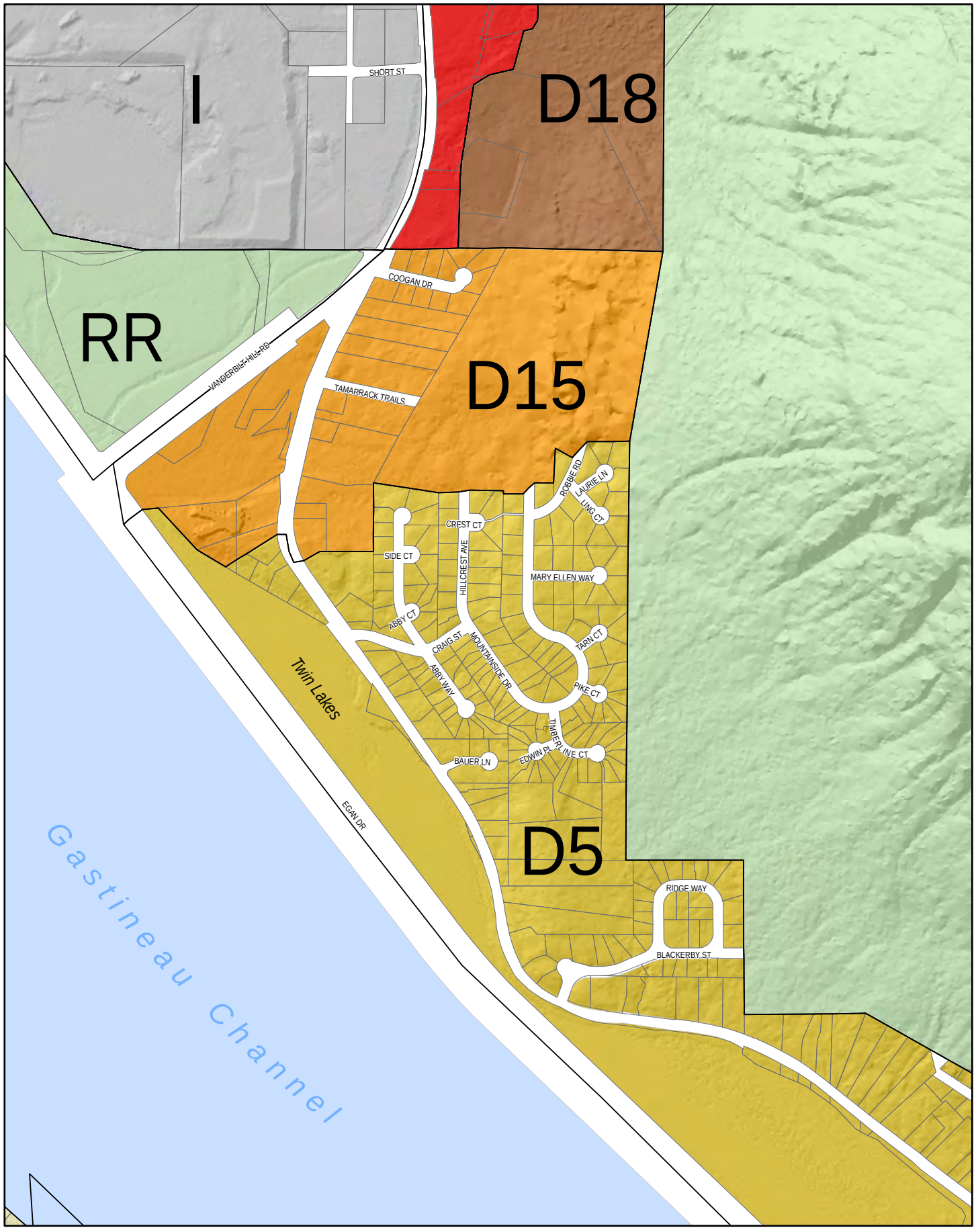
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:	SCALE:	DATE:	SHEET NO.
20190004	1" = 80'	10/06/2019	1 OF 1

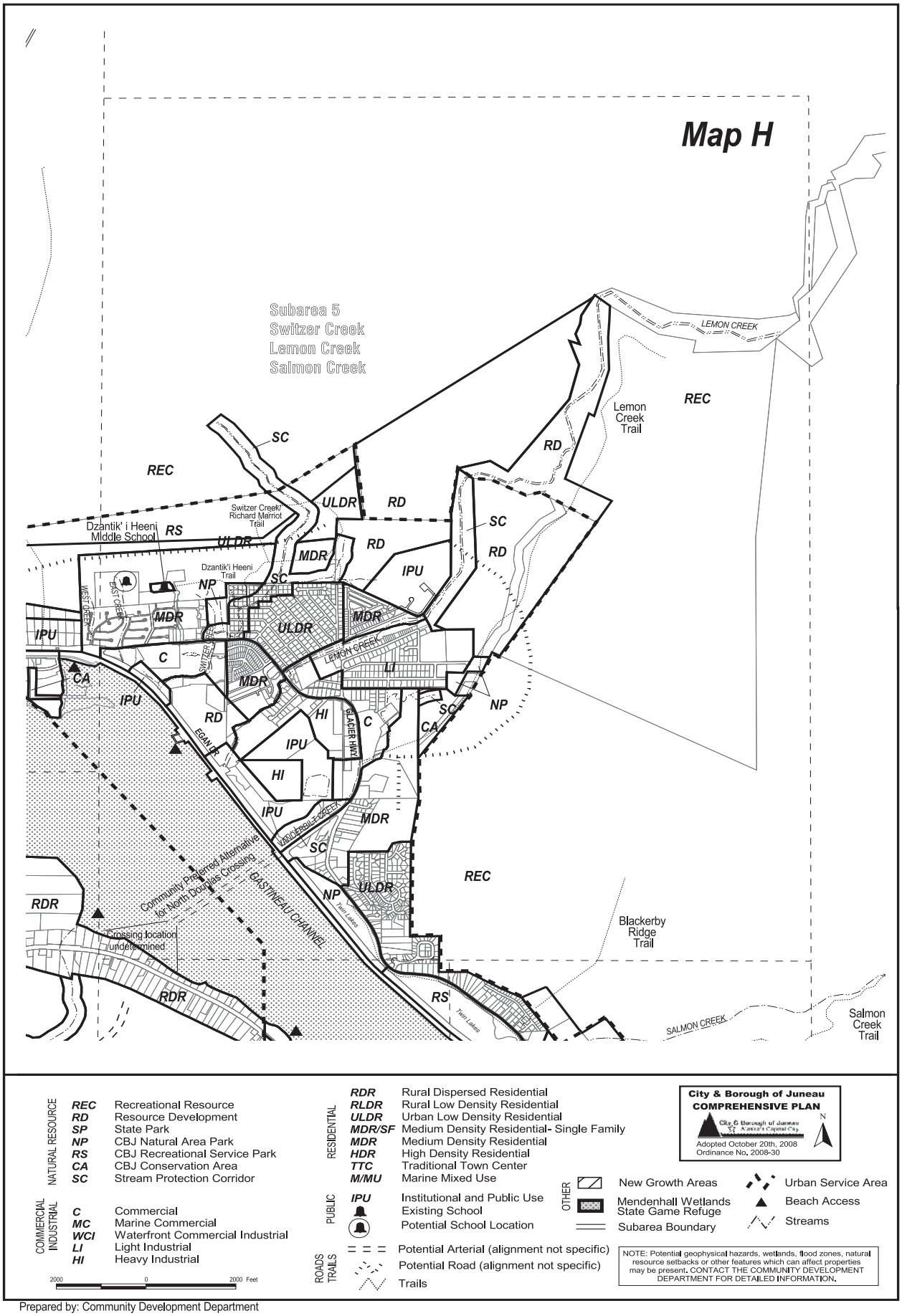


ZONING

0 500 1,000 Feet

N

Attachment D - Zoning Maps

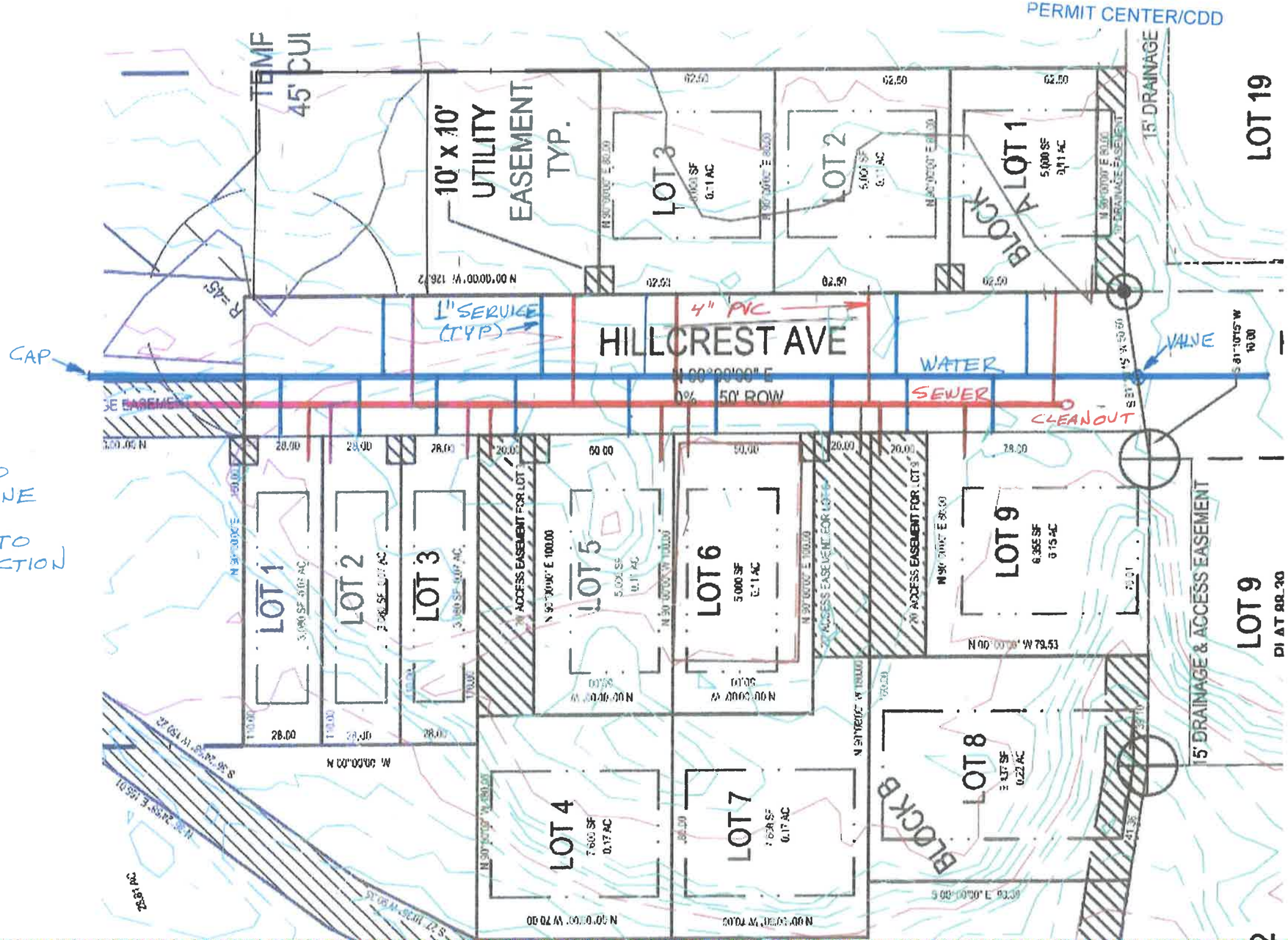


Map 11.9

Prepared by: Community Development Department

Attachment D - Zoning Maps

WATER AND SEWER LATERAL LAYOUT



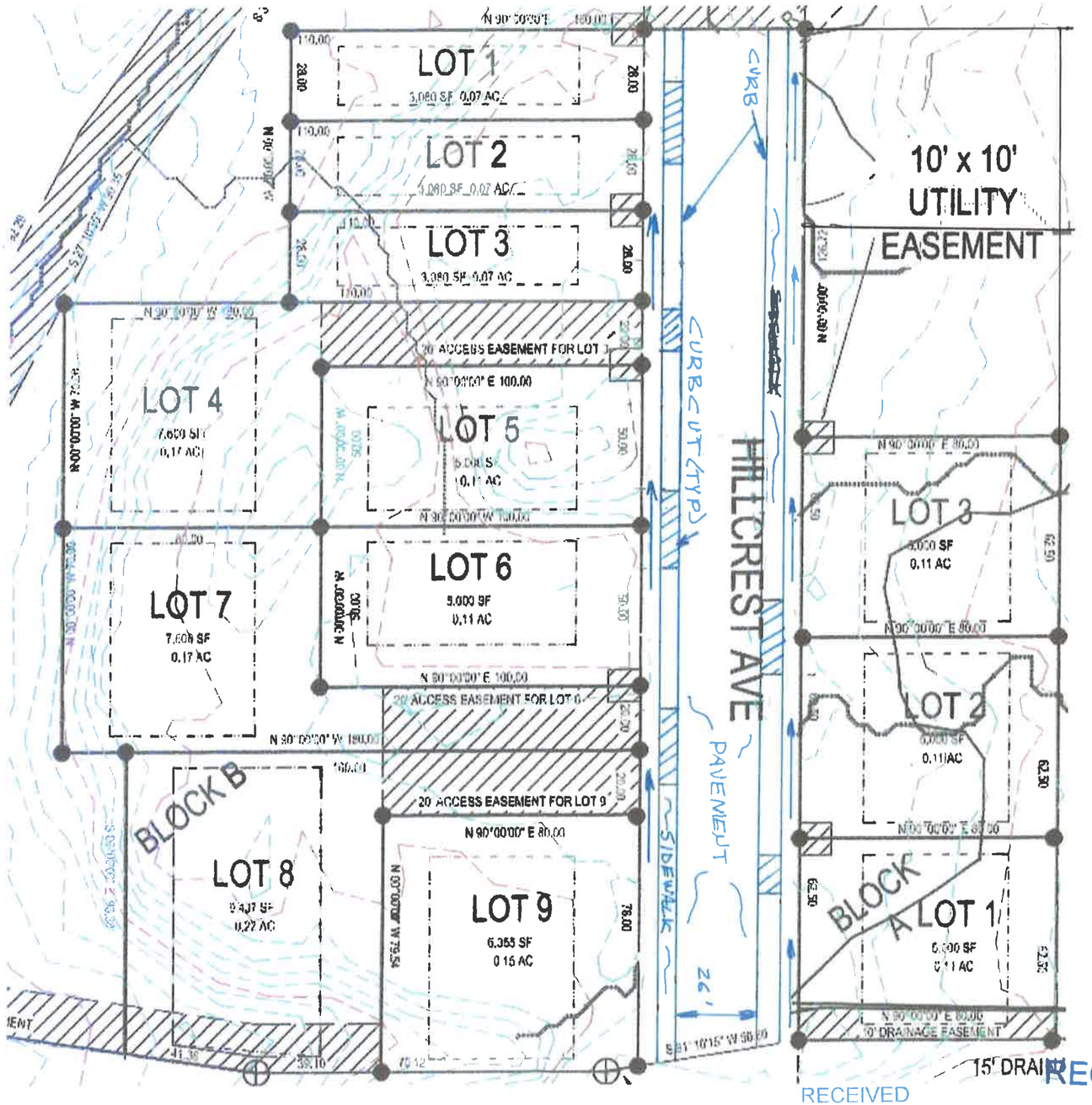
NOTE:
NEW 8" WATER LINE TO EXISTING 8" WATER LINE

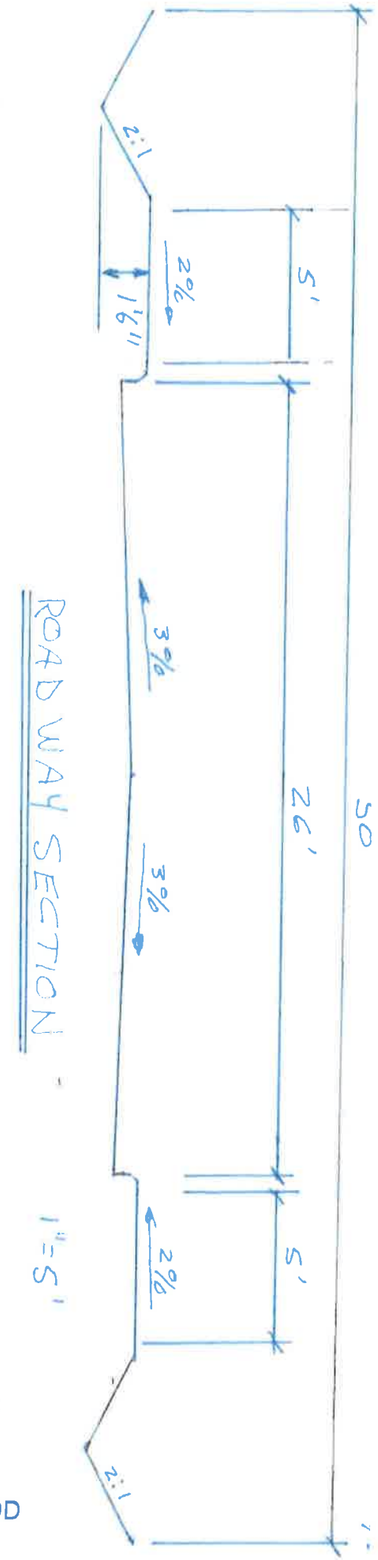
NEW 8" SEWER LINE TO HOOTER LANE CONNECTION

1"=40'
12/26/18

1"=40'
WCH
12/27/18

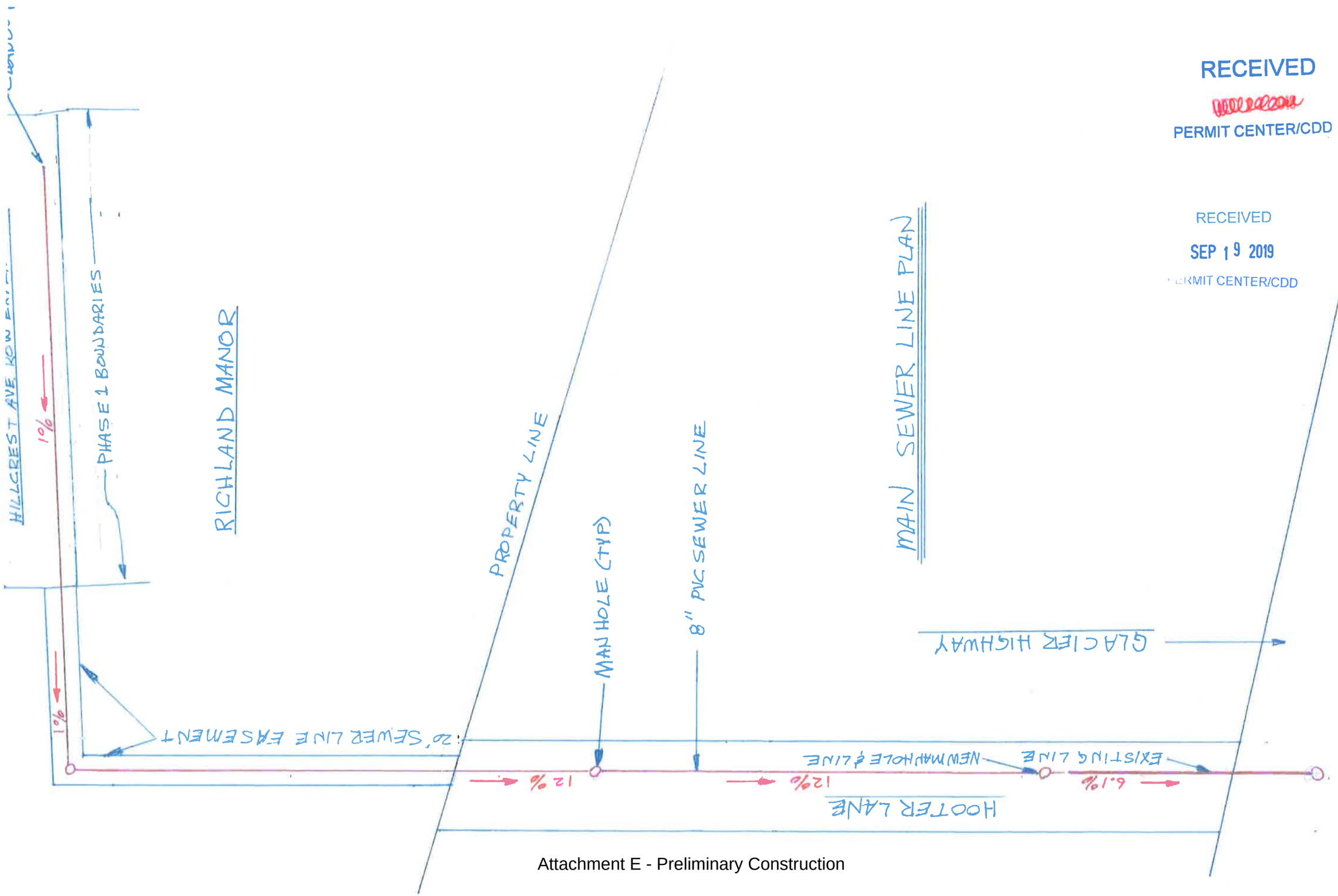
ROADWAY LOCATION IN HILLCREST ROW.



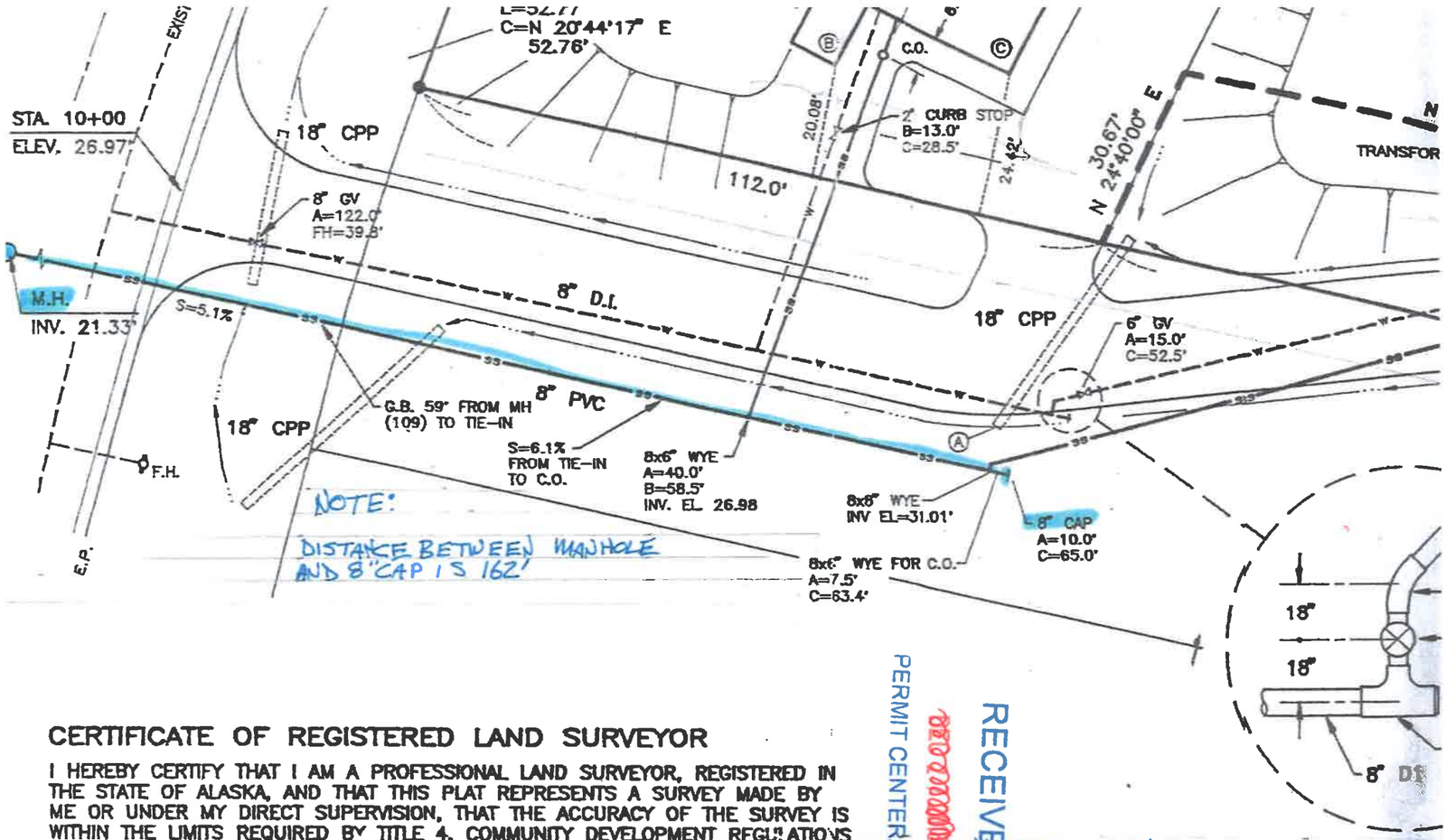


RECEIVED
SEP 19 2019
PERMIT CENTER/CDD

RECEIVED
PERMIT CENTER/CDD



Attachment E - Preliminary Construction



CERTIFICATE OF REGISTERED LAND SURVEYOR

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 4, COMMUNITY DEVELOPMENT REGULATIONS AND TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONAL AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

Date 2-14-96

RECEIVED
PERMIT CENTER/CDD

FOOTER LANE
WATER AND SEWER AS-BUILT

Attachment E - Preliminary Construction

Engineering & Public Works Department
155 South Seward Street
Juneau, Alaska 99801
Phone: 907-586-0800 | Fax: 907-463-2606

DATE: September 27, 2019

TO: Laurel Christian, CDD

FROM: Autumn Sapp, Engineering & Public Works Department
John Bohan, Engineering & Public Works Department

RE: SMP20190004 – Chilkat Vistas Subdivision (formerly known as Richland Manor 2 Subdivision), Major Subdivision Engineering & Public Works Department Review

Engineering and Public Works Department has completed a preliminary review of the proposed Chilkat Vistas Subdivision to create a total of 15 lots. The following has been determined as required by CBJ code 49.15.402(c)(4)(e):

1. The preliminary drainage plan is incomplete. It appears feasible; however, it does not delineate all the runoff conveyed into the Hooter Lane drainage system by the construction of Phase A.
    a. The plan does not account for the additional runoff from the areas uphill of the development when determining the capacity of the 24" culvert crossing Glacier Highway at Hooter Lane.

    b. Revise and resubmit the drainage plan upon full delineation of all runoff conveyed by the Hooter Lane drainage, including a determination of the proper culvert sizing necessary at the Hooter Lane - Glacier Highway culvert crossing prior to approval of the construction plans.

2. The Chilkat Vistas Subdivision proposed street and sidewalk plan is acceptable. The following request are also acceptable as noted:
    a. Reduced right-of-way width of 50'. Remaining phases shall also be constructed at a width of 50' unless further engineering indicate this is not feasible.

3. The proposed improvements conform to the requirements of this title and can be feasibly constructed in accordance with Title 49.

Other concerns-

4. As outlined in a memo dated 12/11/2018 by Carson Dorn, Inc., an additional 80 residential units could be constructed in the Mountainside Estates water zone that fed by the existing pump station. Additionally, capacity would still be preserved for fire flows. For more detailed information please review the memo which is attached for your reference.

Laurel Christian

From: John Bohan
Sent: Tuesday, October 15, 2019 5:28 PM
To: Laurel Christian
Cc: Autumn Sapp; Alexandra Pierce; Jill Maclean; Mike Vigue
Subject: RE: SMP20190004 Preliminary Plat Approval - Agency Review

Hi Laurel

After reviewing the sketch plat for Chilkat Vistas Subivision, I concur with the applicant's request to install sidewalks on one side of the street. This request is consistent with the other recent local subdivision determinations of similar size developments and is also consistent with the infrastructure within the Mountainside Subdivision, with sidewalk only constructed on one side of the two main access roads, Mountainside Drive and Craig Street (and no sidewalks on the side streets). The previously platted Hooter Lane ROW, which will provide pedestrian connection from the development to Glacier Highway, is only required to have one sidewalk, making the requirement of two sidewalks within the new development an unnecessary redundancy.

Future development plans should be evaluated to determine the need for sidewalks on one or both sides, based on the density and type of development planned.

Thanks
John Bohan,
Acting Director Engineering and Public Works

From: Laurel Christian <Laurel.Christian@juneau.org>
Sent: Monday, October 14, 2019 10:35 AM
To: John Bohan <John.Bohan@juneau.org>
Cc: Autumn Sapp <Autumn.Sapp@juneau.org>; Alexandra Pierce <Alexandra.Pierce@juneau.org>; Jill Maclean <Jill.Maclean@juneau.org>
Subject: FW: SMP20190004 Preliminary Plat Approval - Agency Review

Hi John,

The applicant has requested to place sidewalks on one side of the street for this development, rather than two. Based on the ADTs generated by the development as a whole (upon reviewing the sketch plat), and according to CBJ 49.35.240 Table of Roadway Construction Standards, a 26' travel way width is required with sidewalks on both sides of the street.

Per *CBJ 49.35.130(b) The director of engineering and public works may prescribe different or additional standards if unusual or unforeseen conditions exist in a particular development, and the alternative meets or exceeds the intent of the original standard.*

Can you verify the “unusual or unforeseen” conditions which exist for the development, and verify that Engineering & Public Works approves this change as required by 49.35.130(b)?

Thanks for your help on this,

Laurel Christian | Planner
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0761
Please note name change (Bruggeman to Christian) and new email: Laurel.christian@juneau.org

---

From: Laurel Christian <Laurel.Christian@juneau.org>
Sent: Tuesday, October 8, 2019 12:51 PM
To: Dan Jager <Dan.Jager@juneau.org>; Sven Pearson <Sven.Pearson@juneau.org>; General Engineering <General_Engineering@juneau.org>; Mary Grant <Mary.Grant@juneau.org>; Charlie Ford <Charlie.Ford@juneau.org>; George Schaaf <George.Schaaf@juneau.org>; Ed Foster <Ed.Foster@juneau.org>; John Bohan <John.Bohan@juneau.org>; Greg Chaney <Greg.Chaney@juneau.org>; Dan Bleidorn <Dan.Bleidorn@juneau.org>; 'Skagerberg, Verne R (DOT)' <verne.skagerberg@alaska.gov>; 'kate.kanouse@alaska.gov' <kate.kanouse@alaska.gov>; 'Dubour, Adam J (DFG)' <adam.dubour@alaska.gov>; 'randal.p.vigil@usace.army.mil' <randal.p.vigil@usace.army.mil>; 'Darrell Wetherall' <Darrell.Wetherall@aelp.com>; Quinn Tracy <Quinn.Tracy@juneau.org>
Subject: SMP20190004 Preliminary Plat Approval - Agency Review

Good afternoon,

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by **October 22, 2019**.

Please note that the plat notes on page 3 of the preliminary plat are subject to change and some plat notes are not subject to CBJ enforcement.

Let me know if you have any questions or need additional information.

Thank you,

Laurel Christian | Planner
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0761
Please note name change (Bruggeman to Christian) and new email: Laurel.christian@juneau.org

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155 S. Seward Street • Juneau, AK 99801

COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: Alaska Department of Fish and Game

STAFF PERSON/TITLE: Adam DuBour/Habitat Biologist

DATE: October 22, 2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

The Alaska Department of Fish and Game (ADF&G) has reviewed SMP20190004, the application materials submitted by Michael and William Heumann for preliminary plat approval for Phase A of a major subdivision located within Section 5, T41S, R67E, CRM, to be known as Richland Manor II. The applicant proposes to create 14 lots for single-family development and one large tract for future development. ADF&G previously reviewed and commented on a preliminary plat for Richland Manor in January of 2019 in which the applicant proposed to create 12 lots for single-family development and one large tract for future development.

During the above mentioned review, ADF&G indicated that there were not any objections to the plat as proposed. However, we would like to reiterate our previous recommendations. In January 2019, ADF&G Habitat Biologists performed a site visit to document fish habitat on the subject parcel (report attached). While the subject parcel does not contain fish habitat, drainages on the property flow into Twin Lakes and Vanderbilt Creek. Vanderbilt Creek is cataloged within ADF&G's Anadromous Waters Catalog (AWC #111-40-10125) as providing habitat for Dolly Varden and chum, coho and pink salmon. Twin Lakes support resident Dolly Varden.

Best practices should be employed to prevent sediments and contamination from construction activities from entering the waters of Vanderbilt Creek and drainages that flow into Twin Lakes. Existing hydrology and drainage patterns on site should be maintained to reduce the impact on downstream fish habitat.

AGENCY COMMENTS (CONTINUED):

The currently proposed plat eliminates a drainage easement that was included on the previous plat (SMP20180002) west of the proposed lots. The easement incorporated a highly altered stream channel that flowed into Twin Lakes. The elimination of this easement is consistent with our previous recommendations.

The subject property is adjacent to large portions of undeveloped land and black bears are common in the area. During construction activities, care should be taken in securing all potential wildlife attractants, including petroleum products. Any wildlife conflicts should be reported to ADF&G Division of Wildlife Conservation.

The applicants have previously been in contact with ADF&G Habitat Biologists regarding this project and we request that they maintain this contact. For more information on best practices for protecting fish habitat during design and construction of this development, please contact ADF&G Habitat Biologist Greg Albrecht, 907-465-6384, greg.albrecht@alaska.gov.

Thank you for the opportunity to review and comment on this preliminary plat.

Adam DuBour
Access Defense Program
Alaska Department of Fish and Game
Division of Wildlife Conservation
333 Raspberry Road
Anchorage, Alaska 99518
(907)267-2292
adam.dubour@alaska.gov

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COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: Alaska Department of Fish and Game

STAFF PERSON/TITLE: Greg Albrecht, ADF&G Habitat Biologist

DATE: October 11, 2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

Hello Laurel,

This site provides habitat for bear, deer, coyote, and other wildlife. As with most development in Juneau, it is important the owner/developers manage and store waste in garages or bear proof containers so as not to create an attractant. I have attached documentation focused on fish resources in the area, originally submitted to CBJ through the Department of Natural Resources in 2018.

Thank you for the opportunity to comment.

Greg Albrecht
ADF&G Habitat Biologist
802 3rd St
Douglas, AK 99824
465-6384

MEMORANDUM

State of Alaska
Department of Fish and Game
Division of Habitat

TO:	Adam DuBour Habitat Biologist Division of Wildlife Conservation	DATE:	January 9, 2019
THRU:	Kate Kanouse Acting Regional Supervisor	SUBJECT:	Richland Manor II Development Comments
FROM:	Greg Albrecht Habitat Biologist	PHONE NO:	(907) 465-6384

I reviewed Michael and William Heumann's application to the City and Borough of Juneau (CBJ) for the proposed 30-acre Richland Manor II residential development and completed stream surveys with a backpack electrofisher on October 8, 2018[a] and January 4, 2019 (Table 1; Figure 1). The main drainage on the south end of the property feeds into the north end of Twin Lakes and does not support fish; the 8% gradient culvert under Glacier Highway prevents upstream fish passage, as does a 100 ft long perched culvert on private property 110 ft upstream of Glacier Highway. Within the proposed development, the stream appears to have been rerouted and is shallow, straight, and void of overwintering fish habitat and fish habitat complexity (Figures 2, 3). Potential resident fish habitat is present downstream of the proposed development area (Figures 4, 5), though overwintering habitat remains limited.

Drainages on the north side of the property reporting to Vanderbilt Creek[b] and one of its tributaries[c] would be too steep to provide fish habitat, based on topography.

[a] Greg Albrecht, Habitat biologist, ADF&G Division of Habitat, to Jackie Timothy, Southeast Regional Supervisor, ADF&G Division of Habitat. Memorandum: Twin Lakes Culvert Slip Line Investigations Trip Report; dated 10/9/2018.

[b] Stream No. 111-40-10125; provides habitat for chum, coho and pink salmon and Dolly Varden char.

[c] Stream No. 111-40-10125-2010; provides habitat for coho salmon and is a cite of recent fish habitat enhancement. Greg Albrecht, Habitat Biologist, ADF&G Division of Habitat, to Jackie Timothy, Southeast Regional Supervisor, ADF&G Division of Habitat. Memorandum: Baumgartner Pond Dredging Trip Report; dated 8/22/2017.

Table 1.–Field survey data.

Waypoint	Latitude	Longitude	Notes	Sample Effort	Sample Results
127	58.3455	-134.4951	Culvert outlet at alder grove bordering north Twin Lakes wetland. 1 Dolly Varden char captured here. Culvert is about 8% gradient. Moving upstream electrofishing continuously.	Electrofish	1 Dolly Varden char
128	58.3454	-134.4943	Straight channel, with steep eroded banks, knowtweed, no overwintering habitat, 9% gradient.	Electrofish	
129	58.3452	-134.4940	Culvert outlet perched 3 ft, relief culvert perched at 4 ft.	Electrofish	
130	58.3451	-134.4938	Knotweed forest at culvert inlets. Tributary enters river left about 10 ft upstream.	Electrofish	
131	58.3450	-134.4935	8% gradient up to here, 2 step pools present, river right bank is fill slope, river left is second growth forest.	Electrofish	
132	58.3449	-134.4930	Forested strip on river right about 75 ft to the clearing. Gradient is 9% looking upstream. Dolly Varden char spawning habitat is present, minimal overwintering, no fish. Stream is unstable and banks absent, looks flashy.	Electrofish	
133	58.3450	-134.4926	Iron stained tributary enters river left, no fish habitat. 7% gradient to here in main channel.	Electrofish	
134	58.3450	-134.4922	Gradient increases to 14% here and river left bank is fill from 20-30 year old homes.	Electrofish	
135	58.3451	-134.4917	Fork here with divided flow, river left wraps around homes and forks again about 10 ft upstream, minimal Dolly Varden char habitat, not investigating due to private property, 10-16% gradient. River right channel steps up a few feet, then 3% through alder grove, from	Electrofish	
136	58.3457	-134.4911	The channel appears to have been moved to the toe of the clearing. It is straight at	Electrofish	
137	58.3462	-134.4902	Ending here, No fish, stream is at toe of slope, minimal habitat, originates from hill seeps.	Electrofish	

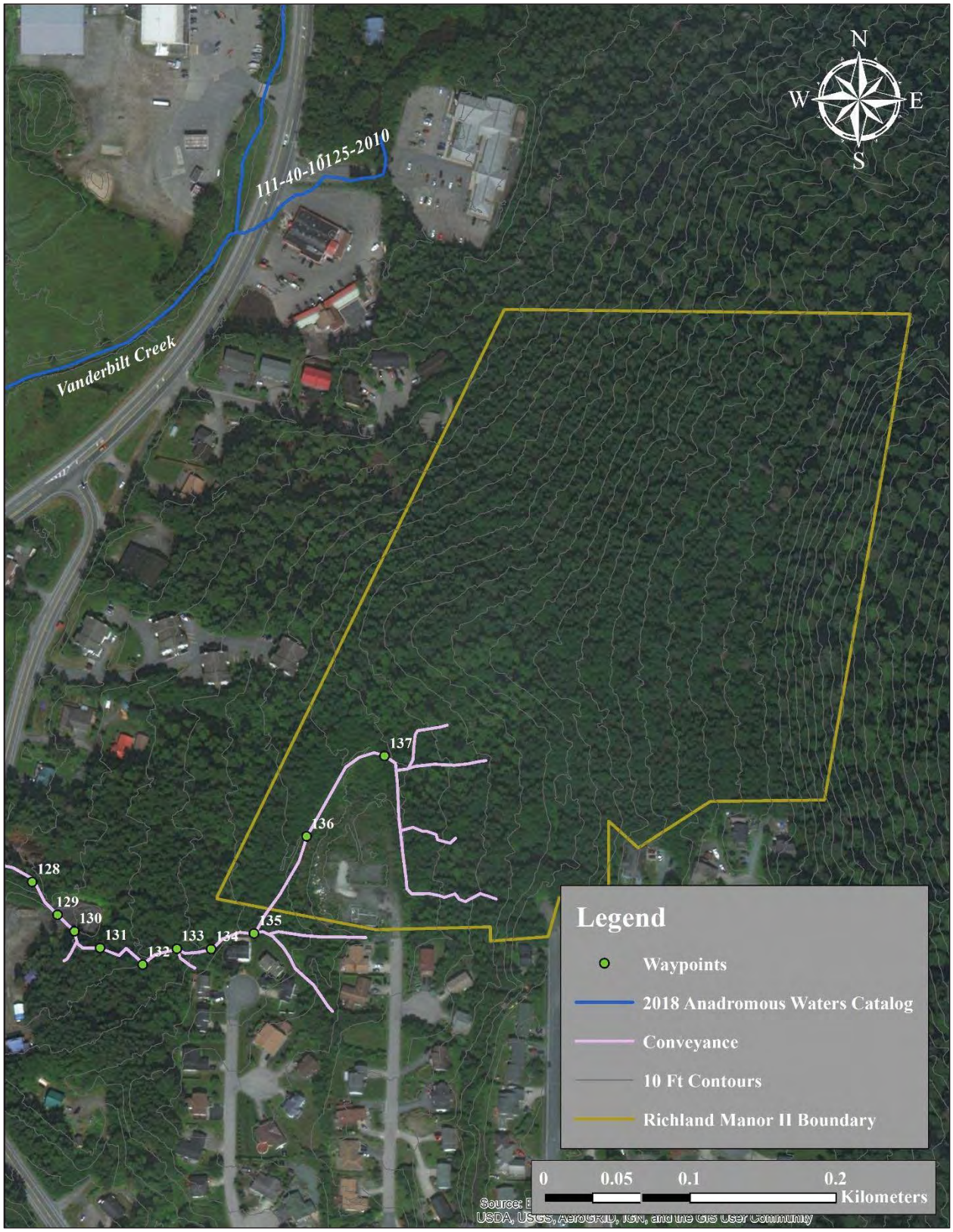

Figure 1.–Survey map.

Figure 2.–Channel at toe of fill.

Figure3.–Straightened channel.

Figure 4.–Step-pool reach downstream of property.

Figure 3.–Downstream of property.

Recommendations

I recommend the CBJ consider measures to maintain existing hydrology and drainage patterns, especially for water bodies reporting to Vanderbilt Creek and its tributary.

Email cc:

Al Ott, ADF&G Habitat, Fairbanks
ADF&G Habitat Staff, Douglas
Dan Teske, ADF&G SF, Douglas
Dave Harris, ADF&G CF, Douglas
Roy Churchwell, ADF&G WC, Douglas
Neil Stichert, USFWS, Juneau
Cindy Hartmann Moore, NMFS, Juneau

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COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: AEL&P

STAFF PERSON/TITLE: Darrell Wetherall/Asst. T&D Engineer

DATE: 10/8/2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

We don't have any issues with the proposed plat.

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COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: Assessor

STAFF PERSON/TITLE:

DATE: 10/17/2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

The proposed subdivision is not likely to have a negative impact on the value of neighboring properties.

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COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: Capital City Fire Rescue

STAFF PERSON/TITLE: Dan Jager, Fire Marshal

DATE: 10/22/2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

All fire code comments and requirements were already made apart of pre-app meetings and conversations with the applicants.

Laurel Christian

From: Dan Jager
Sent: Tuesday, October 22, 2019 11:08 AM
To: Laurel Christian; Sven Pearson
Subject: RE: SMP20190004 Preliminary Plat Approval - Agency Review

Yes, that is all correct Laurel. Thanks!
Dan

From: Laurel Christian
Sent: Tuesday, October 22, 2019 10:54 AM
To: Dan Jager <Dan.Jager@juneau.org>; Sven Pearson <Sven.Pearson@juneau.org>
Subject: RE: SMP20190004 Preliminary Plat Approval - Agency Review

Thanks Dan, just to be clear (for my staff report) – sprinklers are required for all homes constructed with this phase of development and a secondary access to the entire neighborhood is triggered at 200 Dwelling units (being accessed through Craig street)? This 200 dwelling units includes existing homes that use Craig Street for access to Glacier Highway AND the homes constructed through the proposed subdivision?

Thanks!

Laurel Christian | Planner
Community Development Department | City & Borough of Juneau, AK
Location: 230 S. Franklin Street, 4th Floor Marine View Building
Office: 907.586.0761
Please note name change (Bruggeman to Christian) and new email: Laurel.christian@juneau.org

---

From: Dan Jager <Dan.Jager@juneau.org>
Sent: Tuesday, October 22, 2019 9:15 AM
To: Laurel Christian <Laurel.Christian@juneau.org>; Sven Pearson <Sven.Pearson@juneau.org>
Subject: RE: SMP20190004 Preliminary Plat Approval - Agency Review

Hi Laurel, here is the comments form. Thanks.
Dan

From: Laurel Christian
Sent: Tuesday, October 22, 2019 8:43 AM
To: Dan Jager <Dan.Jager@juneau.org>; Sven Pearson <Sven.Pearson@juneau.org>
Subject: FW: SMP20190004 Preliminary Plat Approval - Agency Review

Hello Dan and Sven,

CITY AND BOROUGH OF JUNEAU
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COMMUNITY DEVELOPMENT

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155 S. Seward Street • Juneau, AK 99801

COMMUNITY DEVELOPMENT DEPARTMENT - REQUEST FOR AGENCY COMMENT

DEPARTMENT: DOT&PF, Southcoast Region

STAFF PERSON/TITLE: Joanne Schmidt, Planner

DATE: October 22, 2019

APPLICANT: Michael and William Heumann

TYPE OF APPLICATION: Major Subdivision Preliminary Plat Approval

PROJECT DESCRIPTION:

Preliminary Plat approval for a phased major subdivision creating 14 lots and 1 large tract for future development (15 total parcels).

LEGAL DESCRIPTION: Richland Manor Tract B

PARCEL NUMBER(S): 7B1001160010

PHYSICAL ADDRESS: 4506 Hillcrest Avenue

SPECIFIC QUESTIONS FROM PLANNER:

We have received an application for preliminary plat approval for a phased major subdivision. SMP20190004 will address Phase A, which will create 14 lots for single-family development and one large tract for further development (15 lots total). Please review the attached preliminary plat and associated application materials and return your comments to me by October 22, 2019.

AGENCY COMMENTS:

DOT does not have any comments or concerns at this time. However, if the development as currently proposed has in fact scaled back the scope from 450 apartments/condos to just 15 SF homes, then there is no need for a TIA at this time. However, there is potential for a TIA requirement to be triggered in the future should the developer move forward with plans to construct up to 400+ units at the proposed project location.

Ms. Christian,

I am a Tamarack Trails Condominium owner, writing this email to submit my concerns regarding the proposed development of the Hooter Lane ROW that is part of the Tamarack Trails entrance driveway. Here are my concerns.

If Hooter Lane is developed as a roadway to the proposed major subdivision (7B1001160010), the road would be in extremely close proximity to the Tamarack Trails buildings A and C. This will substantially effect the lifestyle, safety, security and overall sense of well-being of all of the 32 families residing at Tamarack Trails. It will result in the loss of property use and parking, an increase of traffic, noise, and dust, and loss of the tree buffer surrounding the property.

Tamarack Trails Condominiums will be the most impacted community of homeowners of the Richland Manor subdivision project if Hooter Lane is allowed to be developed as a new roadway to that project. The development will drastically alter the quality of life and sense of community that now exists at Tamarack Trails, not for the better.

Please do NOT approve a Hooter Lane as a new roadway to the Richland Manor Subdivision.

Respectfully,
Joan Shorey
(907) 321-5823

Paul H. Grant
Counselor at Law

313 Coleman Street, Juneau, Alaska 99801
(907)586-2701 (v) (907) 586-2722 (fax)
paul@paulgrantjuneau.com

October 25, 2019

Juneau Planning Commission
155 S. Seward Street
Juneau, Alaska 99801

Re: Mountainside Estates,
Appeal No. SMP2018-0002

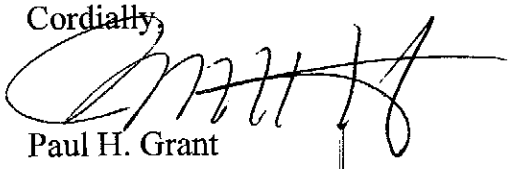
I represent the Mountainside Estates Neighborhood Association (MENA) and individual appellants who appealed the Planning Commission's approval of a preliminary plat for the development of the Richland Manor subdivision. Following lengthy negotiations between appellants and the developers, William and Michael Heumann, a settlement agreement was reached. The settlement consists of a "Stipulated Settlement Agreement", dated September 23, 2019, as well as plat drawings, Exhibits A-C. All parties to the appeal have signed the Agreement. Under its terms, upon approval of the Heumann's modified plat application (and the expiration of any appeal periods) the MENA appeal will be dismissed.

The purpose of this letter is to provide MENA's support of the modified plat application. While the plat of Phase I of the project is not significantly different than the originally-approved design, there are significant modifications and improvements to future phases of the project that are set out in the Agreement and the attachments. In

particular, the subdivision access and desired separations between single and multi-family homes have been modified for future phases, as set out in the Exhibits to the Agreement. In addition, the Agreement itself contains a number of conditions that are enforceable privately between the parties in the event of non-compliance. Further, the CBJ has agreed to incorporate certain safety measures into the project, and a number of the conditions have been adopted as plat notes in the application.

Provided the terms of the Agreement and the design considerations set out in the modified alternative plats are implemented, this agreement satisfactorily resolves MENA's concerns which prompted the appeal. While not perfect, the Agreement is a good faith compromise by all parties which MENA unreservedly supports.

Cordially,



Paul H. Grant
Attorney for MENA and Individual Appellants

CITY AND BOROUGH OF JUNEAU
COMMUNITY DEVELOPMENT

(907) 586-0715
CDD_Admin@juneau.org
www.juneau.org/cdd
155 S. Seward Street • Juneau, Alaska 99801

November 1, 2019

MEMORANDUM

To: **Michael Heumann**

From: **Laurel Christian, CDD**

Case Number: **SMP20190004**

Legal Description: **Tract B Richland Manor**

Parcel No.: **5B1401020071**

RE: SMP20190004 Preliminary Plat V2 Corrections

The following is a consolidated list of review comments received regarding the preliminary plat for SMP20190004, Chilkat Vistas Subdivision Phase 1. Prior to final plat approval, the following changes should be made to the plat:

GENERAL ENGINEERING

All Sheets

1. Drainage from Lot 4 and Lot 7 will require a drainage easement across Tract B1 to an established drainage way or will need to engineered to drain uphill.
2. For the final plat, remove contours, building setbacks, and wetland boundaries.
3. Add subdivision or USS information including tract, lot, and/or block information to all adjacent properties.

Sheet 1

4. Adjust viewport or move text of Coogan Dr.
5. Label Hooter Ln. and Abby Wy. rights-of-way and list widths.
6. List width of the existing portion of Hillcrest Ave.
7. Remove leaders without text or add text to the existing leaders.
8. Add leaders to indicate where bearings and distances along westerly property line of Tract B1 begin and end.
9. Add bearing and distance for Tract B1's property line at rear of Lots 1, 2, and 3.
10. Trim easement and lines from bearing of Tract B1 at end of Hillcrest Ave.
11. Show monument detail letter "C" for corresponding monument.

12. Remove road grade from Hillcrest ROW.

Sheet 2

13. Standardize adjacent lot labels.
14. Remove road grades from ROW labeling.
15. Submit a new closure report to all for verification that the following inconsistencies have been addressed:
    a. Verify the following distances for the following bearings as they do not correlate with the closure report:
        i. Northern boundary of phase I: N 90°00’00” E – 160.00, closure lists 160.12
        ii. Southern lot line of Lot 7: N 90°00’00” E – 160.00, closure lists 160.12
        iii. Southern lot line of Lot 8: N 81°26’30” W – 41.36, closure lists 41.47
    b. Verify the acreage of Lot 14 as it does not correlate with the closure report.
    c. Verify the square footage of Lot 8 as it does not correlate with the closure report.
16. Modify the line type scale of the easement boundary lines so they match the line type shown in the legend.
17. Move the labels and leaders of the 25’ Greenbelt and 20’ Setback Line (Typ) to allow for legibility.

PLANNING

Sketch Plat

1. Above Robbie Road, change "30' EMERGENCY FIRE ACCESS" to "30' EMERGENCY SERVICE ACCESS"

All Sheets

2. Verify the square footage and acreage of Tract B1 (large remaining tract)

Sheet 1

3. Above Robbie Road, change "30' EMERGENCY FIRE ACCESS" to "30' EMERGENCY SERVICE ACCESS"
4. Label adjacent Lot 20 Plat 88-39
5. Label the Robbie Road right-of-way

Sheet 2

6. Label the drainage and sewer easement that connects to the Hooter Lane right-of-way

Plat Notes

7. Remove block information from notes 8 and 9 and use "Lot X, Phase 1" typical language.
8. Amend note 11 to read:
   HOOTER LANE WILL BE DEVELOPED AS A PUBLIC TWO-WAY STREET, AS SET OUT IN THE SKETCH PLAT SUBMITTED WITH SMP20190004, SUBJECT TO CBJ PUBLIC IMPROVEMENT STANDARDS IN CBJ 49.35.
9. In note 12 change "RICHLAND MANOR" to "CHILKAT VISTAS".
10. Amend note 13 to read:
    *DENSITY: IT IS AGREED THAT THE LOOP ROAD OF HILLCREST AVENUE AND MOUNTAINSIDE DRIVE WILL BE DEVELOPED AS SINGLE-FAMILY HOMES, AS DEPICTED ON THE SKETCH PLAT SUBMITTED WITH SMP20190004.
11. Add an asterisk to note 14: "*ROBBIE ROAD"
12. In note 15, change "RICHLAND MANOR" to "CHILKAT VISTAS"
13. Amend note 16 to read:
    HILLCREST AVENUE SHALL TERMINATE AT HOOTER LANE. HILLCREST AVENUE MAY CONNECT TO HOOTER LANE WEST OF THE EXISTING HILLCREST ALIGNMENT AS SHOWN IN THE SKETCH PLAT SUBMITTED WITH SMP20190004. ALTERNATIVELY ROAD ACCESS TO THE NORTHEAST PORTION OF TRACT B-1 MAY CONNECT TO THE

EAST/WEST PORTION OF MOUNTAINSIDE DRIVE ACROSS FROM THE ENTERNANCE TO THE "POCKET" BETWEEN HILLCREST AND MOUNTAINSIDE.

14. In note 16, verify lot name for Tract B-1 based on naming options outlined in the "Cartography" section of this MEMO.
15. Amend note 17 to read:

    GREENBELT BUFFERS WILL BE IMPLEMENTED AND PRIVATELY MAINTAINED BY LOT OWNERS AS DELINEATED ON THE SKETCH PLAT SUBMITTED WITH SMP20190004 AND AS DELINEATED THIS PLAT, TO SEPARATE SINGLE FAMILY HOMES FROM MULTI-FAMILY DEVELOPMENT. EXCAVATION FOR PURPOSES OF SLOPE STABILIZATION MAY TAKE PLACE IN THE GREENBELT BUFFERS PROVIDED THEY ARE ALLOWED TO REVEGETATE FOLLOWING CONSTRUCTION. IN THE EVENT THIS BECOMES NECESSARY THE PROPERTY OWNER WILL CONSULT WITH ADJACENT HOMEOWNERS ABOUT THE IMPACTS.

16. Plat notes 13, 14, and 17 should be moved to their own section at the bottom of the notes section with their own heading that reads:

    <u>*NOTES BELOW REFLECT PRIVATE OBLIGATIONS ASSUMED BY THE DEVELOPER:</u>

    1. *DENITY…
    2. *ROBBIE ROAD…
    3. *GREENBELT…

CARTOGRAPHY

All Sheets

1. Contours, wetlands areas, and setbacks will be removed from final plat prior to recording.
2. Label previous TRACT B with dashed font.
3. Rename phases 1, 2, 3, etc. instead of A, B, C, etc. to maintain consistency with other phased subdivisions within CBJ.
4. Delete the centerline for Coogan Dr from sheet 1. It's the same line type as the unsurveyed lines. Also correct the label so it doesn't say "OOGAN".
5. Use a consistent line symbol for unsurveyed lot lines. Preferably the darker line type.
6. Label all adjacent lots with a gray or lighter font, and with a consistent font size (sheets 1 and 2). Show complete labels.
7. There's a line on the Hillcrest Ave ROW that serves an unknown purpose.
8. Remove the percent grade label and add bearing and distance annotation to the east and west sides of Hillcrest Ave ROW.

Sheet 1

9. Label HOOTER LN.
10. Move the TRACT A LOT 8 label onto the lot so it isn't covering the easement and decrease the font size.
11. Half of the line type for the easement north of LOT 39 uses a solid surveyed line type. Revise to the dashed easement line type.
12. Increase font size or remove the tiny.

Sheet 2

13. Use an annotation arrow to point to the west boundary of the 15' drainage easement, or orient the label so it aligns to the boundary line.
14. The "20' SETBACK LINE (TYP)" label is pointing to the title block. Correct as needed.
15. Move the "25' GREEN BELT" label so the "T" isn't covered by the title block.

Sheet 3

16. Remove the scale bar.
17. In note 12 on sheet 3, there is an extra "A" next to "SIDEWALK".
18. In the Planning Commission Plat Approval, there is an extra "O" in "ANCHORAGE".

Title Block

19. Title block option 1 (if we keep TRACT B1 as part of Richland Manor, it needs to be included in the title block):

PLAT OF
CHILKAT VISTAS SUBDIVISION PHASE 1
AND
TRACT B1 RICHLAND MANOR
A SUBDIVISION OF
TRACT B RICHLAND MANOR
WITHIN CITY & BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDER'S OFFICE AT ANCHORAGE

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20. Title block option 2 (if we do away with Richland Manor altogether, rename TRACT B to TRACT A and include it as a part of Chilkat Vistas Subdivision):

PLAT OF
CHILKAT VISTAS SUBDIVISION PHASE 1
A SUBDIVISION OF
TRACT B RICHLAND MANOR
WITHIN CITY & BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDER'S OFFICE AT ANCHORAGE

---

proHNS LLC
1945 Alex Holden Way #101 | Juneau, AK 99801 | 907-780-4004 | solutions@proHNS.com
219 Main Street #13 | Haines, AK 99827 | 907-419-6070 | www.proHNS.com

September 19, 2019

Michael and William Heumann
6000 Thane Rd
Juneau, AK 99801
mpheumann@hotmail.com
(971) 261-8014

RE: Richland Manor Subdivision - Drainage Plan

To Whom It May Concern,

The following Drainage Plan has been prepared for the Richland Manor Subdivision in Juneau, AK, a proposed development of single and multi-family residential units on a 30-acre site at 4506, 4508, and 4510 Hillcrest Avenue.

Attached sheets depict survey data, proposed phase A development, as-built information and rainfall data used for the proposed drainage analysis for this subdivision.

NOTE This report only accounts for the area being developed. The intent of this report is to show that the increased runoff due to development of the site can be handled by the existing drainage system on Glacier Highway. This report will be revised and updated as necessary during the design and layout of the conveyance system.

Site Runoff Calculation Method:

To calculate site runoff from the proposed development and through existing drainage structures, we have elected to use the Rational Method. Utilizing Appendix D of the "2010 CBJ Manual of Stormwater Best Management Practices" as a guide[1], the Rational Method equation employed for calculating stormwater runoff flows is as follows:

$$Q = CIA$$

Q = peak flow in cubic feet per second (cfs) *C = runoff coefficient*
I = rainfall intensity (inches per hour) *A = catchment area (acres)*

[1] There are no current municipal code requirements dictating adherence with the "2010 CBJ Manual of Stormwater Best Management Practices" when preparing a drainage plan that complies with 49.35.510. Regardless, we have elected to utilize portions of this Manual as a guide in the preparation of this Drainage Plan for the proposed development.

Catchment Areas (A):

There is an existing 24" CMP culvert that crosses Glacier Highway at the location where the proposed subdivision runoff will tie into Hooter Lane's existing ditch. This report analyzes the converted areas for the proposed subdivision. A delineation of all contributing flows should be performed before sizing or constructing any conveyance devices for this project.

Runoff Coefficient (C):

Catchment Areas contain multiple land cover types within the sub-division area. The existing catchment area for the 24" CMP culvert and coefficients were determined by analyzing CBJ 2014 Lidar data, aerial photos and field investigations. The calculations in this report use developed area quantities provided by the client. We have selected runoff coefficients based on a 25-year storm event, based on both "2010 CBJ Manual of Stormwater Best Management Practices" as well as "AK DOT & PF Highway Drainage Manual".

The following formula, taken from Page D-9 of the CBJ Stormwater Manual, was used to compute composite runoff coefficients for each Catchment Area (also tabulated below):

$$C_c = (C_1A_1 + C_2A_2)/A_t$$

C_c = composite runoff coefficient
A_t = total area (acres)
$C_{1,2}$ = runoff coefficient for each area land cover type
$A_{1,2}$ = areas of land cover types (acres)

Composite Runoff Coefficients for Existing Subdivision Conditions					
Catchment Area	**Total Basin**	**Forest**	**Lawn**	**Gravel**	**Cc**
Size (Acres)	2.26	0.23	0.45	1.58	**0.62**
Runoff Coefficient[2]	n/a	0.10	0.25	0.8	

Composite Runoff Coefficients for Developed Subdivision Conditions					
Catchment Area	**Total Basin**	**Roof**	**Pavement**	**Lawn**	**Cc**
Size (Acres)	2.26	0.41	0.70	1.15	**0.57**
Runoff Coefficient[3]	n/a	0.9	0.9	0.25	

[2] Runoff coefficients utilized for Composite Runoff Coefficient calculations were obtain from Table D-4 for a 25-year Return Period (2010 CBJ Manual of Stormwater Best Management Practices).
[3] Runoff coefficients utilized for Composite Runoff Coefficient calculations were obtain from Table D-4 for a 25-year Return Period (2010 CBJ Manual of Stormwater Best Management Practices).

proHNS LLC

Composite Runoff Coefficients for Existing 24" CMP Culvert					
Catchment Area	**Total Basin**	**Forest**	**Lawn**	**Pavement/Roof**	**Cc**
Size (Acres)	2.31	0.88	0.25	1.12	**0.502**
Runoff Coefficient[4]	n/a	0.10	0.25	0.9	

Rainfall Intensity (I):

The peak rainfall intensity is determined by calculating the time of concentration from the most hydraulically distant location in the drainage basin and applying the duration to the annual exceedance probability.

$$T_c = T_1 + T_2 + \cdots + T_n$$

T_c = time of concentration (min) *$T_{1,2}$ = travel time across separate flow path segments (min)*

$$T_t = L/60V$$

T_t = travel time (min)
L= the distance of flow across a given segment (feet)
$V=k_R Sqrt(S_0)$=average velocity (feet/sec) across land cover
k_R= time of concentration velocity factor (CBJ Manual of Storm Water BMP 2010, Table D-5, PG. D-10)
S_0= slope of flow path (feet/feet)

Time of Concentration Existing Sub. Conditions	
Flow Segments	**T_n (min)**
Gravel (nearly bare ground)	1.2
Forest	2.1
T_c	**3.3**

Time of Concentration Developed Sub. Conditions	
Flow Segments	**T_n (min)**
Lawn	1.3
Paved Area/Roof	0.4
T_c	**1.7**

Time of Concentration Existing 24" CMP Culvert	
Flow Segments	**T_n (min)**
Sheet Flow	37.5
Shallow Concentrated Flow	78.0
Open Channel	0.5
T_c	**116.0**

[4] Runoff coefficients utilized for Composite Runoff Coefficient calculations were obtain from Table D-4 for a 25-year Return Period (2010 CBJ Manual of Stormwater Best Management Practices).

Per CBJ Manual of Storm Water BMP 2010, Table 5-1, page. 5-1, design event frequencies are specified. For storm sewer feeder lines, a 25-year storm event is the required design return period. We will base our analysis on a 25-year design return period for all drainage structures and catchment areas.

Existing Conditions	Design Return Period
Tc Duration 10 (min)	25-year
Intensity (in/hr) =	**2.03**

Developed Conditions	Design Return Period
Tc Duration 10 (min)	25-year
Intensity (in/hr) =	**2.03**

Existing 24" CMP Culvert	Design Return Period
Tc Duration 120 (min)	25-year
Intensity (in/hr) =	**0.534**

Anticipated Site Runoff (Q):

Using the Rational Method equation and site data listed above, the amount of stormwater runoff per catchment area can be determined:

Catchment Area	**Cc**	**I**	**A**	**Q (cfs)**
Existing Conditions	0.62	2.03	2.26	**2.84**
Developed Conditions	0.57	2.03	2.26	**2.61**
Existing 24" CMP Culvert	0.50	0.53	2.31	**0.62**

Conveyance/Discharge Structure Capacities:

The following equations were used to calculate the capacity of an existing AK DOT & PF owned drainage system on Glacier Highway at the bottom of Hooter Lane and were obtained from "Urban Drainage Design Manual: Hydraulic Engineering Circular No. 22, Third Edition".

$$A = \pi \times \frac{d^2}{4}$$

A = cross sectional area in ft² *d = diameter in ft*

$$R = \frac{d}{4}$$

R = hydraulic radius

$$S = \frac{\Delta z}{L}$$

S = slope *Δz = change in elevation* *L = length of pipe in ft*

$$Q = (K/n) \times A \times R^{0.67} \times S^{0.5}$$

Q = discharge rate in ft³/sec K = coefficient for English units (1.486) n = Manning's coefficient of roughness[5]

Existing Glacier Highway 24" CMP Cross Culvert:

Existing 24" CMP Cross Culvert; Inlet Invert = 24.33', Outlet Invert = 24', Length = 46', n = 0.028. The Manning's n value of 0.028 was determined by the pipe type (Annular Corrugated Metal Pipe: plain or fully coated), all other values obtained from the attached DOT & PF Salmon Creek to Vanderbilt Hill Storm Drain System Summary (Project No. 70469; Sheets 10, 27, and 83).

$$A_{culvert} = 3.14 \times \frac{2^2}{4} = 3.14\ ft^2$$

$$R = \frac{2}{4} = 0.5\ ft$$

$$S = \frac{24.33 - 24}{46} = 0.717\%$$

$$Q_{culvert} = \frac{1.486}{0.028} \times 3.14 \times 0.5^{0.67} \times 0.00717^{0.5} = 8.87\ ft^3/sec$$

Summary:

Drainage Basin	Post Development Runoff Q (cfs)	Capacity Check	Flow Capacity Q (cfs)	Conveyance/Discharge Structures
Existing 24" CMP Culvert	0.62	<	8.87	Existing 24"CMP Culvert
Existing 24" CMP Culvert + Proposed Subdivision	3.23	<	8.87	To Be Determined

The results show that the development will result in a reduction in overall runoff from the developed area. This is due to replacing large portions of the existing gravel with lawn, which will absorb and slow the runoff more effectively than in the existing conditions. Current discharge from the area to be developed enters existing drainage channels not currently eased for upland drainage. As a result, runoff from the proposed development will be conveyed to developable ROW of Hooter lane and directed into the existing drainage system on Glacier Hwy. Our analysis shows that there is more than enough capacity in the existing Glacier Hwy. drainage system to handle increased flows from the proposed development.

[5] Manning's "n" values for culverts obtained from Table 5-3, Page 5-5, of the CBJ Stormwater Manual.

Respectfully,

Lucas Chambers

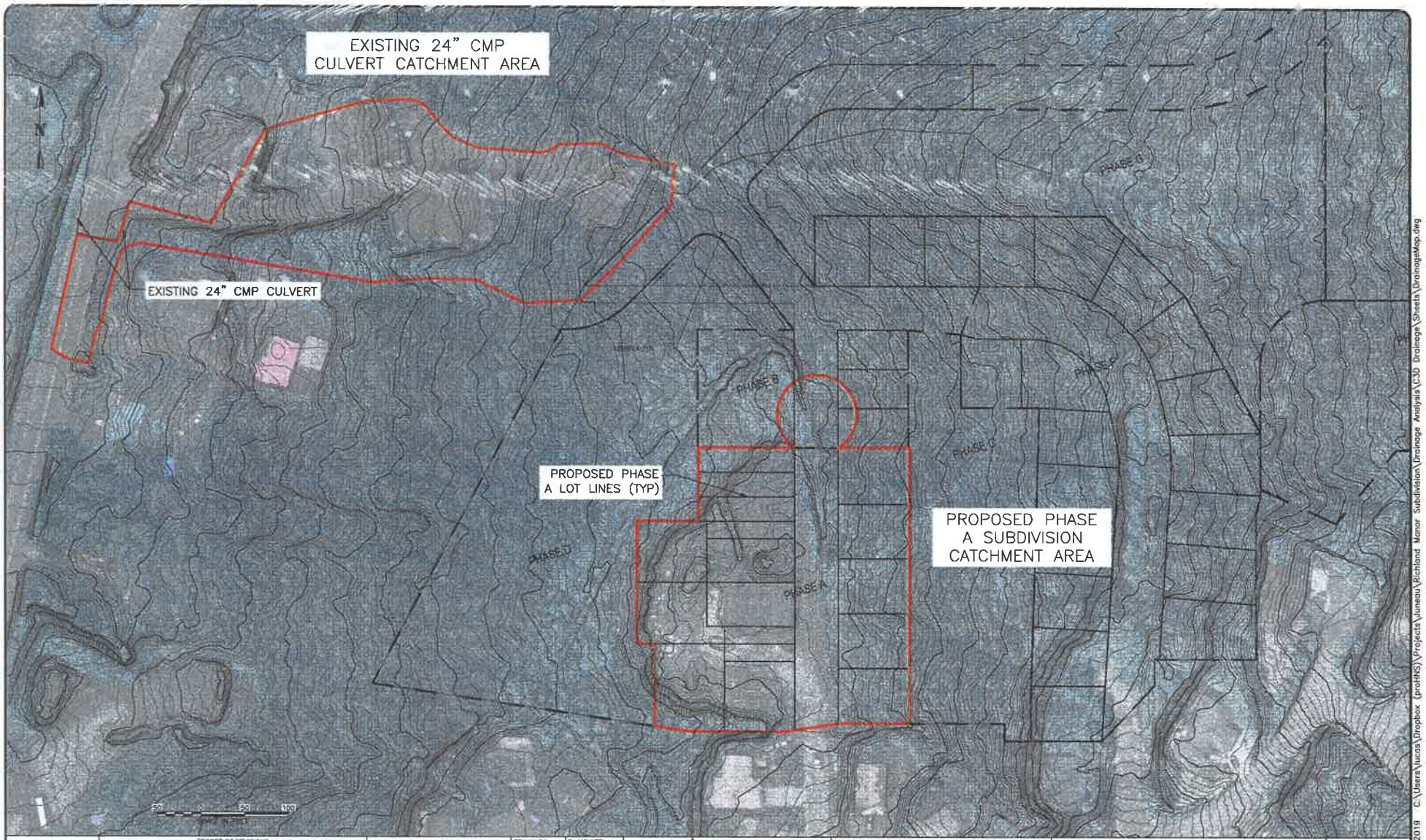
Lucas Chambers, P.E.
Principal Engineer – proHNS LLC Juneau

Attachments: Drainage Overview Graphic

Glacier Hwy As-built Plans

NOAA Precipitation Frequency Data

Attachment I - Preliminary Drainage Plan



RECORD OF REVISIONS			
No	DATE	DESCRIPTION	BY

proHNS LLC
CERTIFICATE OF AUTHORIZATION #102662
1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801

DRAWN BY:	S. MOLLER
DESIGNED BY:	L. CHAMBERS
CHECKED BY:	L. CHAMBERS

CITY AND BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

RICHLAND MANOR SUBDIVISION

WILLIAM & MICHAEL HUMEAN

DRAINAGE OVERVIEW

SHEET NUMBER 1 OF 1

September 19, 2019 C:\Users\lucas\Dropbox (proHNS)\Projects\Juneau\Richland Manor Subdivision\Drainage Analysis\C3D Drainage\Sheets\DrainageMap.dwg

RECEIVED
SEP 19 2019
PERMIT CENTER/CDD

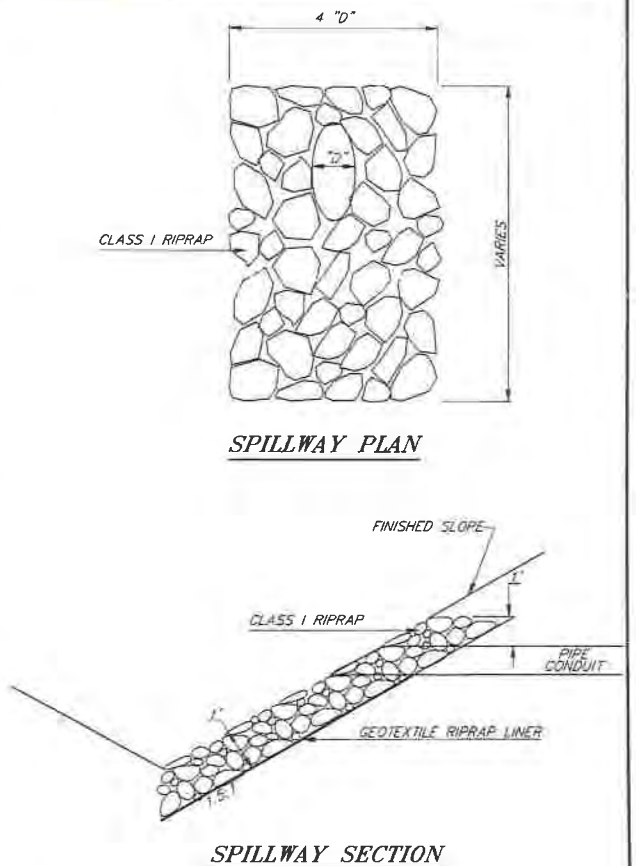
Attachment I - Preliminary Drainage Plan

STORM DRAIN SYSTEM SUMMARY

STRUCTURE NO.	INLET TYPE	LOCATION STATION	LOCATION OFFSET	TOP OF GRATE ELEVATION	INVERT ELEVATION	ELEV.	REMARKS ELEV.	PIPE NO.	DESIGN LENGTH	PIPE SIZE	FROM STRUCTURE NO.	FROM INVERT ELEVATION	TO STRUCTURE NO.	TO INVERT ELEVATION	REMARKS
S-1	A	140+37	RT	27.77	23.52	[illegible]	[illegible]	P-1	8' 14'	18"	S-1	25.02 11	OUTFALL		SPILLWAY
S-2	A	142+18	LT	26.11	21.36		19.22	P-2	54' 66'	24"	S-2	22.86	OUTFALL		SPILLWAY
S-3	A	144+35	LT	27.23	22.48		20.76	P-3	56'	24"	S-3	23.98	OUTFALL		
S-4	A	146+58	LT	28.66	24.41			P-4	10'	18"	S-4	25.91	OUTFALL		
S-5	A	148+38	LT	30.48	26.23		25.23	P-5	24' 12'	18"	S-5	26 27.73	OUTFALL	25.9	
S-6	A	148+39	RT	30.67	25.92		25.97	~~P-6~~	~~32'~~	~~24"~~	S-6	27.42	S-7	27.32	
S-7	A	148+72	RT	30 ~~79~~ 61	25 ~~79~~ 45			P-7	10'	24"	S-7	27.22	S-8	26.25	
S-8	FIELD	"W" 10+28	LT	29.00	25.60			P-8	62' 10'	24"	S-8	26.20	OUTFALL		DELETED
S-9	FIELD	"W" 11+65	LT	49.00	44.30			P-9	138'	18"	S-9	45.80	S-7	27.42	
								P-10	24' 21'	24"	DITCH		S-9	46.00	
S-10	A	152+00	LT	30.43	26.18		25.18	P-11	12' 6'	18"	S-10	26 27.68	OUTFALL		SPILLWAY
S-11	A	153+16	LT	29.96	25.71		24.71	P-12	12' 8'	18"	S-11	26 27.21	OUTFALL		SPILLWAY
S-12	A	154+93	RT	29.85	25.40			P-13	30' 35'	24"	S-12	26.60 40	S-13	26.49	
S-13	A	154+93	LT	29.65	24.70		24.66	P-14	12' 4'	24"	S-13	26.32	OUTFALL	26.30	SPILLWAY
S-14	A	156+42	RT	20.50	26.25		25.17	P-15	8' 11'	18"	S-14	27.75 21	OUTFALL	27.00	
S-15	A	158+05	LT	30.86	26.61			P-16	14' 11'	18"	S-15	28.11	OUTFALL	27.80	SPILLWAY
S-16	A	160+70	RT	31.08	26.83		26.21	P-17	18' 11'	18"	S-16	28.33	OUTFALL	26.00	
S-17	A	161+98	LT	30.46	26.21		25.21	P-18	12' 10'	18"	S-17	26 27.71	OUTFALL	26.50	SPILLWAY
S-18	A	163+88	RT	29.96	25.21			P-19	48'	24"	S-18	26.71	OUTFALL	26.00	SPILLWAY
								P-19A	16' 10'	18"	DITCH	28.00	S-18	28.40	
S-19	A	165+29	LT	29.42	25.17		24.17	P-20	20' 13'	18"	S-19	25 26.67	OUTFALL	25.30	SPILLWAY
S-20	A	167+02	LT	29.83	25.58		24.68	P-21	14' 10'	18"	S-20	26 27.08	OUTFALL	25.90	
S-21	A	169+48	LT	30.52	26.27		25.27	P-22	16' 9'	18"	S-21	26 27.77	OUTFALL	26.50	SPILLWAY
S-22	A	172+04	LT	29.70	25.45		24.47	P-23	14' 9'	18"	S-22	25 26.95	OUTFALL	25.70	
S-23	A	173+33	LT	29.70	24.60		23.60	P-24	16' 9'	24"	S-23	25 26.10	S-23	24.70	
S-24	A	173+48	RT	29.71	24.96			P-25	38'	24"	S-24	26.46	S-23	26.20	
S-25	A	174+02	LT	29.63	25.38		24.38	P-26	12' 11'	18"	S-25	26 26.88	OUTFALL	25.60	SPILLWAY
S-26	A	175+52	RT	30.17	25.42			P-27	36'	24"	S-26	26.92	S-27	26.75	SPILLWAY
S-27	A	175+52	LT	30.17	25.15		24.15	P-28	12' 11'	24	S-27	25 26.65	OUTFALL	26.30	
								~~P-27A~~	~~10'~~	~~18"~~	~~DITCH~~	~~29.00~~	~~S-26~~	~~27.50~~	
S-28	A	177+98	RT	30.07	25.32		25.04	P-29	62' 30'	24"	S-28	26.82 54	OUTFALL	26.50	SPILLWAY
S-28A	A	"B" 10+34	RT	28.66	23.70		24.40	P-29B	34' 36'	24"	S-28A	25.20 40	S-28B	25.10	
S-28B	A	"B" 10+34	LT	28.49	23.60		24.50	P-29C	6' 7'	24"	S-28B	25.10 30	DITCH	25.05	
								P-29A	10'	24"	DITCH	25.30	S-28A	25.25	
S-29	A	180+85	RT	28.56	23.81		23.81	P-30	84' 55'	24"	S-29	25.31	OUTFALL		
S-30	B	182+56	RT	29.13	22.40			P-31	84' 7'	24"	S-30	23.90	OUTFALL	19.20	
								P-32	12' 11'	18"	INLET	24.25	S-30	24.00	
S-31	A	185+00	RT	30.96	26.21			P-33	46' 66'	24"	S-31	27.71	OUTFALL	20.70	SPILLWAY
S-32	A	185+88	RT	31.29	27.04		26.04	P-34	10' 9'	18"	S-32	27 28.45 54	OUTFALL	27.30	SPILLWAY
S-33	A	187+22	LT	31.35	27.10		26.10	P-35	10' 8'	18"	S-33	27 28.60	OUTFALL	27.30	SPILLWAY
S-34	A	188+98	LT	31.54	27.29		26.29	P-36	12' 9'	18"	S-34	29 28.79	OUTFALL	27.50	SPILLWAY
S-35	A	191+00	LT	31.07	26.22		25.22	P-37	26' 8'	18"	S-35	26 27.72	OUTFALL	26.50	
								P-37A	46' 40'	24"	DITCH	30.00	S-35	27.82	
S-36	A	192+72	LT	30.03	25.78		24.78	P-38	12' 6'	18"	S-36	26 27.28	OUTFALL	26.00	SPILLWAY
S-37	A	194+39	RT	31.11	26.16			P-39	36'	24"	S-37	27.86	S-38	27.31	
S-38	A	194+39	LT	31.11	26.06		25.06	P-40	44' 9'	18"	S-38	26 27.56	OUTFALL	26.36	SPILLWAY
S-39	A	198+00	RT	30.86	26.11			P-41	36'	24"	S-39	26 27.61	S-40	27.41 3	
S-40	A	198+00	LT	30.86	25.81		24.81	P-42	14' 8'	18"	S-40	26 27.31	OUTFALL	26.00	
S-41	A	200+70	RT	29.62	24.87			P-43	36'	24"	S-41	26.37	S-42	26.20	
S-42	A	200+70	LT	29.52	24.67		23.67	P-44	10' 6'	24"	S-42	25 26.17	OUTFALL	25.00	SPILLWAY
								P-45	8' 10'	18"	DITCH	27.00	S-41	26.50	
~~S-43~~	~~A~~	~~201+02~~	~~LT~~	~~29.59~~	~~25.14~~	DELETED									
S-44	A	203+13	RT	32.93	27.98			P-46	36'	24"	S-44	29.68	S-45	29.48	
S-45	A	203+13	LT	32.93	27.88		26.88	P-47	20'	18"	S-45	28 29.38	OUTFALL	28.00	SPILLWAY
S-44A	A	"C" 10+43	RT	33.26	29.01	1' + Sump		P-47A	12'	18"	S-44A	29.80	OUTFALL		
S-46A	A	"C" 10+50	LT	33.38	29.13			P-47B	26' 31'	18"	S-46A	30.43	S-44A	30.00	
								~~P-47C~~	~~6'~~	~~18"~~	~~DITCH~~	~~30.70~~	~~S-46A~~	~~30.53~~	
S-46	A	204+18	RT	36.40	31.65			~~P-48~~	~~56'~~	~~24"~~	~~S-46~~	~~33.15~~	~~OUTFALL~~		~~SPILLWAY~~
								P-49	19' 16'	18"	~~INLET~~ S-46	33.15	~~S-46~~ OUTFALL	~~33.65~~ 30	
S-47	A	206+50	RT	45.64	41.39			P-50	10'	18"	S-47	43.50 42.89	OUTFALL	43.00	
S-48	A	212+60	RT	45.60	41.35			P-51	14' 12'	18"	S-48	42.85	OUTFALL	42.00	
S-49	A	216+00	RT	32.80	28.55			P-52	14' 12'	18"	S-49	30.05	OUTFALL	28.50	
S-50	A	217+47	LT	29.33	25.00		24.00	P-53	12' 11'	18"	S-50	25.50 26.50	OUTFALL	25.00	
S-51	A	218+53	RT	27.58	22.83			P-54	42' 16'	24"	S-51	24.33	OUTFALL	24.00	
S-52	A	220+65	RT	26.09	21.34			P-55	40' 20'	24"	S-52	22.84	OUTFALL	18.00	
S-53	A	223+86 00	RT	~~25.33~~	~~21.08~~	25.33	21.02	P-56	14'	18"	S-53	22.58 52	OUTFALL	22.00	
S-54	A	223+26	LT	24.71	20.38	24.65	20.32	P-57	18' 10'	18"	S-54	21.88	OUTFALL	21.00	

TOTALS: 54- A 1- B 2- F

TOTALS: 18" - ~~634'~~ 675' 24" - ~~1,139'~~ 1,099'



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NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

BY:	DATE:	DESCRIPTION OF CHANGE

RECORD OF REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

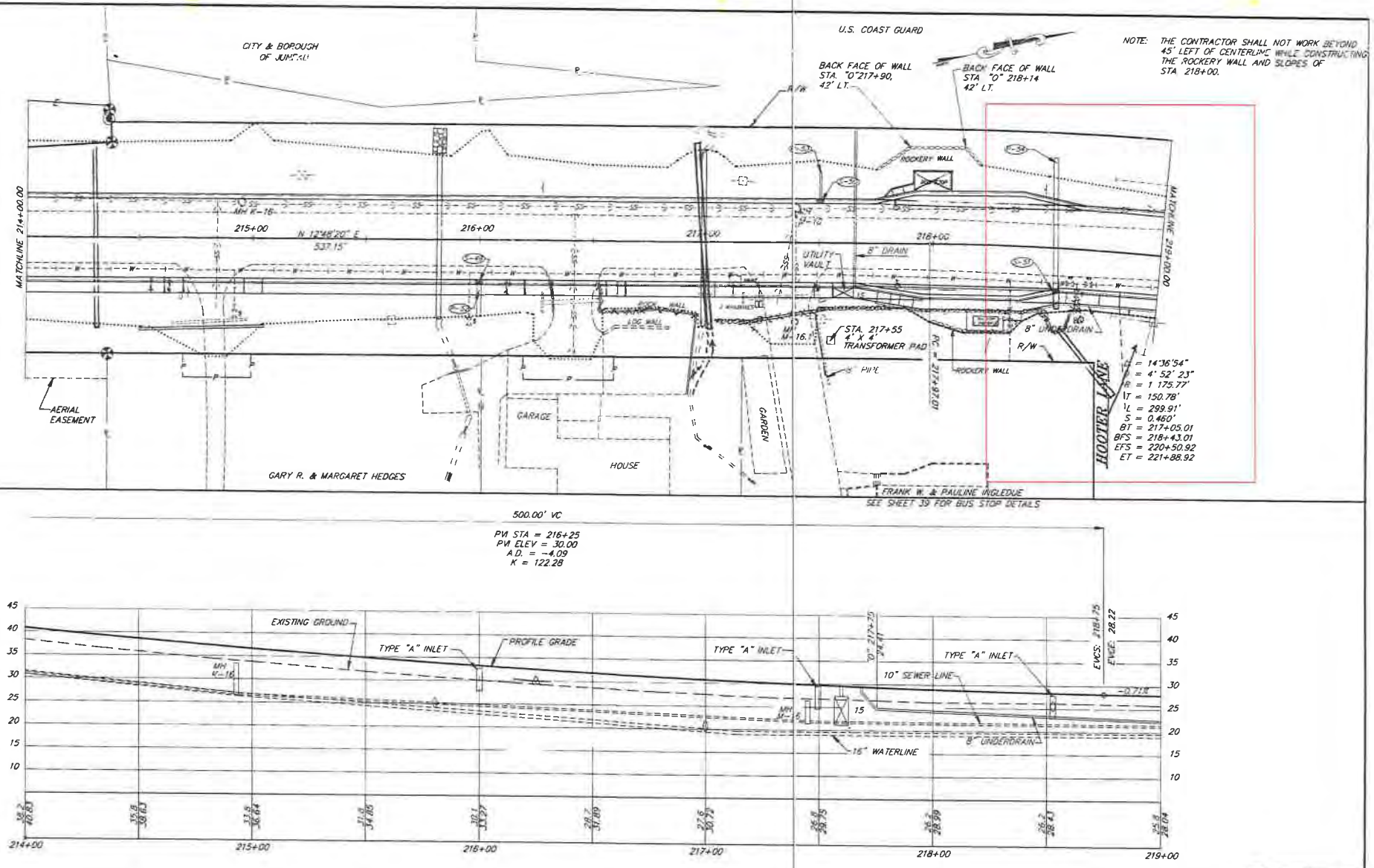
JUNEAU — ALASKA

SALMON CREEK TO VANDERBILT HILL
PROJECT NO. RS-M-0955(8) (70469)
STORM DRAIN SYSTEM SUMMARY

DESIGNED BY: D. KROMAREK	PROJECT NO. 70469
DRAWN BY: C. ANDERSON	DATE: 6/1993
CHECKED BY: P. BEDNAROWCZ	SHEET 10 OF 85

ENGINEER'S SEAL

Attachment I - Preliminary Drainage Plan



DATE:	DESCRIPTION OF CHANGE:

RECORD OF REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

JUNEAU ALASKA

SALMON CREEK TO VANDERBILT HILL
PROJECT NO. RS-M-0955(8) (70469)
STA. "0" 214+00.00 TO STA. "0" 219+00.00

NOTE: DO NOT SCALE FROM THESE PLANS-USE DIMENSIONS

DESIGNED BY: D. KROMAREK	PROJECT NO. 70469
DRAWN BY: C. ANDERSON	DATE: 5/1993
CHECKED BY: P. BEDNAROWICZ	SHEET 27 OF 85

ENGINEER'S SEAL
STATE OF ALASKA
49th
PETER J. BEDNAROWICZ
CE-5134
REGISTERED PROFESSIONAL ENGINEER

R:\JNU\SALMON DR\P214 1=20

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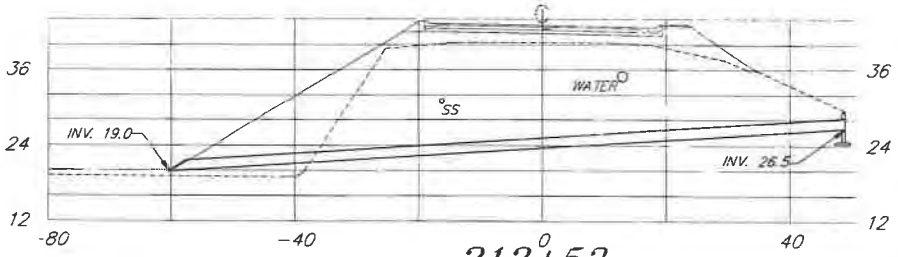
Attachment I - Preliminary Drainage Plan



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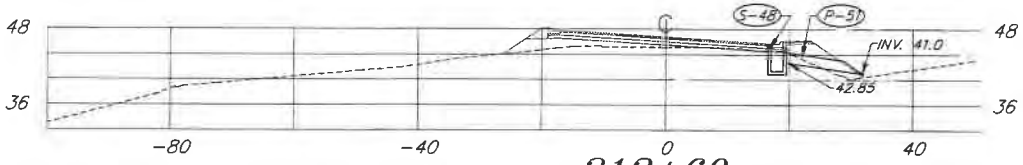

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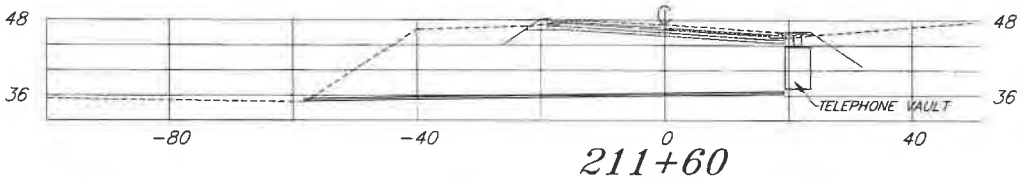

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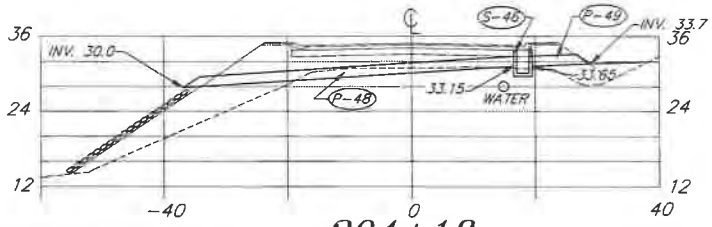

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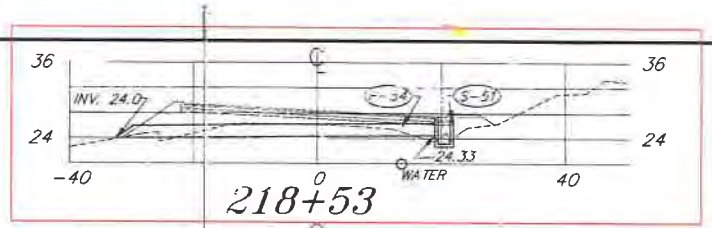

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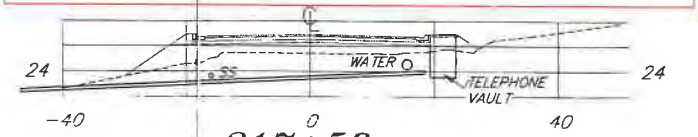

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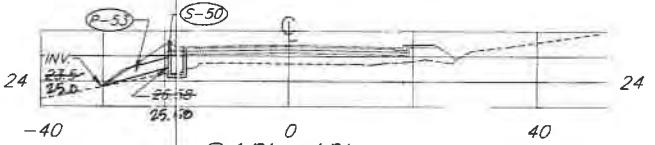

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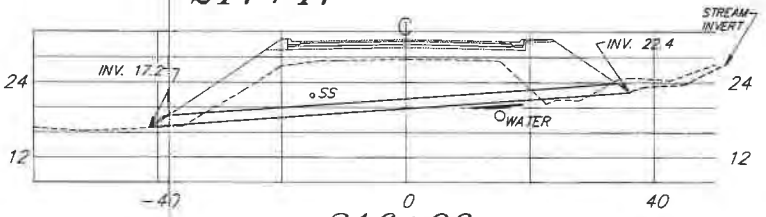

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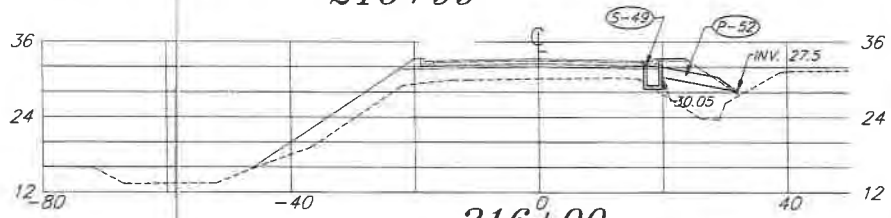

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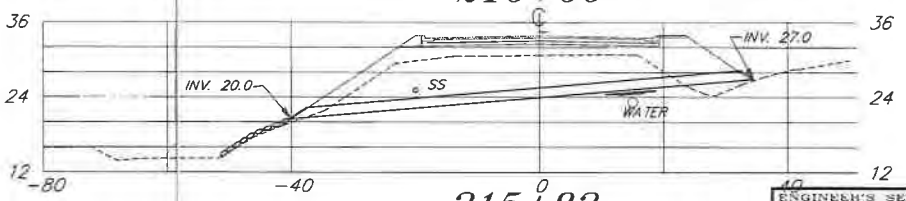

215+82

NOTE: DO NOT SCALE FROM THESE PLANS–USE DIMENSIONS

ENGINEER'S SEAL

PATH: P:\JNU\SALMON\DR\PIPE9 1=10				
NO.	DATE	DESCRIPTION OF CHANGE:		
RECORD OF REVISIONS				

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
SOUTHEAST REGION DESIGN & CONSTRUCTION

JUNEAU ALASKA

SALMON CREEK TO VANDERBILT HILL
PROJECT NO. RS-M-0955(8) 70169

PIPE CROSS SECTIONS–204+18 TO 218+53

DESIGNED BY: D. KROMAREK	PROJECT NO. 70469
DRAWN BY: C. ANDERSON	DATE: 6/1993
CHECKED BY: P. BEDNARCZUK	SHEET 83 OF 85

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Attachment I - Preliminary Drainage Plan

NOAA Atlas 14, Volume 7, Version 2
Location name: Juneau, Alaska, USA*
Latitude: 58.3454°, Longitude: -134.4905°
Elevation: 101.1 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Douglas Kane, Sarah Dietz, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Svetlana Stuefer, Amy Tidwell, Carl Trypaluk, Dale Unruh, Michael Yekta, Erica Betts, Geoffrey Bonnin, Sarah Heim, Lillian Hiner, Elizabeth Lilly, Jayashree Narayanan, Fenglin Yan, Tan Zhao

NOAA, National Weather Service, Silver Spring, Maryland
and
University of Alaska Fairbanks, Water and Environmental Research Center

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.57 (1.27-1.99)	1.84 (1.46-2.36)	2.24 (1.75-2.95)	2.58 (1.98-3.44)	3.04 (2.27-4.15)	3.38 (2.48-4.72)	3.74 (2.70-5.30)	4.20 (2.98-6.06)	4.80 (3.32-7.08)	5.26 (3.59-7.88)
10-min	1.06 (0.852-1.34)	1.24 (0.984-1.59)	1.51 (1.17-1.98)	1.73 (1.32-2.31)	2.03 (1.52-2.78)	2.27 (1.67-3.17)	2.51 (1.81-3.55)	2.82 (2.00-4.07)	3.22 (2.23-4.75)	3.53 (2.41-5.29)
15-min	0.824 (0.664-1.04)	0.964 (0.768-1.24)	1.17 (0.912-1.54)	1.35 (1.03-1.80)	1.59 (1.19-2.17)	1.77 (1.30-2.47)	1.96 (1.41-2.78)	2.20 (1.56-3.16)	2.52 (1.74-3.71)	2.76 (1.88-4.13)
30-min	0.546 (0.440-0.692)	0.640 (0.510-0.822)	0.778 (0.606-1.02)	0.894 (0.684-1.19)	1.05 (0.788-1.44)	1.18 (0.864-1.64)	1.30 (0.938-1.84)	1.46 (1.03-2.10)	1.67 (1.16-2.46)	1.83 (1.25-2.74)
60-min	0.374 (0.302-0.474)	0.438 (0.349-0.563)	0.533 (0.415-0.700)	0.613 (0.469-0.819)	0.722 (0.539-0.988)	0.806 (0.592-1.12)	0.890 (0.642-1.26)	0.999 (0.708-1.44)	1.14 (0.792-1.69)	1.25 (0.853-1.88)
2-hr	0.276 (0.222-0.350)	0.324 (0.258-0.416)	0.394 (0.307-0.518)	0.453 (0.346-0.606)	0.534 (0.399-0.730)	0.596 (0.438-0.830)	0.658 (0.474-0.932)	0.738 (0.523-1.06)	0.844 (0.586-1.25)	0.925 (0.630-1.39)
3-hr	0.243 (0.196-0.308)	0.284 (0.226-0.366)	0.347 (0.270-0.455)	0.398 (0.305-0.532)	0.469 (0.351-0.642)	0.523 (0.384-0.729)	0.577 (0.417-0.818)	0.648 (0.460-0.935)	0.742 (0.514-1.09)	0.813 (0.554-1.22)
6-hr	0.195 (0.158-0.248)	0.229 (0.182-0.294)	0.279 (0.217-0.366)	0.320 (0.245-0.428)	0.377 (0.282-0.516)	0.421 (0.309-0.586)	0.465 (0.335-0.659)	0.522 (0.370-0.753)	0.597 (0.414-0.881)	0.654 (0.446-0.981)
12-hr	0.146 (0.118-0.185)	0.171 (0.136-0.220)	0.208 (0.162-0.273)	0.238 (0.182-0.318)	0.280 (0.210-0.384)	0.314 (0.231-0.438)	0.349 (0.252-0.495)	0.393 (0.278-0.566)	0.450 (0.312-0.664)	0.493 (0.336-0.740)
24-hr	0.106 (0.096-0.118)	0.124 (0.111-0.141)	0.150 (0.131-0.173)	0.171 (0.147-0.201)	0.201 (0.169-0.242)	0.226 (0.186-0.277)	0.252 (0.204-0.314)	0.283 (0.225-0.359)	0.324 (0.252-0.420)	0.354 (0.272-0.467)
2-day	0.072 (0.065-0.081)	0.084 (0.075-0.095)	0.100 (0.087-0.116)	0.113 (0.097-0.133)	0.131 (0.110-0.158)	0.146 (0.120-0.179)	0.161 (0.131-0.201)	0.179 (0.143-0.227)	0.202 (0.158-0.263)	0.220 (0.169-0.290)
3-day	0.057 (0.051-0.064)	0.066 (0.059-0.074)	0.078 (0.068-0.090)	0.088 (0.075-0.103)	0.101 (0.085-0.122)	0.112 (0.092-0.137)	0.123 (0.099-0.153)	0.135 (0.108-0.171)	0.152 (0.118-0.197)	0.164 (0.126-0.216)
4-day	0.048 (0.044-0.054)	0.055 (0.049-0.063)	0.065 (0.057-0.076)	0.073 (0.063-0.086)	0.084 (0.071-0.101)	0.093 (0.076-0.114)	0.101 (0.082-0.126)	0.111 (0.089-0.141)	0.124 (0.097-0.161)	0.134 (0.103-0.177)
7-day	0.036 (0.032-0.040)	0.041 (0.036-0.046)	0.048 (0.042-0.055)	0.053 (0.046-0.063)	0.061 (0.051-0.073)	0.067 (0.055-0.082)	0.073 (0.059-0.091)	0.080 (0.064-0.101)	0.089 (0.069-0.115)	0.096 (0.074-0.127)
10-day	0.029 (0.027-0.033)	0.034 (0.030-0.038)	0.039 (0.034-0.046)	0.044 (0.038-0.052)	0.050 (0.042-0.060)	0.055 (0.045-0.067)	0.060 (0.048-0.074)	0.065 (0.052-0.083)	0.072 (0.057-0.094)	0.078 (0.060-0.103)
20-day	0.022 (0.020-0.025)	0.025 (0.022-0.029)	0.029 (0.026-0.034)	0.032 (0.028-0.038)	0.037 (0.031-0.044)	0.040 (0.033-0.049)	0.043 (0.035-0.054)	0.047 (0.037-0.059)	0.051 (0.040-0.067)	0.055 (0.042-0.073)
30-day	0.019 (0.018-0.022)	0.022 (0.020-0.025)	0.026 (0.022-0.030)	0.028 (0.024-0.033)	0.032 (0.027-0.038)	0.035 (0.028-0.042)	0.037 (0.030-0.046)	0.040 (0.032-0.051)	0.044 (0.034-0.057)	0.047 (0.036-0.061)
45-day	0.017 (0.015-0.019)	0.020 (0.017-0.022)	0.023 (0.020-0.026)	0.025 (0.021-0.029)	0.028 (0.023-0.034)	0.030 (0.025-0.037)	0.032 (0.026-0.040)	0.034 (0.027-0.044)	0.037 (0.029-0.048)	0.039 (0.030-0.052)
60-day	0.015 (0.014-0.017)	0.018 (0.016-0.020)	0.020 (0.018-0.024)	0.022 (0.019-0.026)	0.025 (0.021-0.030)	0.027 (0.022-0.033)	0.028 (0.023-0.035)	0.030 (0.024-0.038)	0.032 (0.025-0.041)	0.033 (0.026-0.044)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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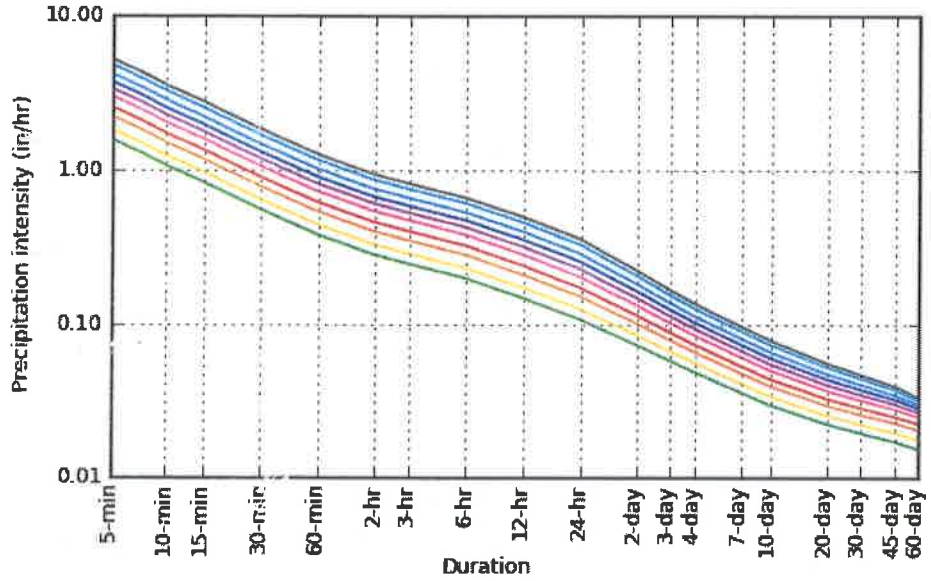
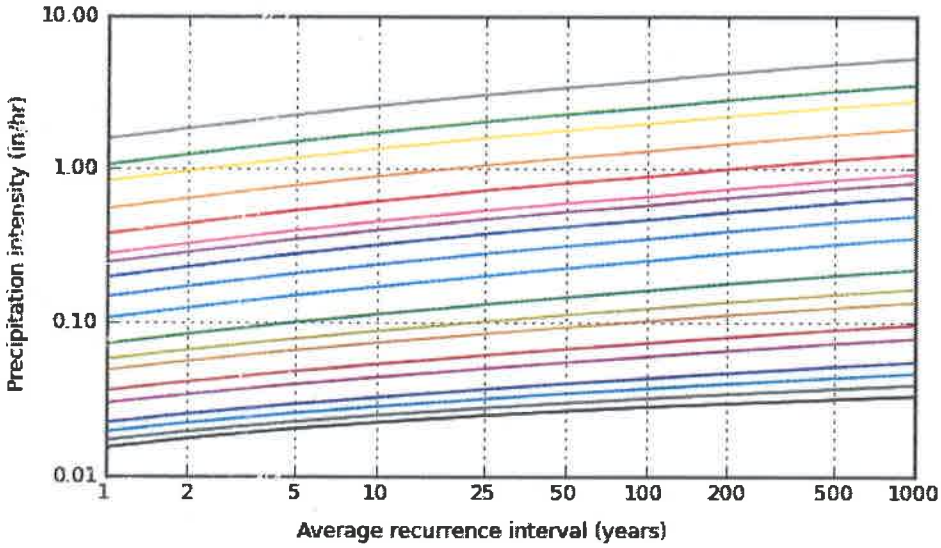
PF graphical

PDS-based intensity-duration-frequency (IDF) curves
Latitude: 58.3454°, Longitude: -134.4905°





NOAA Atlas 14, Volume 7, Version 2

Created (GMT): Fri Jun 14 16:56:22 2019

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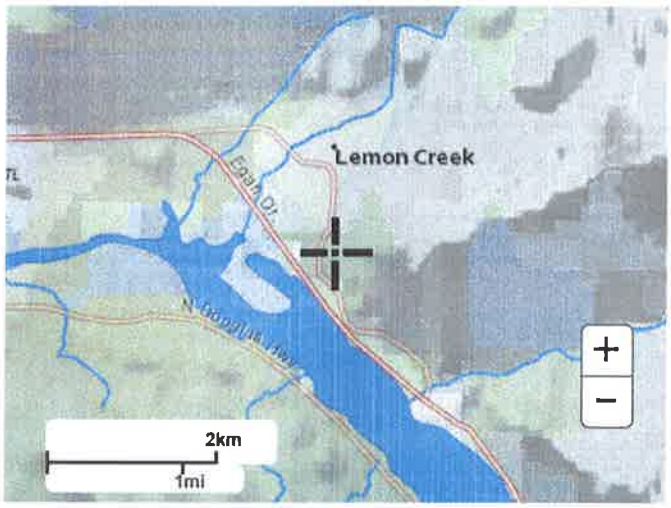
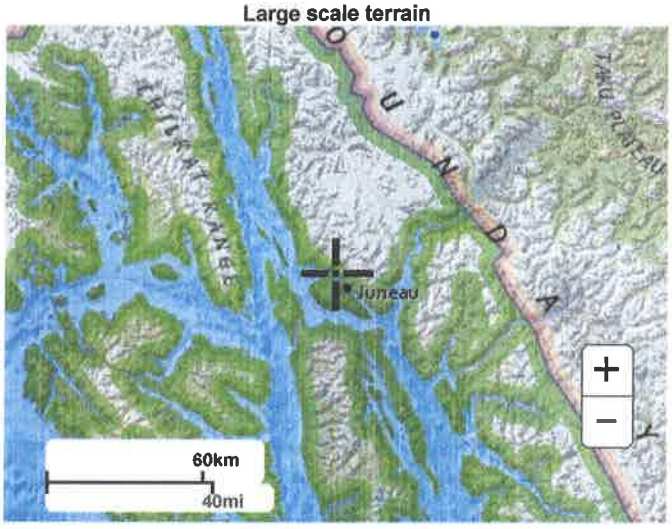
Maps & aerials

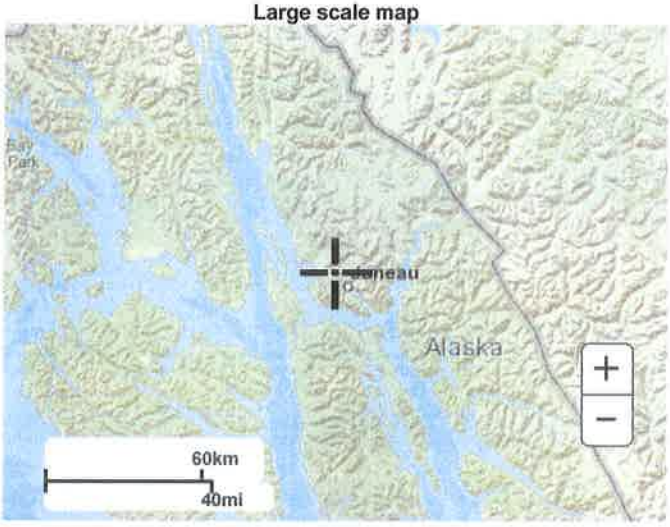
Small scale terrain



Large scale terrain

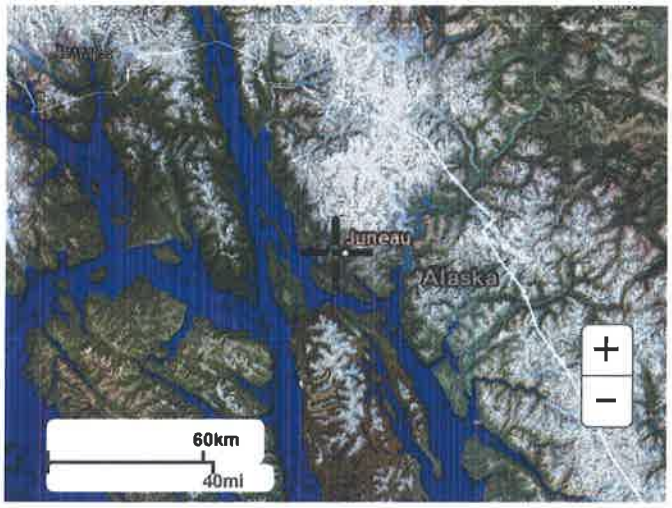


Large scale map



Large scale aerial

Attachment I - Preliminary Drainage Plan



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Disclaimer

Technical Memorandum

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Date: 12/11/2018

To: Bill Heumann

From: Jim Dorn

Reference:

Subject: Mountainside Estates
High Elevation Water System
Evaluation

PURPOSE OF TECH MEMO

The purpose of this technical memorandum is to evaluate the water booster pump station and water distribution system piping serving the high elevation water system in the Mountainside Estates Subdivision with regards to the possibility of constructing new residences off the end of Hillcrest Avenue, Mountainside Drive and Robbie Road.

SUMMARY OF FINDINGS AND CONCLUSIONS

- The existing Mountainside Estates water booster pump station has 3 – 10 hp pumps each of which is designed to pump 200 gpm. The total design capacity of the pump station is therefore 600 gpm.
- The original design intent for the existing Mountainside Estates water booster pump station was to have sufficient capacity to meet a peak hourly domestic water demand of 100 gpm while simultaneously providing 500 gpm for fire flows.
- 18 AAC 80.205 (a) (5) of the Alaska Department of Environmental Conservation's Drinking Water Regulations requires "...that at least 20 psi of service pressure at the highest elevation or pressure zone of a distribution main be maintained under peak design demand."
- The water pressure provided by the Mountainside Estates water booster pump station is 95 psi. The lowest elevation in the service area is at the end of Hillcrest Avenue and it has a static water pressure of about 96 psi. The highest elevation in the service area is at the upper end of Ling Court and it has the lowest static water pressure in the Mountainside Estates subdivision of about 42 psi.

- Water demand in the high elevation water system in 2018 has averaged about 16,400 gpd. This is equal to about 140 gpd per residence.
- Greatest water demand was in July. In July the daily demand was 20,423 gpd. The CBJ Water Department reviewed the historic water demand trend charts for July, 2018 and peak flows recorded during this period were consistently in the 50 to 60 gpm range.
- There are about 120 residences currently served by the Mountainside Estates Water Booster Pump Station. With current Peak Hourly Flows of 60 gpm, the average per residence Peak Hourly Flow is 0.5 gpm (60 gpm peak hourly flow/120 residential units = 0.5 gpm peak hourly flow/residential unit).
- With the pump station designed to provide peak hourly domestic water flows of 100 gpm, and 60 gpm is currently being used to meet Peak Hourly Domestic demand, there remains 40 gpm of pump station capacity available to meet peak hourly water demands from future residential development. This preserves 500 gpm of pump station capacity for fire flows.
- With average peak hourly flow per residence in Mountainside Estates of 0.5 gpm, if an additional 80 residential units are constructed it would result in a projected 40 gpm increase in the peak hourly flow (80 residential units x 0.5 gpm peak hourly flow/residential unit = 40 gpm). This uses the remaining domestic peak hourly water flow design capacity of the Mountainside Estates pump station.
- Using a computer model of the Mountainside Estates water system, water pressure in the water main at the upper end of Ling Court (the area with the lowest water system pressure) is projected to be as follows for the following conditions:
    - Static Pressure No Water Demand = 41.79 psi
    - 60 gpm Existing Peak Hourly Water Demand = 41.69 psi
    - 100 gpm Future Peak Hourly Water Demand = 41.56 psi
    - 60 gpm Existing Peak Hourly and 500 gpm Fire @ Robbie Rd. = 31.59 psi
    - 100 gpm Future Peak Hourly and 500 gpm Fire @ Robbie Rd. = 30.70 psi
- It appears that an additional 80 residential units could be constructed in the Mountainside Estates high elevation water zone without exceeding the existing pump station design capacity of 100 gpm for peak hourly domestic water demand or reducing pressures in the distribution main to below 20 psi. This also preserves additional pump station capacity of 500 gpm for fire flows without reducing water pressures in the water main to below 20 psi.

MOUNTAINSIDE ESTATES HIGH ELEVATION WATER SYSTEM BACKGROUND

The higher elevations of the Mountainside Estates Subdivision are at an elevation that is too high for it to be served by the low elevation water system which serves much of Juneau. High elevation developments in Juneau, like Mountainside Estates, are typically supplied water using water booster pumps. In some instances, these water booster pumps fill water storage reservoirs that provide higher elevation areas with adequate water pressure and flows using

water stored in the reservoirs. In other instances, the pumps are constant pressure pumps that maintain water pressure in higher elevation areas by varying pump speed to ensure a constant pressure is provided to residents under varying water demand conditions.

The Mountainside Estate Pump Station, located at the intersection of Craig Street and Hillcrest Avenue is a constant pressure pump station that was constructed in 1994. It has three 10 hp pumps each capable of producing 200 gpm. Two of the pumps are controlled by variable frequency drives (VFDs) that adjust pump speed to maintain a constant output pressure of 95 psi at the pump station. For the Mountainside Estates pump station one of the VFD controlled pumps typically operates continuously to maintain water pressure and other is a standby in case water demand exceeds the 200 gpm capacity of a single pump. The two VFD controlled pumps alternate operation each day. The third pump is a constant speed pump and it only operates when the two VFD controlled pumps are unable to maintain a pump station output pressure of 95 psi. The combined output of the three pumps is about 600 gpm. The design flow of the pump station was based on a fire flow of 500 gpm and a peak hourly domestic demand of 100 gpm. These design flows were the result of meetings and conversations between the CBJ Public Utilities, CBJ Engineering and CBJ Fire Departments in 1994.

Mountainside Estates Pump Station

The desired static water pressure (the no flow condition) in water mains within the Juneau Areawide Water System is typically a low of 40 psi and a high of 95 psi. The Mountainside Estates pump station is at elevation 108' and its output pressure is 95 psi. The lowest elevation in the Mountainside Estates high elevation water service area is at the end of Hillcrest Avenue.

Its elevation is 106' and it has a static operating pressure of about 96 psi. The highest elevation in the Mountainside Estates high elevation water service area is at the end of Ling Court. Its elevation is 231' and it has a static operating pressure of about 42 psi. Houses that are higher or lower than the water main in the road may have pressures that are higher or lower than these calculated pressures.

The water distribution system piping in the Mountainside Estates high elevation service area consists of 8" ductile iron pipe. The service area includes:

- Hillcrest Avenue
- Mountainside Drive
- Timberline Court
- Edwin Place
- Pike Court
- Tarn Court
- Mary Ellen Way
- Robbie Road
- Laurie Lane
- Ling Court

A drive through survey of the service area counted 118 residences in the service area.

MOUNTAINSIDE ESTATES DOMESTIC WATER DEMAND EVALUATION

As discussed earlier, the Mountainside Estates pump station was designed to provide 100 gpm for peak hourly domestic water demand and 500 gpm for fire flows.

There are currently about 118 residences in the service area. Water usage is recorded at the Mountainside Estates pump station a couple of times each week (see Appendix A – 2018 Mountainside Estates Pump Station Flows). From the recorded water usage, daily usage is calculated by dividing the recorded usage by the number of days between each recording. The Average Gallons per Day per Residence is calculated by dividing the calculated daily usage by the number of residences. Average Daily Flow rate is calculated by dividing the daily usage by 1,440 minutes, the number of minutes in a day.

Water demand constantly changes throughout a day. Generally, there are peak water demand periods in the morning and again in the evening. Since water demand is not constant over a day it is typical to evaluate water systems based on the Peak Hourly Flow. Peak Hourly Flows are usually estimated to be between 3 and 4 times the Average Daily Flow. Since Mountainside is a relatively small subdivision, we have used a peaking factor of 4 to calculate the estimated peak hourly flows. Table 1 is a summary of the monthly flows for the Mountainside Estates Pump Station.

Table 1
2018 Mountainside Estates Water Flow Summary

Month	Average Daily Use (GPD)	Avg. GPD Per Residence	Avg. Daily Flow (gpm)	Estimated Peak Hourly Flow (gpm)[1]
January	16,116	136.6	11.2	44.8
February	17,460	148.0	12.1	48.5
March	14,884	126.1	10.3	41.3
April	15,135	128.3	10.5	42.0
May	15,202	128.8	10.6	42.2
June	18,932	160.4	13.1	52.6
July	20,423	173.1	14.2	56.7
August	16,931	143.5	11.8	47.0
September	14,276	121.0	9.9	39.7
October	14,515	123.0	10.1	40.3
November	16,511	139.9	11.5	45.9
December				
Annual Avg.	**16,399**	**139.0**	**11.4**	**45.6**

1. Estimated Peak Hourly Flow is 4.0 times the Average Daily Flow

The CBJ Water Department was contacted to discuss the estimates of peak hourly flow and they were able to review water flow trends at the Mountainside Estates pumps station using their areawide water monitoring system. They reported that in June and July the peak water flow rates recorded by their system for the Mountainside Estates pump station were constantly varying between 50 and 60 gpm. They believe 60 gpm is a good estimate of the current peak hourly flows at Mountainside Estates.

During Peak Hourly Water Demand periods not all residences will be using water simultaneously. Some will be using water at high rates and some will not be using any water at all. To evaluate future peak hourly water demands it is helpful to consider the current average contribution to the peak hourly flow rate per residence. Since there are about 120 current residences in Mountainside and the current peak hourly flows are estimated at 60 gpm, the average peak hourly flow per residence is 0.5 gpm (60 gpm peak hourly flow/120 residential units = 0.5 gpm peak hourly flow/residential unit).

Of the 100 gpm of the pump station capacity dedicated to meeting peak hourly domestic flows, there remains 40 gpm if 60 gpm is currently being used to meet peak hourly flows. Assuming new residences have similar peak hourly water demands as the existing residences, each new residence would add about 0.5 gpm to the peak hourly water demand. On that basis the remaining 40 gpm of pump station capacity available for meeting peak hourly domestic water demand is sufficient to meet the demand from an additional 80 homes (40 gpm/0.5 gpm per residence = 80 residences).

MOUNTAINSIDE ESTATES WATER PRESSURE EVALUATION

During periods of high water demand such as during a fire, the Alaska Department of Environmental Conservation's (ADEC) Drinking Water Regulations (18 AAC 80.205 (a) (5))

requires a minimum residual pressure of 20 psi in water distribution systems after accounting for pressure losses due to flow conditions.

In a water system, highest water pressures occur at the lower elevations and the lowest pressures occur at the highest elevations. ADEC's expectation is that water system pressures will be above 20 psi under conditions of peak hourly demand plus fire flows. A computer model of the Mountainside Estates water system was developed based on as-built record drawings of the water system layout, elevations and water line sizes. A number of different water system scenarios were evaluated including combinations of existing and future peak hourly water demand and fire flows to see what the impact would be on water system operating pressures. The fire flows were modeled with a 500 gpm fire flow at the end of Robbie Road. This is the location that will result in the greatest pressure losses under conditions of fire flow because it has the fire hydrant that is the furthest away from the pump station and at the highest elevation.

An additional scenario was modelled that included a future 1,000' extension to Robbie Road at the same elevation of the existing end of Robbie Road, to see the impact on water system pressure in any future development under fire flow conditions. Table 2 is a summary of the results from the computer modelling of the system.

TABLE 2
MOUNTAINSIDE ESTATES PROJECTED WATER PRESSURES AT SELECTED LOCATIONS FOR DIFFERENT WATER DEMAND SCENARIOS

Water Demand Scenario	End of Hillcrest Ave.	Pump Station	Timberline Court	Pike Court	Tarn Court	Mary Ellen Way	End of Mtnside Drive	Robbie Road	Laurie Lane	Ling Court
Static Pressures (No Flow) (95 psi at Pump Station)	95.95	95.09	74.29	60.42	50.89	43.96	68.22	50.89	44.39	41.79
Peak Hourly Flow 60 gpm (Existing 118 Residences)	95.95	95.09	74.23	60.36	50.82	43.87	68.12	50.79	44.29	41.69
Peak Hourly Flow 100 gpm (Total 200 Residences)	95.95	95.09	74.18	60.30	50.75	43.76	68.00	50.65	44.16	41.56
Existing Peak Hour (60 gpm) Plus 500 gpm Fire @ Robbie Road	95.95	95.09	70.99	56.30	45.74	36.35	59.17	39.73	34.19	31.59
New Peak Hour (100 gpm) Plus 500 gpm Fire @ Robbie Road	95.95	95.09	70.69	55.93	45.27	35.64	58.33	38.79	33.30	30.70
New Peak Hour (100 gpm) Plus 500 gpm Fire @ End of 1000' Extension to Robbie Road	95.95	95.09	70.69	55.93	45.27	35.64	58.33	34.78	33.30	30.70

In general, it appears that there is a very small decrease in operating system pressures during periods of either existing or future peak hourly flows when compared to the static pressure. When evaluated in combination with fire flow conditions of 500 gpm at the upper end of Robbie Road, a more notable pressure drop of up to about 12 psi is expected in the existing Robbie Road, Ling Court and Laurie Lane area. However, none of the conditions of peak hourly demand in combination with 500 gpm fire flows result in water system pressures less than the ADEC minimum of 20 psi.

APPENDIX A

MOUNTAINSIDE ESTATES PUMP STATION

2018 WATER FLOW RECORDS

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

January, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2	1040	45	95	718,752	74,500	18,625	12.9
3							
4							
5							
6							
7							
8							
9	1000	46	94	720,837	108,500	15,500	10.8
10							
11							
12	0930	48	94	721,312	47,500	15,833	11.0
13							
14							
15							
16	1000	45	95	721,987	67,500	16,875	11.7
17							
18							
19	1000	48	95	722,417	43,000	14,333	10.0
20							
21							
22							
23	1520	48	94	723,097	68,000	17,000	11.8
24							
25							
26	1100	49	94	723,512	41,500	13,833	9.6
27							
28							
29							
30	0900	51	94	724,189	67,700	16,925	11.8
31							
					Averages	**16,116**	**11.2**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

February, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2	1005	50	94	724,678	48,900	16,300	11.3
3							
4							
5							
6	1040	38	92	725,428	75,000	18,750	13.0
7							
8							
9							
10							
11							
12							
13	0940	53	94	726,712	128,400	18,343	12.7
14							
15							
16	1130	49	93	727,196	48,400	16,133	11.2
17							
18							
19							
20	1033	48	94	727,907	71,100	17,775	12.3
21							
22							
23							
24							
25							
26							
27							
28							
					Averages	**17,460**	**12.1**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

March, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2	0830	49	93	729,680	177,300	14,775	10.3
3							
4							
5							
6	1150	49	94	730,365	68,500	17,125	11.9
7							
8							
9	1200	49	94	730,815	45,000	15,000	10.4
10							
11							
12							
13	0915	49	95	731,463	64,800	16,200	11.3
14							
15							
16	1115	48	95	731,905	44,200	14,733	10.2
17							
18							
19							
20	1020	47	94	732,491	58,600	14,650	10.2
21							
22							
23	1000	48	95	732,874	38,300	12,767	8.9
24							
25							
26							
27							
28	0900	48	95	733,565	69,100	13,820	9.6
29							
30							
					Averages	**14,884**	**10.3**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

April, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2							
3	1040	48	94	734,444	87,900	14,650	10.2
4							
5	1545	49	94	734,730	28,600	14,300	9.9
6							
7							
8							
9							
10	1000	48	95	735,488	75,800	15,160	10.5
11							
12	1505	49	94	735,839	35,100	17,550	12.2
13							
14							
15							
16							
17							
18							
19							
20	1110	48	94	736,992	115,300	14,413	10.0
21							
22							
23							
24	0936	46	94	737,629	62,700	15,675	10.9
25							
26							
27	1430	47	94	738,055	42,600	14,200	9.9
28							
29							
30							
					Averages	**15,135**	**10.5**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

May, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2							
3							
4	1135	46	94	739,141	108,600	15,514	10.8
5							
6							
7							
8	1000	48	93	739,783	64,200	16,050	11.1
9							
10	1310	45	94	740,092	30,900	15,450	10.7
11							
12							
13							
14							
15	1020	47	95	740,859	49,700	9,940	6.9
16							
17							
18	1445	47	95	741,337	47,800	15,933	11.1
19							
20							
21	1520	46	94	741,868	53,100	17,700	12.3
22							
23							
24							
25	1015	45	94	742,437	56,900	14,225	9.9
26							
27							
28							
29	0935	48	93	743,109	67,200	16,800	11.7
30							
31							
					Averages	**15,202**	**10.6**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

June, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1	1230	49	93	743,662	55,300	18,433	12.8
2							
3							
4							
5	1015	47	95	744,419	75,700	18,925	13.1
6							
7							
8	1320	47	94	744,896	47,700	15,900	11.0
9							
10							
11							
12	0935	48	92	745,545	64,900	16,225	11.3
13							
14							
15	1335	49	93	746,032	48,700	16,233	11.3
16							
17							
18	1315	48	95	746,524	49,200	16,400	11.4
19							
20							
21							
22	0915	47	95	747,462	93,800	23,450	16.3
23							
24							
25							
26	1000	47	93	748,651	118,900	29,725	20.6
27							
28							
29	0912	47	94	749,106	45,300	15,100	10.5
30							
					Averages	**18,932**	**13.1**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

July, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2	1020	47	93	749,642	53,600	17,867	12.4
3							
4							
5							
6	0825	50	91	750,490	84,800	21,200	14.7
7							
8							
9							
10							
11	1300	46	94	751,470	98,000	19,600	13.6
12							
13	1050	47	92	751,796	32,600	16,300	11.3
14							
15							
16							
17	1030	48	93	752,545	74,900	18,725	13.0
18							
19							
20	1135	47	94	753,065	52,000	17,333	12.0
21							
22							
23							
24	1245	47	93	754,016	95,100	23,775	16.5
25							
26							
27	1505	47	94	754,647	65,800	21,933	15.2
28							
29							
30							
31	1030	46	94	755,730	108,300	27,075	18.8
					Averages	**20,423**	**14.2**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

August, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2							
3	1020	47	94	756,274	54,400	18,133	12.6
4							
5							
6							
7	1020	46	93	756,982	76,800	19,200	13.3
8							
9							
10	1010	50	94	757,435	45,300	15,100	10.5
11							
12							
13							
14	1000	45	93	758,089	65,400	16,350	11.4
15							
16							
17	1010	47	94	758,683	59,400	19,800	13.8
18							
19							
20							
21	1030	47	95	759,377	69,400	17,350	12.0
22							
23							
24	1245	48	94	759,842	46,500	15,500	10.8
25							
26							
27							
28	1340	47	93	760,497	65,500	16,375	11.4
29							
30							
31	0825	48	94	760,934	43,700	14,567	10.1
					Averages	**16,931**	**11.8**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

September, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2							
3							
4	1435	42	94	761,661	72,700	18,175	12.6
5							
6							
7	0930	46	93	762,065	40,400	13,467	9.4
8							
9							
10							
11	1020	49	94	762,637	57,200	14,300	9.9
12							
13							
14	0955	45	94	763,041	40,400	13,467	9.4
15							
16							
17							
18	1055	50	93	763,656	61,500	15,375	10.7
19							
20							
21	1020	45	94	764,057	40,100	13,367	9.3
22							
23							
24							
25	1205	47	93	764,618	56,100	14,025	9.7
26							
27							
28	0930	46	94	764,979	36,100	12,033	8.4
29							
30							
					Averages	**14,276**	**9.9**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

October, 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2	1000	47	93	765,571	76,551	19,138	13.3
3							
4							
5	0955	47	93	765,996	42,500	14,167	9.8
6							
7							
8							
9	1010	47	94	766,616	62,000	15,500	10.8
10							
11							
12	1400	47	93	767,005	38,900	12,967	9.0
13							
14							
15							
16	1015	46	94	767,567	56,200	14,050	9.8
17							
18							
19	0910	47	93	767,952	38,500	12,833	8.9
20							
21							
22							
23	1450	46	94	768,552	60,000	15,000	10.4
24							
25							
26	1010	47	93	768,926	37,400	12,467	8.7
27							
28							
29							
30							
31							
					Averages	**14,515**	**10.1**

MOUNTAINSIDE ESTATES PUMP STATION FLOWS

November 2018

Date	Time	PSI In	PSI Out	Meter Reading	Usage (Gal.)	Daily Use (GPD)	Avg. Daily Flow (gpm)
1							
2							
3							
4							
5							
6	1030	48	93	770,616	169,200	15,382	10.7
7							
8							
9	1010	47	95	771,102	48,600	16,200	11.3
10							
11							
12							
13	1020	48	93	771,820	71,800	17,950	12.5
14							
15							
16							
17							
18							
19							
20							
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
					Averages	**16,511**	**11.5**

Wetland Delineation Report for the Richland Manor, Section 1, Mountainside Estates, Juneau, AK

Bosworth Botanical Consulting

November 2018

Attachment K - Wetlands Delineation

By:

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Table of Contents

Introduction

William Heumann & Associates is exploring the option of developing a 4.74-acre property at the end of Hillcrest Ave in Mountainside Estates, Old Glacier Highway, Juneau, Alaska. This wetland delineation report and maps are in support of the US Army Corps of Engineers wetland permit for development of this project.

Photo 1 – Location map for Richland Manor Project Area.

Methods

The project area was visited for delineation and mapping on November 14, 2018. The weather at that time was light rain and temperatures were in the lower 50's °F. The month before fieldwork had had slightly lower rainfall than average for October and daily high temperatures were between 45°F and 60°F. Plants were senesced but still recognizable.

Wetlands areas were mapped using the "triple parameter" method described in the U.S. Army Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987) as supplemented by the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Alaska Region - November 2007*. Wetlands are required to have a prevalence of wetland hydrology, hydric soils, and hydrophytic vegetation. Wetlands are determined when positive indicators of all of these three criteria are present. The "routine determination delineation" methodology was used. The wetland boundaries and classifications described herein represent best professional opinion.

Sample points were done at either side of any significant changes in vegetation, soils or hydrology. At each sample point, the wetland status of that point was determined by observing indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. Once representative sample points were done for all wetland/upland types wetland boundaries along the transects were marked with a GPS waypoint.

Sample plot vegetation was divided into three strata; tree, shrub, and forb, and each layer was classified using the dominance test (more than 50% of the dominant plant species across all strata are rated obligate, facultative wet, or facultative) and the prevalence index (a weighted-average wetland indicator status of all plant species in the sample plot). The 2012 U.S. Army Corps of Engineers *National Wetland Plant List –Alaska Region* was used to classify plants.

Hydrology was determined using two methods: (1) visually, if the water table is at or above the surface, or (2) with a soil pit. The presence of standing water, depth to free water in the soil pit, and depth to saturated soils was recorded. Other primary and secondary hydrology indicators were recorded, such as presence of watermarks, sediment deposits, drift deposits, iron deposits, hydrogen sulfide odor, geomorphic position, and drainage patterns in wetlands.

Soil pits were dug to a depth of 12-16 inches, or to bedrock or glaciomarine sediment refusal, to determine if indicators of hydric soils were present. Soil colors were determined from a moist sample with the Munsell Soil Color Chart. Sample point data sheets are included in Appendix A. The project area has young and disturbed soils and so have been treated as "problematic " soils.

The base for the delineation maps was 2013 lidar and photography imagery flown by Aerometrics, Inc. Polygon acreages and stream lengths were calculated in GIS. Final delineation maps were done in ArcMap 10.5. Modeled stream locations were checked in the field.

Project Area

The project area is 4.74 acres of fill and disturbed forest at the end of Hillcrest Ave.

The project area slope before disturbance and fill was gently sloping with a much steeper slope above and flatter below.

Streams on most of the project area have been channelized with one main perennial ditch draining the uphill edge of the fill pad (**R3UB1** – Riverine Upper-Perennial Unconsolidated-Bottom Cobble Gravel) and arching around to drain the lower edge of the fill pad. The ditch then drains into a deeply entrenched, perennial stream that flows along the southern edge of the project area and to Gastineau Channel via the Pioneer marsh. The other smaller tributaries to these streams are seasonal or ephemeral streams (**R4SB3/6** – Riverine Intermittent Streambed Cobble-gravel/Organic)

The fill pad at the end of Hillcrest Ave is two feet of well drained course gravel fill over mixed fill of gravel, sand, and silt. The fill pad is sparsely vegetated with red alder saplings, Sitka willow and reed canary grass. There are two house foundations on the fill pad that are 4-5 feet below the level of the fill. One of the foundations (northern) had the water table at the surface at the time of the survey and patchy wetland vegetation (**PEM1A** – Palustrine Emergent Persistent Seasonally Flooded). There is a small, seasonal, created, drainage coming out of this foundation hole. The other foundation (southern) is at the edge of the fill pad near a deep stream channel and is well-drained. The foundations are both dominated by red alder saplings and horsetail.

The area surrounding the fill pad has disturbed vegetation, soils and hydrology. The vegetation has been cleared and regrown with patchy red alder and western hemlock forest. and the native organic soil is mixed or covered with eroded fill material and the hydrology is altered by channelization (**PFO1B** – Palustrine Forested Broad-Leaved Deciduous Saturated) (**PFO4B** – Palustrine Forested Needle-Leaved Evergreen Saturated).

Photo 2 – The lower part of the perennial ditched stream that surrounds the fill pad.

Photo 3 – Seasonal streams entering the channelized stream east of the fill pad.

Photo 4 – Course gravel on the surface of the fill pad.

Photo 5 – Eroded fill material with silts and gravels over native organic soils at the toe of the fill pad.

Photo 6 – Saturated organic soils uphill of the fill pad.

Photo 7 – Disturbed area with red alder sapling forest.

Photo 8 – steep slope at the south edge of the fill pad. Red alder saplings dominate.

Photo 9 – Western foundation site with the water table at the surface and vegetation dominated by horsetail and red alder saplings.

Table 0-1 - Plant Species List (Lichvar, 2014)

Scientific name	Common name	Indicator status[1]
Alnus rubra	red alder	FAC
Alnus sinuata	Sitka alder	FAC
Athyrium felix-femina	lady fern	FAC
Calamagrostis canadensis	Canada blue-joint	FAC
Carex sitchensis	Sitka sedge	OBL
Cornus canadensis	dwarf dogwood	FACU
Deschampsia beringensis	Bering hair-grass	FAC
Dryopteris dilatata	spiny wood fern	FACU
Equisetum arvense	horsetail	FACU
Gymnocarpium dryopteris	oak fern	FACU
Lysichiton americanum	skunk cabbage	OBL
Menziesia ferruginea	false azalea	FACU
Oplopanax horridus	devil's club	FACU
Picea sitchensis	Sitka spruce	FACU
Rubus pedatus	trailing raspberry	FAC
Rubus spectabilis	salmonberry	FACU
Salix sitchensis	Sitka willow	FAC
Scirpus microcarpus	Bulrush	OBL
Tsuga heterophylla	western hemlock	FAC
Vaccinium ovalifolium	early blueberry	FAC

[1] See Table 2 for abbreviation definitions

Table 0-2 - Indicator code table (Lichvar, 2012)

Indicator Code	Type	Comment
OBL	Obligate Wetland	Almost always occur in wetlands. With few exceptions, these plants (herbaceous or woody) are found in standing water or seasonally saturated soils (14 or more consecutive days) near the surface.
FACW	Facultative Wetland	Usually occur in wetlands, but may occur in non-wetlands. These plants predominately occur with hydric soils, often in geomorphic settings where water saturates the soils or floods the soil surface at least seasonally.
FAC	Facultative	Occur in wetlands and non-wetlands. These plants can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology, such as shade tolerance, soil pH, and elevation, and they have a wide tolerance of soil moisture conditions.
FACU	Facultative Upland	Usually occur in non-wetlands, but may occur in wetlands. These plants predominately occur on drier or more mesic sites in geomorphic settings where water rarely saturates the soils or floods the soil surface seasonally.
UPL	Obligate Upland	Almost never occur in wetlands. These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.
NI	No indicator	Insufficient information was available to determine an indicator status.

Results

Table 0-1 - Sample point table

Sample point	Dominant vegetation / Hydrology / Geomorphology	Cowardin Classification	PJD[2]	Rationale for PJD
1	Fill pad set 5ft. below grade with water table at the surface, seasonal drainage to perennial stream and scattered red alder saplings and horsetail.	PEM1A	Yes	Wetland on RPW[3] that flows into TNW[4]
2	Fill pad set 5 ft. below grade at the edge of deep stream channel - so well-drained. Patchy red alder saplings and horsetail.	upland	No	
3	Toe of fill pad slope, mixed fill and organics, red alder, creeping buttercup, bulrush and reed canary grass dominant.	PFO1B	Yes	Wetland on RPW that flows into TNW
4	Toe of fill pad slope, mixed fill and organics, red alder, saplings, creeping buttercup, lady fern, skunk cabbage, bulrush and reed canary grass dominant.	PFO1B	Yes	Wetland on RPW that flows into TNW
5	Toe of fill pad slope, mixed fill and organics, Sitka spruce and cottonwood saplings, and lady fern dominant.	PFO1B	Yes	Wetland on RPW that flows into TNW
6	Disturbed, gentle hillside with saturated organic soils mixed with uplifted silts, Western hemlock, blueberry and dwarf dogwood dominant.	PFO4B	Yes	Wetland on RPW that flows into TNW
7	Disturbed, gentle hillside with saturated organic soils mixed with uplifted beach deposits. Red alder, salmonberry and skunk cabbage dominant.	PFO1B	Yes	Wetland on RPW that flows into TNW
8	Disturbed, gentle hillside with saturated organic soils mixed with uplifted beach deposits. Western hemlock, blueberry and alse azalea dominant.	PFO4B	Yes	Wetland on RPW that flows into TNW
9	Fill pad/fill pile. Course gravel over mixed fill. Red alder saplings and creeping buttercup dominant	upland	No	

[2] PJD - Preliminary Jurisdictional Determination
[3] TNW - Traditional Navigable Water
[4] RPW - Relatively Permanent Water

Conclusions

Using GIS tools and wetland information gathered in the field, the acreage of wetlands and waters of the US was determined.

There are 3.61 total acres of wetland in the project area.

- **PEM1A** - 0.08 acres
- **PFO4B** - 2.31 acres
- **PFO1B** – 1.22 acres
- **Upland** - 1.13 acres

There are 2,531 linear feet of ephemeral, seasonal and perennial streams in the parcel

- **R4SB3/6** - ephemeral & seasonal (with surface water at least 2 weeks out of the growing season) - 1,316 linear feet
- **R3UB1** - perennial -1,215 linear feet

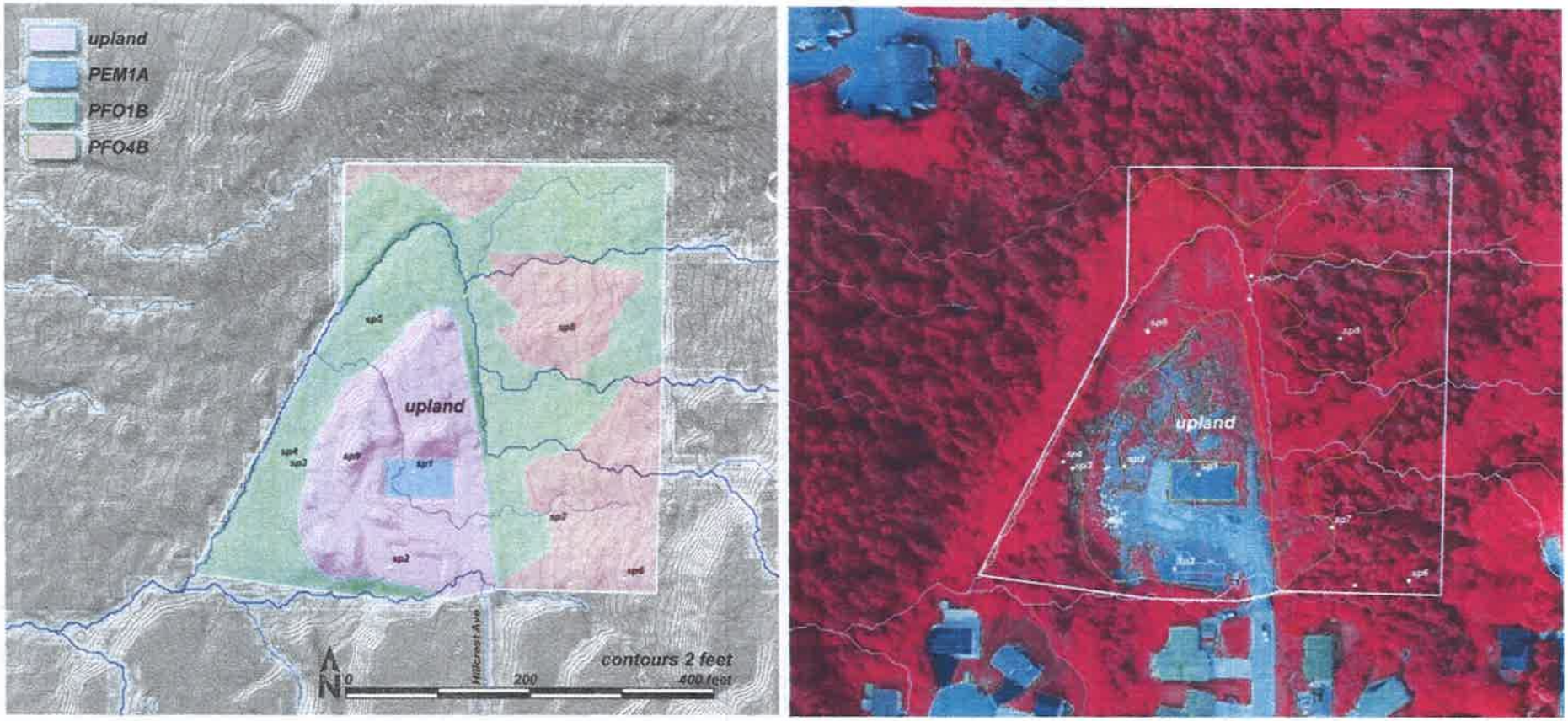

Figure 1 – Wetland Delineation map pair – 2013 CBJ LiDAR hillshade and CIR aerial photo. Sample points (yellow dots) for the project area. The blue lines are the field-checked modeled streams.

Attachment K - Wetlands Delineation

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Appendix A - Scanned Sample Site Data Sheets

SP 1

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 1
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): fill
Local relief (concave, convex, none): concave Slope (%): 0
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PEM1A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓	No	
Wetland Hydrology Present?	Yes ✓	No	

Remarks: Foundation area on fill pad

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum			
1. Alnus rubra (Alru)	30	✓	FAC
2.			
3.			
4.			
5.			
6.			
Total Cover:			
50% of total cover:	20% of total cover:		
Herb Stratum			
1. Equisetum arvense (Egar)	50	✓	FAC
2. Juncus arcticus (Jvar)	5		FACW
3. Scirpus microcarpus (Scmi)	2		OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	57		
50% of total cover: 28.5	20% of total cover: 11.4		

Plot size (radius, or length x width) 10x10 % Bare Ground
% Cover of Wetland Bryophytes (Where applicable) Total Cover of Bryophytes

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

US Army Corps of Engineers Alaska Version 2.0

SOIL Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+	—	100%					coarse gravel	WT

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ✓ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ___

Remarks:

New surface!

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 1-0

Water Table Present? Yes ✓ No ___ Depth (inches): 0-2

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP2

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 2
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): fill pad
Local relief (concave, convex, none): concave Slope (%): —
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: —
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes No ✓
Hydric Soil Present?	Yes	No ✓	
Wetland Hydrology Present?	Yes	No ✓	

Remarks:
Next to deep stream gully → well-drained.

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
6.			
Total Cover:			
50% of total cover:	20% of total cover:		
Herb Stratum			
1. Picea sitchensis (Pisi) seedlings	10	✓	FU
2. Salix sitchensis (Sasi) "	5	✓	F
3. Alnus rubra (Alru) "	5	✓	F
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	20		
50% of total cover:	10	20% of total cover:	4

Plot size (radius, or length x width) 10x10 % Bare Ground
% Cover of Wetland Bryophytes (Where applicable) Total Cover of Bryophytes

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+							course gravel	unsat.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): —

Water Table Present? Yes ___ No ✓ Depth (inches): 7½

Saturation Present? (Includes capillary fringe) Yes ___ No ✓ Depth (inches): 7½

Wetland Hydrology Present? Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers Alaska Version 2.0

SP3

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 3
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): toe-of-fill/hillside
Local relief (concave, convex, none): none Slope (%): 4%
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No ____	Is the Sampled Area within a Wetland? Yes ✓ No ____
Hydric Soil Present?	Yes ✓	No ____	
Wetland Hydrology Present?	Yes ✓	No ____	

Remarks:

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover: ____ 20% of total cover: ____			
Sapling/Shrub Stratum			
1. Alru	50	✓	F
2.			
3.			
4.			
5.			
6.			
Total Cover:			
50% of total cover: ____ 20% of total cover: ____			
Herb Stratum			
1. Ranunculus repens (Rare)	30	✓	F
2. Scirpus microcarpus (Scmi)	10	✓	OB
3. Phalaris arundinacea (Phar)	5		OB
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover: 45			
50% of total cover: 22.5 20% of total cover: 9			

Plot size (radius, or length x width) 15 x 15 % Bare Ground ____
% Cover of Wetland Bryophytes ____ (Where applicable) Total Cover of Bryophytes ____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks:

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SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+	2.5Y 3/2	100%					mixed fill - silt & gravel - sat.	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ✓ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

Mixed-fill

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): 7+12

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP4

WP4

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 4
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): hillside toe-of-slope
Local relief (concave, convex, none): concave Slope (%): 2
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓ No	
Wetland Hydrology Present?	Yes ✓ No	

Remarks:

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover: 20% of total cover:			
Sapling/Shrub Stratum			
1. Alru	40	✓	FAC
2. Pisi	5		FAC
3.			
4.			
5.			
6.			
Total Cover:	45		
50% of total cover: 22.5	20% of total cover: 9		
Herb Stratum			
1. Ranunculus repens (Rare)	10	✓	FAC
2. Athe	20	✓	FAC
3. Scmi	10	✓	OBL
4. Phar	5		OBL
5. Lyam	10	✓	OBL
6.			
7.			
8.			
9.			
10.			
Total Cover:	55		
50% of total cover: 27.5	20% of total cover: 11		

Plot size (radius, or length x width) 15' x 15' % Bare Ground
% Cover of Wetland Bryophytes (Where applicable) Total Cover of Bryophytes

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)
Total Number of Dominant Species Across All Strata: 5 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

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WP4

SOIL Sampling Point: 4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5YR 3/2	100					silt + gravel fill	Sat
7-13+	5YR 2.5/2	100					peat	WT

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ✓ Histosol or Histel (A1)
- __ Histic Epipedon (A2)
- __ Hydrogen Sulfide (A4)
- __ Thick Dark Surface (A12)
- ✓ Alaska Gleyed (A13)
- __ Alaska Redox (A14)
- __ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- __ Alaska Color Change (TA4)[4]
- __ Alaska Alpine Swales (TA5)
- __ Alaska Redox With 2.5Y Hue
- __ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- __ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- __ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Surface Soil Cracks (B6)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Dry-Season Water Table (C2)
- __ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- __ Water-stained Leaves (B9)
- __ Drainage Patterns (B10)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Salt Deposits (C5)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): ____

Water Table Present? Yes ✓ No ____ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

stream/ditch below

SP5

WPS

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 5
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): toe of fill
Local relief (concave, convex, none): _____ Slope (%): 2
Subregion: SE Alaska Lat: _____ Long: _____ Datum: _____
Soil Map Unit Name: _____ NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No X
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No _____	Is the Sampled Area within a Wetland?	Yes ✓ No _____
Hydric Soil Present?	Yes ✓ No _____		
Wetland Hydrology Present?	Yes ✓ No _____		

Remarks: slash

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover: _____ 20% of total cover: _____			
Sapling/Shrub Stratum			
1. Populus balsamifera (Poba)	10		F
2. Picea sitchensis (Pisi)	35	✓	FU
3. Ribes glandulosum (Rigl)	5		F
4. Rubus spectabilis	5		FU
5.			
6.			
Total Cover:	55		
50% of total cover: 27.5	20% of total cover: 11		
Herb Stratum			
1. Athyrium felix-femina (Atfe)	50	✓	F
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:			
50% of total cover: _____	20% of total cover: _____		

Plot size (radius, or length x width) 15' x 15' % Bare Ground _____
% Cover of Wetland Bryophytes _____ (Where applicable) Total Cover of Bryophytes _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species 65	x 3 =	195
FACU species 40	x 4 =	160
UPL species	x 5 =	
Column Totals: 105 (A)		355 (B)

Prevalence Index = B/A = 3.38

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
✓ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks: Disturbance - adopted species (Pisi, Rusp FU)

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SOIL Sampling Point: 5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 2.5/1	100					Peat w/	gravel sat.
8-12+	10YR 2/2	100					Peat w	sand WT

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ✓ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): —

Water Table Present? Yes ✓ No ___ Depth (inches): 6-7

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 10

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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SP6

WP10

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 6
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): hillside - terrace
Local relief (concave, convex, none): complex Slope (%): 3%
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PF04B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland?	Yes ✓ No
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No		

Remarks: 2nd growth w/ lots of slash + stumps

VEGETATION -- Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Tsuga heterophylla (Tshe)	60	✓	F
2. Pisi	15		FU
3. Poba	5		F
4.			
Total Cover:	80		
50% of total cover: 40	20% of total cover: 16		
Sapling/Shrub Stratum			
1. Vaccinium ovalifolium (Vaov)	10	✓	F
2.			
3.			
4.			
5.			
6.			
Total Cover:			
50% of total cover:	20% of total cover:		
Herb Stratum			
1. Cornus canadensis (Coca)	10	✓	FU
2. Tiarella trifoliata (Titr)	3	✓	F
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:	13		
50% of total cover: 6.5	20% of total cover: 2.6		

Plot size (radius, or length x width) 15'x15' % Bare Ground
% Cover of Wetland Bryophytes (Where applicable) Total Cover of Bryophytes

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

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SOIL Sampling Point: 6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100%					peat + roots	sat.
2-4	2.5Y 3/1	100%					sand w/ peat	sat
4-12	2.5Y 3/1	100%					sand w/ silt + gravel + OM	sat. + W.T.
12-15	2.5Y 3/1	90%	5YR 3/4	10%			sand	W.T.
15+	10YR 2/2	100%					Peat	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:
- ✓ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:
- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.
[4]Give details of color change in Remarks.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks: Mixed peat & fill sediment washed down.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)
- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)
- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

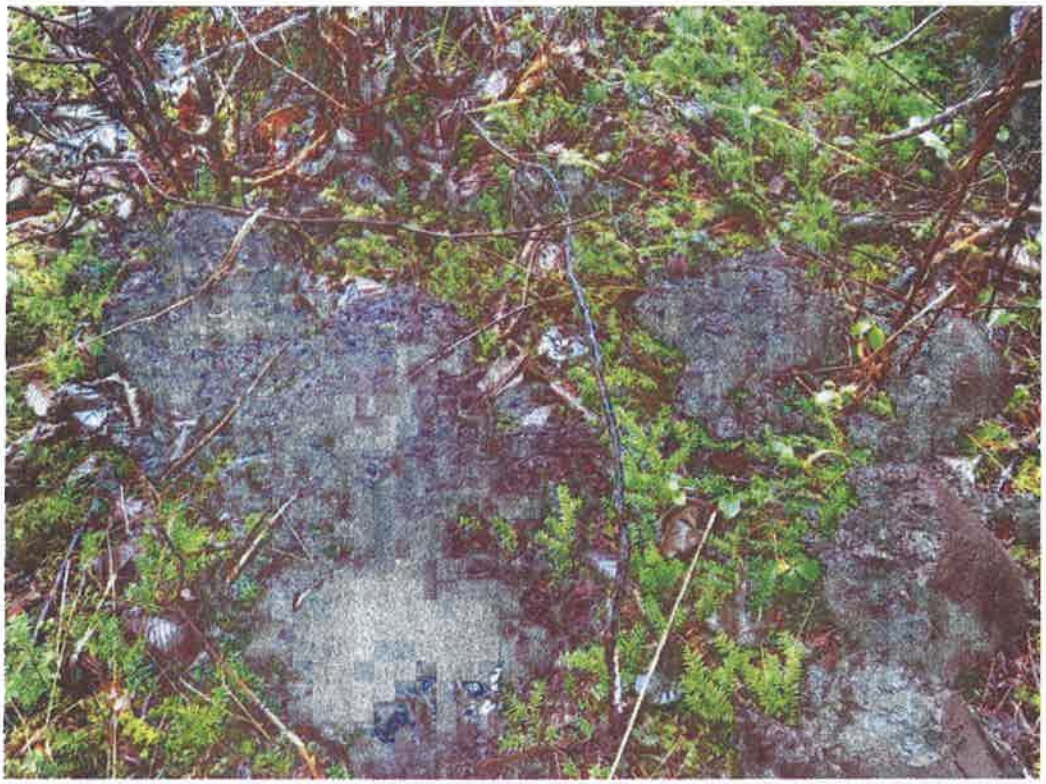
Field Observations:
Surface Water Present? Yes ___ No ✓ Depth (inches): ___
Water Table Present? Yes ✓ No ___ Depth (inches): 8
Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

SP7



WP11

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 7
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): hillside swale
Local relief (concave, convex, none): concave Slope (%): 2
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PFO1B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil , or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland?	Yes ✓ No
Hydric Soil Present?	Yes ✓ No		
Wetland Hydrology Present?	Yes ✓ No		

Remarks:

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Alru	60	✓	F
2.			
3.			
4.			
Total Cover:			
50% of total cover: 20% of total cover:			
Sapling/Shrub Stratum			
1. Menziesia ferruginea (MEFE)	20	✓	FU
2. Rubus spectabilis (RUSP)	10	✓	FU
3.			
4.			
5.			
6.			
Total Cover:			
50% of total cover: 20% of total cover:			
Herb Stratum			
1. Lysichiton americanum (LYAM)	30	✓	OB
2. Tsuga heterophylla (TSHE)	15	✓	FACU
3. Cornus canadensis (COCA)	2		FU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover: 47			
50% of total cover: 23.5 20% of total cover: 9.4			

Plot size (radius, or length x width) % Bare Ground
% Cover of Wetland Bryophytes (Where applicable) Total Cover of Bryophytes

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

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SOIL Sampling Point: 7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	7.5YR 2.5/1	100					Peat	sat
12+	10YR 2/3	100					Peat + sand	WT

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:
- ✓ Histosol or Histel (A1)
- __ Histic Epipedon (A2)
- __ Hydrogen Sulfide (A4)
- __ Thick Dark Surface (A12)
- __ Alaska Gleyed (A13)
- __ Alaska Redox (A14)
- __ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:
- __ Alaska Color Change (TA4)[4]
- __ Alaska Alpine Swales (TA5)
- __ Alaska Redox With 2.5Y Hue
- __ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- __ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.
[4]Give details of color change in Remarks.

Restrictive Layer (if present):
Type: _____
Depth (inches): _____

Hydric Soil Present? Yes ✓ No ____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)
- __ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Surface Soil Cracks (B6)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Dry-Season Water Table (C2)
- __ Other (Explain in Remarks)

Secondary Indicators (2 or more required)
- __ Water-stained Leaves (B9)
- __ Drainage Patterns (B10)
- __ Oxidized Rhizospheres along Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Salt Deposits (C5)
- __ Stunted or Stressed Plants (D1)
- ✓ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ____	No ✓	Depth (inches): ____
Water Table Present?	Yes ✓	No ____	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes ✓	No ____	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

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SP8

WP 12

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 8
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): hillside terrace
Local relief (concave, convex, none): Convex Slope (%): 2%
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: PF04B
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes ✓ No
Hydric Soil Present?	Yes ✓	No	
Wetland Hydrology Present?	Yes ✓	No	

Remarks:

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1. Tshe	60	✓	F
2. Pisi	12		FU
3.			
4.			
Total Cover: 72			
50% of total cover: 36	20% of total cover: 14.4		
Sapling/Shrub Stratum			
1. Mefe	20	✓	FU
2. Vaov	15	✓	F
3. Aplipana x horridus (Aphx)	3		FU
4.			
5.			
6.			
Total Cover: 38			
50% of total cover: 19	20% of total cover: 7.6		
Herb Stratum			
1. Rubus pedatus (Rupe)	3	✓	F
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover:			
50% of total cover:	20% of total cover:		
Plot size (radius, or length x width)	% Bare Ground		
% Cover of Wetland Bryophytes (Where applicable)	Total Cover of Bryophytes		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 75% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

US Army Corps of Engineers Alaska Version 2.0

SOIL Sampling Point: 8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 2/1	100					Peat	sat
10-15	10YR 2/1	100					Peat w/ sand	sat.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:
- ✓ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:
- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.
[4]Give details of color change in Remarks.

Restrictive Layer (if present):
Type: ___
Depth (inches): ___

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)
- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)
- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): —
Water Table Present?	Yes ___	No ✓	Depth (inches): 12
Saturation Present? (includes capillary fringe)	Yes ✓	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers Alaska Version 2.0

SP9

— WP9

WETLAND DETERMINATION DATA FORM – Alaska Region

Project/Site: Richland Manor - Section 1 Borough/City: CBJ Sampling Date: 11/14/18
Applicant/Owner: William Heumann Sampling Point: 9
Investigator(s): Koren Bosworth Landform (hillside, terrace, hummocks, etc.): fill pile
Local relief (concave, convex, none): Convex Slope (%): 2
Subregion: SE Alaska Lat: Long: Datum:
Soil Map Unit Name: NWI classification: —
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
Are Vegetation ✓, Soil ✓, or Hydrology ✓ significantly disturbed? Are "Normal Circumstances" present? Yes No X
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No	Is the Sampled Area within a Wetland? Yes No ✓
Hydric Soil Present?	Yes ✓	No	
Wetland Hydrology Present?	Yes ✓	No	

Remarks:

VEGETATION – Use scientific names of plants. List all species in the plot.

Tree Stratum	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:			
50% of total cover:	20% of total cover:		
Sapling/Shrub Stratum			
1. Alru	100	✓	FAC
2. Sosi	5		FAC
3.			
4.			
5.			
6.			
Total Cover: 105			
50% of total cover: 52.5	20% of total cover: 21		
Herb Stratum			
1. Kore	15	✓	FAC
2. Phar	5	✓	OBL
3. Deschampsia beringensis (Dabe)	5	✓	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
Total Cover: 25			
50% of total cover: 12.5	20% of total cover: 5		
Plot size (radius, or length x width) 15 x 15'	% Bare Ground		
% Cover of Wetland Bryophytes (Where applicable)	Total Cover of Bryophytes		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 4 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
✓ Dominance Test is >50%
__ Prevalence Index is ≤3.0
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1] Indicators of hydric soil and wetland hydrology must be present unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

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SOIL Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16+	—						course gravel	unsat

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol or Histel (A1)
- ___ Histic Epipedon (A2)
- ___ Hydrogen Sulfide (A4)
- ___ Thick Dark Surface (A12)
- ___ Alaska Gleyed (A13)
- ___ Alaska Redox (A14)
- ___ Alaska Gleyed Pores (A15)

Indicators for Problematic Hydric Soils[3]:

- ___ Alaska Color Change (TA4)[4]
- ___ Alaska Alpine Swales (TA5)
- ___ Alaska Redox With 2.5Y Hue
- ___ Alaska Gleyed Without Hue 5Y or Redder Underlying Layer
- ___ Other (Explain in Remarks)

[3]One indicator of hydrophytic vegetation, one primary indicator of wetland hydrology, and an appropriate landscape position must be present unless disturbed or problematic.

[4]Give details of color change in Remarks.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Dry-Season Water Table (C2)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-stained Leaves (B9)
- ___ Drainage Patterns (B10)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Salt Deposits (C5)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No ✓	Depth (inches): —	
Water Table Present?	Yes ___	No ✓	Depth (inches): >12	
Saturation Present? (includes capillary fringe)	Yes ___	No ✓	Depth (inches): >12	**Wetland Hydrology Present?** Yes ___ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

US Army Corps of Engineers Alaska Version 2.0

BEFORE THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU

MOUNTAINSIDE ESTATES
NEIGHBORHOOD ASSOCIATION, ET AL.,

Appellant,

vs.

CBJ PLANNING COMMISSION, and
MICHAEL AND WILLIAM HEUMANN,

Appellees,

Appeal of:
Notice of Decision
CDD File No. SMP2018-0002

STIPULATED SETTLEMENT AGREEMENT

The parties to this Agreement are the Appellants, consisting of the Mountainside Estates Neighborhood Association and 17 individuals,[1] ("MENA"); the CBJ Planning Commission ("PC"), and Michael and William Heumann, ("Heumanns"). The parties are executing this Stipulated Settlement Agreement in order to resolve this appeal in its entirety, after the Assembly granted their joint motion for a 90 day stay of the appeal for such intended purpose.

Background Information:

The Heumanns applied for approval of a preliminary plat to subdivide and develop the first 12 lots of a phased major subdivision on a 30.67 acre parcel named Richland Manor, which is adjacent to the existing Mountainside Estates subdivision. During the planning process and at the February 26, 2019 hearing on the Heumanns' application, many of the appellants testified against the application, raising concerns that included and related to increased traffic, including construction traffic, pedestrian and child safety, decreased home values, crime and quality of life.

1 In the interests of space, the individual appellants are not listed here but will sign this document at the bottom. Collectively the appellants will be designated as MENA.

On February 28, 2019 the PC issued its decision approving the preliminary plat requested by the Heumanns, with conditions. This appeal followed. The parties then entered into settlement negotiations which have resulted in the following agreements, intended to fully resolve all issues raised in MENA's appeal.

Agreements of the Parties:

The parties agree to the following terms of settlement:

1. SMP 2018 0002 is the preliminary plat approved with conditions, by the PC's February 28, 2019 Notice of Decision ("NOD"), both of which are attached as Exhibit A.
2. Within 30 days of executing this Agreement, the Heumanns will submit an application for the alternative preliminary plat depicted in Attachment B ("alternative plat"). The application will be for approval of Phase 1 of the alternative plat and conditions set out in Exhibit B. For clearer illustration, the features of the alternative plat establishing greenbelt separation on the individual lots between Richland Manor and Mountainside Estates are set out in Exhibit C, ("greenbelt buffers").
3. The parties acknowledge that the alternative preliminary plat application will include the sketch plat in Exhibit D, showing future proposed phases of the Richland Manor subdivision, as required by CBJ 49.15.410, but the application and intended PC action is limited to approval of Phase 1.
4. The following subdivision features, conditions and actions are agreed to between or accepted by the parties as a condition of the dismissal of the appeal and complete settlement of this dispute. To the extent that any of the subdivision features, conditions, or required actions may be included on the alternative plat or the associated conditions, they shall be. The appellants and Heumanns acknowledge, however, that not all features, conditions, notes or

other information appearing on the alternative plat are legally required or enforceable by the Planning Commission and/or the CBJ.

The subdivision features and conditions listed below shall be included or referenced on the plat. To the extent any features, conditions, notes or actions, including, but not limited to, density conditions, are not subject to PC authority or CBJ enforcement jurisdiction, they are indicated with an asterisk* and considered contractual obligations between the Heumanns and Appellants enforceable by direct private legal action to enforce this agreement, or any other lawful process.

(a) Hooter Lane will be developed as a public two-way street, as set out in the alternative plat, subject to CBJ public improvement standards, in CBJ 49.35.

(b) Hooter Lane from Glacier Highway to Hillcrest Avenue, and Hillcrest Avenue and Mountainside Drive shall be developed with a a sidewalk on one side. The number of sidewalks in the remainder of Richland Manor will be determined at the time of future development applications.

(c) *Density: It is agreed that the loop road of Hillcrest Ave. and Mountainside Drive will be developed as single family homes, as depicted on the attached alternative plat.

(d) *Robbie Road development that is connected to Mountainside Estates shall be limited to not more than 7 single family homes, 3 of which may have accessory apartments.

(e) Robbie Road shall terminate and shall not be a point of access to Richland Manor, unless required, and gated, for fire/emergency service access only.

(f) Hillcrest Avenue shall terminate at Hooter Lane. Hillcrest Avenue may connect to Hooter Lane west of the existing Hillcrest alignment as shown in the alternative plat (Exhibit C). Alternatively road access to the northeast portion of Tract B-1 may connect

to the east/west portion of Mountainside Drive across from the entrance to the "pocket" between Hillcrest and Mountainside.

(g) *Greenbelt buffers will be implemented and privately maintained by lot owners as delineated on the alternative plat, Exhibit B (and as more clearly drawn for illustrative purposes in Exhibit C) to separate single family homes from multi-family development. Excavation for purposes of slope stabilization may take place in the greenbelt buffers provided they are allowed to revegetate following construction. In the event this becomes necessary Heumann will consult with adjacent homeowners about the impacts.

5. The following subdivision features, conditions and requirements will not be included or referenced on the plat and are also not matters for PC and/or CBJ enforcement through the platting process, but rather are created by and subject to this contractual agreement as between Heumanns and appellants, and are thus subject to private enforcement by direct private legal action or any other lawful process:

(a) Construction traffic that will utilize roads within Mountainside Estates will be limited to the development and build out of the Hillcrest Avenue extension to Hooter Lane and any development of the seven homes allowed on Robbie Road.

(b) Hooter Lane will be constructed "from the bottom up", meaning that construction will start at Glacier Highway and proceed uphill.

(c) On Tract A, the "pocket" in the loop between Hillcrest Avenue and Mountainside Avenue, there shall be no more than 16 dwelling units, which shall be contained in buildings of no more than 4 units per building, not to exceed two stories each.

(d) Construction traffic for Richland Manor which flows through Mountainside Estates will be limited to the hours between 7:00 a.m. and 7:00 p.m. On days when children are in school in the Juneau School District there will be no construction traffic through

Mountainside Estates between the hours of 7:00 a.m. to 8:15 a.m. and 2:30 p.m. to 3:45 p.m.

(e) Traffic calming measures will be incorporated as part of the CBJ's public right of way adoption process to address changes in traffic patterns or density that may arise from the construction of Richland Manor, subject to CBJ approval. The Heumanns will be responsible for stop signs at all appropriate locations; a 20 MPH posted speed limit; and "Children at Play" warning signs in all appropriate locations within Richland Manor Subdivision. CBJ shall be responsible for similar measures, as appropriate, on Hillcrest Avenue and Mountainside Drive to Craig Street, within Mountainside Estates.

(f) *Water System: As soon as feasible, but in any event prior to connecting up to 80 new residential units to the existing water system and prior to the completion of Mountainside Drive, the Heumanns will connect the water supply system in a loop that encompasses Mountainside Drive and Hillcrest Street or more directly between Hillcrest Avenue and Mountainside Drive. For all units beyond 80, there will be a separate additional water supply developed. Should a unit be disconnected from the water system it may be replace with another.

6. The alternative plat application will be processed in the normal course of business by Community Development Department ("CDD"), followed by the PC's review at a regular PC meeting.

7. CDD has reviewed Attachments B and C, the sketch plat in Exhibit D, and the conditions set out above, and has determined it can conceptually support and recommend approval of the application to the PC, with the associated conditions.

8. Appellants will support the proposed application and agree to timely submit a statement of such support to CDD for inclusion in the packet before the PC.

9. No individual Appellant(s), member of Appellant MENA, MENA representative or Appellee will speak against, obstruct or oppose the alternative plat application or related CBJ, State of Alaska and Federal permits in writing or in public testimony.

10. The Heumanns and Appellants agree that the application is a good faith compromise to settle this appeal, and that if the application is not approved as submitted, either party may request that the stay be lifted to proceed with the appeal of SMP2018 0002. The request must be made within 10 days of the Notice of Decision.

11. The PC has not reviewed, and is not authorized to commit its support and/or approval of the application prior to reviewing it through the normal hearing process, but acknowledges that the application will not automatically supersede or replace SMP2018 0002 unless the PC issues a NOD approving the application as submitted and no appeal is filed by a third party not subject to this agreement.

12. Nothing in this Agreement shall operate or be interpreted to supersede or waive any CBJ Code provision or requirement, including technical plat requirements.

13. If the PC issues a NOD approving the application as submitted and no appeal has been filed by a 3rd party Appellants will file an executed dismissal of the appeal with prejudice, within 3 business days of the expiration of the time limit within to appeal the NOD.

14. Appellants individually and jointly expressly waive their individual and associational rights to appeal to the Assembly under CBJ 01.50, or to otherwise challenge, an NOD that approves the application as submitted. This waiver does not apply to an NOD that alters the terms of this agreement in any significant respect.

15. Should the PC issue a NOD approving the application as submitted which is not appealed by any party, all parties understand that this Agreement shall operate as a full

and final mutual release and discharge of all parties against each other on behalf of themselves, their members, officers, agents, successors, assigns, attorneys, and anyone who can claim through or on behalf of the parties from the current appeal and from any and all past, present, and future appeals or claims relating to SMP 2018 0002 and the approved application. The parties understand and acknowledge that this release and discharge is made for the purpose of settlement and that it may not be construed as an admission of liability.

16. If a third party appeals a Notice Of Decision that approves the alternative plat,, the Heumanns and MENA shall immediately meet and confer (with or without the involvement of the third party appellants) to determine whether there is a solution that is consistent with this Agreement. If an agreement cannot be reached, the Heumanns will have the right to elect to defend against the appeal of the approved alternative plat, in which case MENA will support the Heumanns to the extent necessary to preserve this Agreement, or to abandon the approved alternative plat, lift the stay and defend the original preliminary plat in this appeal brought by MENA.
17. In executing this Agreement, each member of each party fully, completely, and unconditionally acknowledges and agrees that it has had the opportunity to consult with, and have the advice of, duly licensed and competent attorneys, and that it has executed this Agreement after independent investigation, voluntarily and without fraud, duress, or undue influence. Each party expressly consents that this Agreement be given full force and effect according to each and every of its express terms and provisions.
18. Each person executing this Agreement on behalf of another person or organization represents and warrants to each member of all other parties that he or she is fully authorized to execute and deliver this Agreement on behalf of such person or

organization. Each member of each party represents and warrants to all members of all other parties that no consent of any person not a party to this Agreement is necessary in order for this Agreement to be fully and completely binding upon each member of the parties hereto.

19. The parties agree to bear their own costs and attorney fees in this appeal.

Respectfully submitted this 23 day of ~~August~~ Sept 2019.

APPELLANTS, MENA, et al

By: _____
Paul H. Grant, Esq. /Libby Bakalar, Esq.
Alaska Bar No. 7710124

APPELLEE WILLIAM HEUMANN

By: _____
William Heumann

APPELLEE MICHAEL HEUMANN

By: _____
Michael Heumann

APPELLEE PC

By: Jane S. Mores 9/30/19
Jane S, Mores, Esq.
Alaska Bar No. 9011115

SIGNATURES OF INDIVIDUAL APPELLANTS

The following are the individual Appellants in the CBJ Planning Commission appeal designated as No. SMP2018-0002. By signing below each of them certifies that he or she has reviewed the Stipulated Settlement Agreement and the associated exhibits, and agrees that the appeal should be resolved as set out in the Agreement. It is understood that this is a compromise agreement, and that not every Appellant agrees with every term. However, each of the signing Appellants endorses the Settlement as his or her voluntary act, without coercion or undue influence. Each of the signing Appellants agrees that he or she will not oppose the application for approval of the modified plat before the planning commission, and each of them understands that MENA will provide a statement of support for the application.

Dawn Wolfe 9/5/19
Dawn Wolfe date

Eugene Huang 9/11/19
Eugene Huang date

Steve Ilia 9/5/2019
Steve Ilia date

Katherine Sullivan 9/11/19
Katherine Sullivan date

Euming Suewing 9-12-19
Euming Suewing date

Luciana Alinson 9-14-19
Luciana Alinson date

Kerrie Suewing 9-12-19
Kerrie Suewing date

Dave Tallmon 9/12/19
Dave Tallmon date

Kelli Manchester 9/5/19
Kelli Manchester date

Dane Lenaker 9/9/19
Dane Lenaker date

Noelle Blanc 9-12-19
Noelle Blanc date

Tom Rutecki 9-5-2019
Tom Rutecki date

Mary Noreross 9/12/2019
Mary Noreross date

Bob Janes 9/6/2019
Bob Janes date

Kris Coffee 9/5/19
Kris Coffee date

Rhonda Biles 9/5/19
Rhonda Biles date

Mathew Pegues 9/5/19
Mathew Pegues date

EXHIBIT A

Planning Commission

(907) 586-0715
PC_Comments@juneau.org
www.juneau.org/plancomm
155 S. Seward Street • Juneau, AK 99801

PLANNING COMMISSION
NOTICE OF DECISION

Date: February 28, 2019
File No.: SMP2018 0002

Michael & William Heumann
6000 Thane Road
Juneau, AK 99801

Proposal:	A Preliminary Plat for a phased major subdivision to include 12 single-family lots and 1 large tract (13 lots total).
Property Address:	4506, 4508, 4510 Hillcrest Avenue
Legal Description:	Richland Manor Tract B
Parcel Code No.:	7B1001160010
Hearing Date:	February 26, 2019

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandum dated February 14, 2019, and approved the preliminary plat to be conducted as described in the project description and project drawings submitted with the application and with the following conditions:

1. Prior to final plat approval, the following changes shall be made to the preliminary plat:
    a. Complete all 22 requested plat changes listed in the MEMO dated January 31, 2019, from CBJ Engineering & Public Works.
    b. On sheet one (1), label Laurie Lane.
    c. On sheet two (2), label the western lot line with bearing and distances described.
    d. On sheet one (1), show all five (5) lots on the south side of Coogan Drive, created Plat 2009-18.
    e. Through the review process, Blocks A and B have gotten switched. Plat Notes 9 & 10 do not match the plat when referencing the bungalow lots and panhandle lots. Change the plat graphic to match the plat notes or vice versa.
    f. Prior to final plat recording, remove setbacks, wetlands, drainage, and contours from plat graphic and legend.

g. On all pages, use a dashed font to label the original TRACT B.
h. Add the following Plat Note: "Further Subdivision of Tract B-1, Richland Manor 2 Subdivision shall require City & Borough of Juneau Preliminary Platting Requirements indicating adequate access for all lots created in Phase 1, Richland Manor Subdivision 2, and all future Phases."

2. The developer shall utilize Best Management Practices to treat or reduce any harmful particulates that may arise from the development.

3. The developer shall use Best Management Practices for storm water runoff to prevent sediment run-off from construction activities into neighboring waterbodies.

4. The average daily trips (ADT) generated by Phase 1, Richland Manor 2 Subdivision, and all future phases will be included in the ADT's generated by any future development of Tract B1.

5. A Hillside Development Permit may be required if triggered by CBJ 49.70.210(a)(1-5).

6. Sidewalks on both sides of the street are required for Phase 1.

7. All future phases of development may require wetlands delineation.

8. For each pair of panhandle lots sharing a driveway, the applicant must provide a maintenance agreement that is recorded with the subdivision, on forms acceptable to the director, ensuring the required access and parking areas will be constructed and maintained by all future property owners. The applicant shall also create a plat note referencing the easements.

9. The applicant shall pave, or bond for, the portion of the driveway in the right-of-way or the first 20 feet from the edge of the public roadway shall be paved, whichever length is greater, for all panhandle lots created with this subdivision.

10. The applicant shall construct, or bond for, street lights at each intersection in this subdivision with spacing between lights not to exceed 250 feet.

11. Prior to construction plan approval, the applicant shall submit a lighting plan meeting applicable CBJ standards.

12. A driveway and parking plan that shows the feasibility of off-street parking shall be submitted and approved by the Director prior to recording the plat.

13. The applicant shall install a residential sprinkler system that meets Capital City Fire & Rescue requirements in each dwelling unit within this subdivision.

14. The sketch plat shall be amended to show a future connection to Hooter Lane from Hillcrest Avenue.

15. The applicant must submit a drainage plan showing how drainage will flow from the subdivision to Glacier Highway; this drainage plan must be approved by the CBJ Engineering & Public Works Department. This drainage plan must be signed and stamped by an Alaskan licensed engineer in accordance with CBJ 49.35.510.

16. Prior to approval of a final plat, the applicant shall submit a complete set of construction plans for all required improvements to CDD for review by the Director of Engineering & Public Works for compliance with 49.35.140.

17. Prior to final plat approval, an engineer's estimate for the installation of public utilities and improvements must be submitted to CDD and reviewed and approved by CDD and CBJ Engineering & Public Works.

18. Prior to final plat approval, the applicant must construct, and/or bond for, all required public utilities and improvements.

Attachment: February 14, 2019 memorandum from Laurel Bruggeman, Community Development, to the CBJ Planning Commission regarding SMP2018 0002.

This Notice of Decision does not authorize any construction. Prior to starting any project, it is the applicant's responsibility to obtain the required building permits.

This Notice of Decision constitutes a final decision of the CBJ Planning Commission. Appeals must be brought to the CBJ Assembly in accordance to CBJ 01.50.030. Appeals must be filed by 4:30 P.M. on the day twenty days from the date the decision is filed with the City Clerk, pursuant to CBJ 01.50.030 (c). Any action by the applicant in reliance on the decision of the Planning Commission shall be at the risk that the decision may be reversed on appeal (CBJ 49.20.120).

Effective Date: The permit is effective upon approval by the Commission, February 26, 2019.

Expiration Date: The permit will expire five (5) years after the effective date, or February 26, 2024, if no Building Permit has been issued and substantial construction progress has not been made in accordance with the plans for which the subdivision permit was authorized or no final plat has been approved. Application for permit extension must be submitted thirty days prior to the expiration date.

Project Planner: _____ _____

Laurel Bruggeman, Planner
Community Development Department

Benjamin Haight, Chair
Planning Commission

_____ 3/5/2019

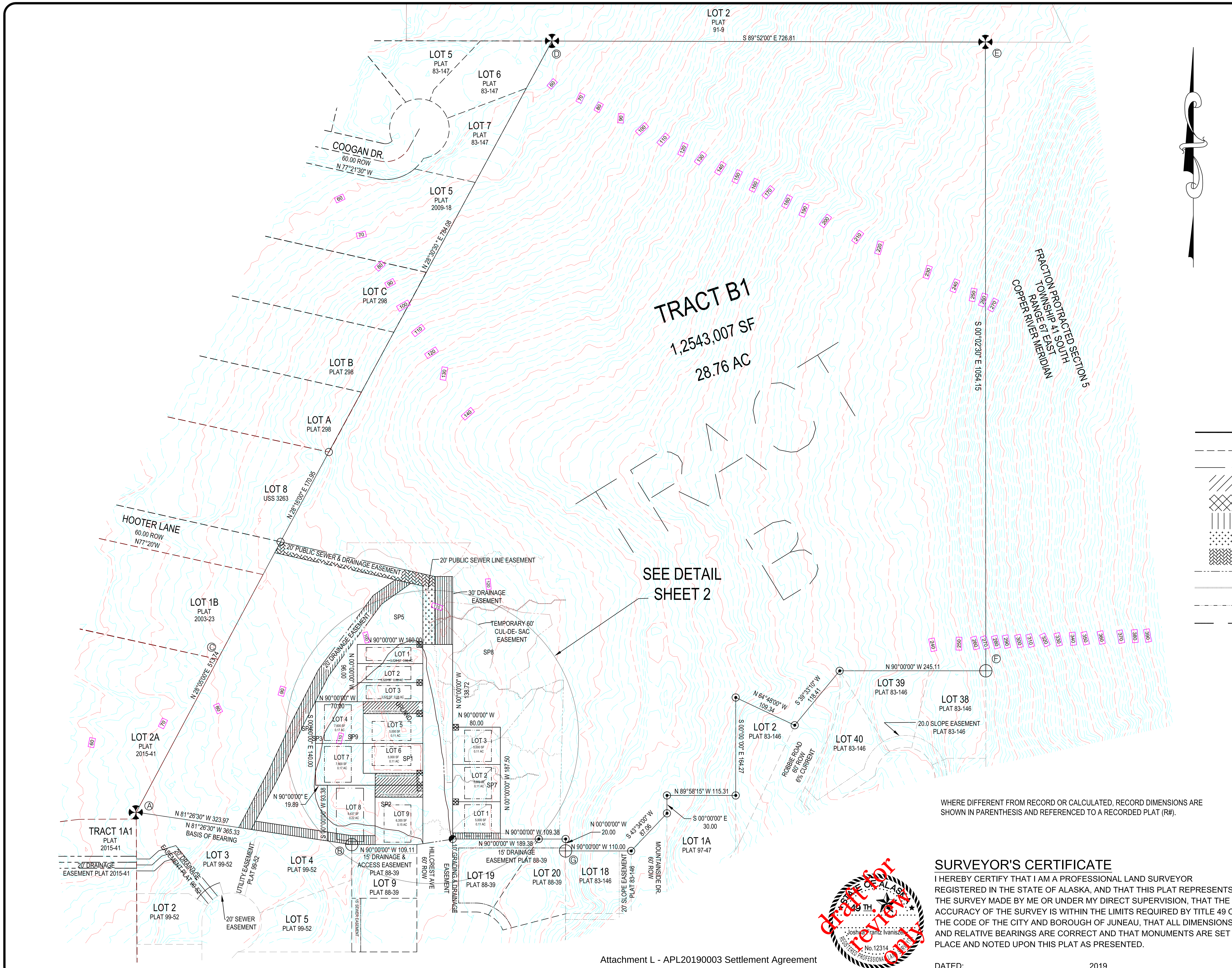
Filed With Municipal Clerk

Date

cc: Plan Review

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this subdivision. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Owners and designers are responsible for compliance with ADA. 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.

EXHIBIT A



WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).

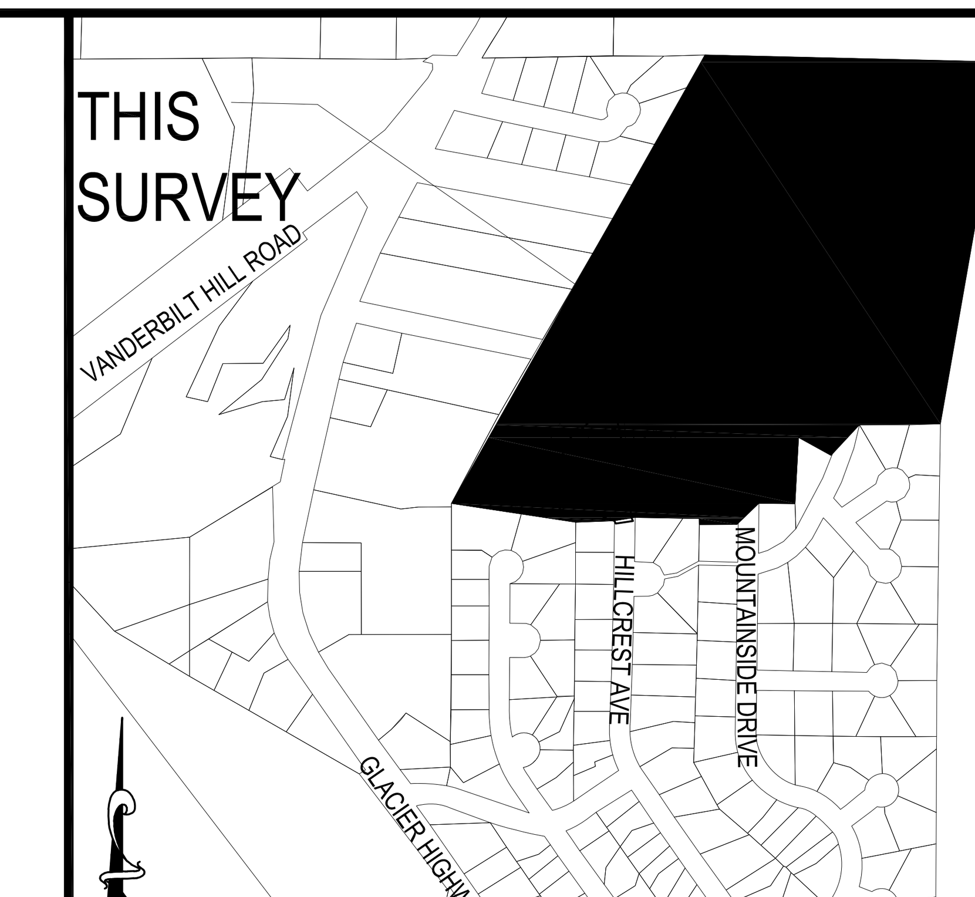
SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

DATED: ______________________,2019

draft for review only

Attachment L - APL20190003 Settlement Agreement



VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP

LEGEND:

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 3650-S SECONDARY MONUMENT RECOVERED
- 3650-S PRIMARY MONUMENT RECOVERED
- RECOVERED #5 REBAR NO CAP
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY CREATED THIS PLAT
- ACCESS EASEMENT CREATED THIS PLAT
- UTILITY EASEMENT CREATED THIS PLAT
- DRAINAGE EASEMENT CREATED THIS PLAT
- SANITARY SEWER EASEMENT CREATED THIS PLAT
- DRAINAGE & SEWER EASEMENT CREATED THIS PLAT
- WETLANDS BOUNDARY
- DRAINAGE
- SETBACK LINE
- TEMPORARY CUL-DE-SAC LIMITS
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47

1"=80'

0 80 160 240 320

PLAT OF
RICHLAND MANOR 2
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT JUNEAU

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:	SCALE:	DATE:	SHEET NO.
20180002	1" = 80'	26 DECEMBER 2018	1 OF 3


LEGEND:
BLM PRIMARY MONUMENT RECOVERED
R&M PRIMARY MONUMENT RECOVERED
1410-S SECONDARY MONUMENT RECOVERED
3650-S SECONDARY MONUMENT RECOVERED
3650-S PRIMARY MONUMENT RECOVERED
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SECONDARY MONUMENT SET THIS SURVEY
PROPERTY LINES
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EASEMENT BOUNDARY CREATED THIS PLAT
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DRAINAGE EASEMENT CREATED THIS PLAT
SANITARY SEWER EASEMENT CREATED THIS PLAT
DRAINAGE & SEWER EASEMENT CREATED THIS PLAT
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DRAINAGE
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(N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
(N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
(S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
HOOTER LANE
60.00 ROW
N77°20'W
20' PUBLIC SEWER & DRAINAGE EASEMENT
TRACT B1
1,253,007 SF
28.76 AC
LOT 1B
PLAT
2003-23
LOT 2A
PLAT
2015-41
30' DRAINAGE EASEMENT
20' PUBLIC SEWER EASEMENT
20' DRAINAGE EASEMENT
R =60'
10 X 10 UTILITY
EASEMENT
LOT 1
3,520 SF 0.08 AC
LOT 2
3,520 SF 0.08 AC
LOT 3
3,520 SF 0.08 AC
20' ACCESS EASEMENT FOR LOT 3
LOT 4
7,600 SF
0.17 AC
BLOCK
A
LOT 5
5,000 SF
0.11 AC
LOT 6
5,000 SF
0.11 AC
LOT 7
7,600 SF
0.17 AC
20' ACCESS EASEMENT FOR LOT 6
20' ACCESS EASEMENT FOR LOT 9
LOT 8
9,439 SF
0.22 AC
LOT 9
6,364 SF
0.15 AC
HILLCREST AVE
N 00°00'00" E
50' ROW
LOT 3
5,000 SF
0.11 AC
LOT 2
5,000 SF
0.11 AC
BLOCK
B
LOT 1
5,000 SF
0.11 AC
10' DRAINAGE EASEMENT
15' DRAINAGE EASEMENT PLAT 88-39
15' DRAINAGE EASEMENT
BASIS OF BEARINGS
S 81°26'30" E 365.33
15' DRAINAGE & ACCESS EASEMENT
TRACT 1A1
PLAT
2015-41
20' DRAINAGE EASEMENT
PLAT 2015-41
LOT 3
PLAT 99-52
LOT 4
PLAT 99-52
LOT 9
PLAT 88-39
LOT 19
PLAT 88-39
THIS
SURVEY
VANDERBILT HILL ROAD
HILLCREST AVE
MOUNTAINSIDE DRIVE
GLACIER HIGHWAY
VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP
CHILKAT SURVEYING
BLK B
ROW
L 2
L 1
2019
PLS 12314
TYPICAL MONUMENT DETAIL
N.T.S.
5/8" x 36" REBAR WITH 2.5" ALUMINUM CAP
STATE OF ALASKA
49TH
No.12314
draft for review only
SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.
DATED: ______________________,2019
WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).
1"=30'
0 30 60 90 120
PLAT OF
RICHLAND MANOR 2
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT
STATE RECORDERS OFFICE AT JUNEAU
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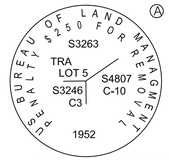
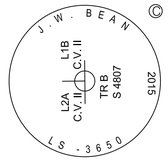
OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801
SMP: 20180002
SCALE: 1" = 30'
DATE: 26 DECEMBER 2018
SHEET NO. 2 OF 3

FOUND MONUMENT DESCRIPTIONS:

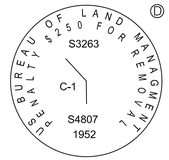


2.5" BRASS CAP MONUMENT

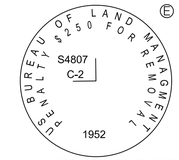
3.25" ALUMINUM CAP MONUMENT



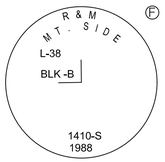
3.25" ALUMINUM CAP MONUMENT



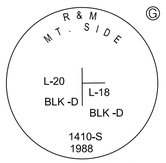
2.5" BRASS CAP MONUMENT



2.5" BRASS CAP MONUMENT



3.25" ALUMINUM CAP MONUMENT



3.25" ALUMINUM CAP MONUMENT

LEGEND:

	BLM PRIMARY MONUMENT RECOVERED
	R&M PRIMARY MONUMENT RECOVERED
	1410-S SECONDARY MONUMENT RECOVERED
	3650-S SECONDARY MONUMENT RECOVERED
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	DRAINAGE
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(N 45°11' W)R1	RECORD INFORMATION FROM US SURVEY 4807
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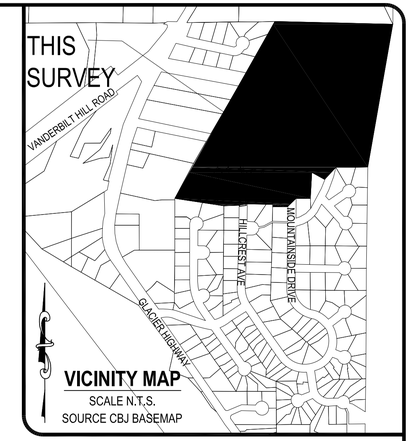


VICINITY MAP
SCALE N.T.S.
SOURCE CBJ BASEMAP

NOTES:

1) THE ERROR OF CLOSURE OF THIS SURVEY DOES NOT EXCEED 1:10,000.

2) ALL DISTANCES ARE MEASURED IN U.S. SURVEY FEET.

3) RECORD INFORMATION DERIVED FROM THE OFFICIAL PLAT OF US SURVEY 3263; US SURVEY 4807, PLAT OF SUBDIVISION OF LOTS 9 AND 10 US SURVEY 3263 TRACT A PLAT NO. 298 RECORDED 9 AUGUST 1961; MOUNTAINSIDE SUBDIVISION PLAT NO. 83-146 RECORDED 23 SEPTEMBER 1983; FAIRWEATHER SUBDIVISION PLAT NO. 83-147 RECORDED 23 SEPTEMBER 1983; DESERET SUBDIVISION PLAT NO. 91-9 RECORDED 28 FEBRUARY 1991; MOUNTAINSIDE SUBDIVISION II PLAT NO. 88-39 RECORDED 28 DECEMBER 1988; RICHLAND MANOR SUBDIVISION PLAT NO. 97-47 RECORDED 24 JULY 1997; VANDERBILT HILL SUBDIVISION PLAT NO. 99-52 RECORDED 29 OCTOBER 1999; A PLAT OF RESUBDIVISION OF LOT 1 CHILKAT VIEW SUBDIVISION PLAT NO. 2003-23; RECORDED 9 SEPTEMBER 2003; CHILKAT VIEW SUBDIVISION II PLAT NO. 2005-20 RECORDED 20 APRIL 2005; A PLAT OF FALLING TREE SUBDIVISION PLAT NO. 2009-18 RECORDED 7 JULY 2009; PLAT OF LOT 2A, CHILKAT VIEW SUBDIVISION II AND TRACT 1A1, US SURVEY 3246 PLAT NO. 2015-41 RECORDED 6 OCTOBER 2015 ON FILE WITH IN THE JUNEAU RECORDING DISTRICT.

4) WHERE DIFFERENT FROM RECORD OR CALCULATED, RECORD DIMENSIONS ARE SHOWN IN PARENTHESIS AND REFERENCED TO A RECORDED PLAT (R#).

5) DOMESTIC WATER & SANITARY SEWER PROVIDED BY THE CITY AND BOROUGH OF JUNEAU PUBLIC UTILITIES.

6) SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

7) THE STORMWATER RUNOFF IS ACCEPTABLE PER RICHLAND MANOR II SUBDIVISION DRAINAGE PLAN IN APPROVED CONSTRUCTION PLAN SET AS APPROVED BY CBJ ENGINEERING. . ALL REQUIRED RICHLAND MANOR II SUBDIVISION PUBLIC IMPROVEMENTS INCLUDING SURFACE DRAINAGE, DRIVEWAYS AND ROADSIDE DRAINAGE SHALL BE CONSTRUCTED PRIOR TO FINAL ACCEPTANCE FOR MAINTENANCE BY CBJ PUBLIC WORKS. MODIFICATIONS TO THE APPROVED PLANS WILL NOT BE ALLOWED UNLESS PERMITTED BY CBJ ENGINEERING PURSUANT TO CBJ 19.12 EXCAVATION AND GRADING CODE.

8) OTHER THAN AS SHOWN, THERE IS AN IMPLIED PRIVATE DRAINAGE EASEMENT ALONG ALL SIDE PROPERTY LINES WITHIN THE SUBDIVISION BEING 10FT IN WIDTH CENTERED ON EACH ADJOINING PROPERTY LINE.

9) LOTS 1 , 2, AND 3 BLOCK B ARE BUNGALOW LOTS. AT THE TIME OF PLAT RECORDING, STRUCTURES ON LOTS 1 & 2 & 3 BLOCK B ARE LIMITED TO ONE 1,000 SQUARE FOOT DETACHED SINGLE-FAMILY RESIDENCE PER LOT; OTHER DEVELOPMENT RESTRICTIONS APPLY. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.

10) LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B ARE PANHANDLE LOTS. AT THE TIME OF PLAT RECORDING, FURTHER SUBDIVISION OF LOTS 4, 5, 6, 7, 8, AND 9 BLOCK B IS SUBJECT TO CBJ 49.15.423 'PANHANDLE LOTS'. SEE THE CITY AND BOROUGH OF JUNEAU LAND USE CODE FOR CURRENT REGULATIONS.

11) WETLANDS MAY EXIST ON PARTS OF THIS SUBDIVISION. SPECIAL REGULATIONS MAY APPLY. WETLANDS DELINEATED BY KOREN BOSWORTH NOVEMBER 2018

11) TOPOGRAPHY DERIVED FROM WATERSHED SCIENCES, INC CBJ LIDAR AND IMAGERY PROJECT DATA COLLECTED MAY 2013 2" CONTOURS.

PLANNING COMMISSION PLAT APPROVAL

I HEREBY CERTIFY THAT THE SUBDIVISION PLAT SHOWN HEREON HAS BEEN FOUND TO COMPLY WITH THE SUBDIVISION REGULATIONS OF THE CITY AND BOROUGH OF JUNEAU, ALASKA AND THAT SAID PLAT HAS BEEN APPROVED BY THE PLANNING COMMISSION BY PLAT RESOLUTION NO. _____ , DATED _____ , 2019_____ , AND THAT THE PLAT SHOWN HEREON HAS BEEN APPROVED FOR RECORDING IN THE OFFICE OF THE DISTRICT RECORDING OFFICE, JUNEAU, ALASKA.

_____DATED _____ , 2019

CHAIRMAN OF THE PLANNING COMMISSION

CITY AND BOROUGH OF JUNEAU

ATTEST:

_____

MUNICIPAL CLERK

CITY AND BOROUGH OF JUNEAU

OWNERSHIP CERTIFICATE:

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

DATE: _____,2019

_____ WILLIAM C. HEUMANN

_____ MICHAEL P. HEUMANN

NOTARY ACKNOWLEDGEMENT:

UNITED STATES OF AMERICA)
)SS
STATE OF ALASKA)

THIS IS TO CERTIFY THAT ON THIS____ DAY OF _____, 2019, BEFORE ME THE UNDERSIGNED, A NOTARY PUBLIC IN AND FOR THE STATE OF ALASKA, DULY COMMISSIONED AND SWORN, PERSONALLY APPEARED WILLIAM C. HEUMANN AND MICHAEL P. HEUMANN TO ME KNOWN TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE ABOVE AND FOREGOING INSTRUMENT, AND ACKNOWLEDGED TO ME THAT THEY SIGNED AND SEALED THE SAME FREELY AND VOLUNTARY FOR THE USES AND PURPOSES THEREIN MENTIONED AUTHORIZED TO DO SO.

WITNESS MY HAND AND OFFICIAL SEAL THE DAY AND YEAR IN THIS CERTIFICATE FIRST ABOVE WRITTEN.

_____
NOTARY PUBLIC FOR ALASKA

MY COMMISSION EXPIRES: _____

SURVEYOR'S CERTIFICATE

I HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF ALASKA, AND THAT THIS PLAT REPRESENTS THE SURVEY MADE BY ME OR UNDER MY DIRECT SUPERVISION, THAT THE ACCURACY OF THE SURVEY IS WITHIN THE LIMITS REQUIRED BY TITLE 49 OF THE CODE OF THE CITY AND BOROUGH OF JUNEAU, THAT ALL DIMENSIONS AND RELATIVE BEARINGS ARE CORRECT AND THAT MONUMENTS ARE SET IN PLACE AND NOTED UPON THIS PLAT AS PRESENTED.

DATED: _____,2019

BASIS OF BEARING:

THE BASIS OF BEARING FOR THIS PLAT IS THE RECORD BEARING OF N 81°26'30" W AS DELINEATED ON THE OFFICIAL PLAT OF VANDERBILT HILL SUBDIVISION, DATED 29 OCTOBER 1999, BETWEEN FOUND PRIMARY MONUMENTS WHICH MARK THE NW CORNER OF LOT 3 AND THE NE CORNER OF LOT 4, VANDERBILT HILL SUBDIVISION AS SHOWN ON THIS PLAT.

0 80 160 240 320

1"=80'

PLAT OF
RICHLAND MANOR 2
A SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

STATE RECORDERS OFFICE AT JUNEAU

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SMP:	SCALE:	DATE:	SHEET NO.
20180002	1" = 30'	26 DECEMBER 2018	3 OF 3

Date: 24 JANUARY 2019

To: CBJ COMMUNITY DEVELPOMENT DEPARTMENT
155 SOUTH SEWARD ST.
Juneau, Alaska 99801

Subject: Lot closure reports

Remarks: The lot closure reflects the proposed subdivision of Richland Manor II

BLOCK A
Lot 1

Northing	Easting	Bearing	Distance
2379490.480	2527711.091		
		N 90°00'00" W	110.000
2379490.480	2527601.091		
		N 00°00'00" W	32.000
2379522.480	2527601.091		
		N 90°00'00" E	110.000
2379522.480	2527711.091		
		S 00°00'00" E	32.000
2379490.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 284.000
Polyline Area: 3520 sq ft, 0.08 acres

Lot 2

Northing	Easting	Bearing	Distance
2379458.480	2527711.091		
		N 90°00'00" W	110.000
2379458.480	2527601.091		
		N 00°00'00" W	32.000
2379490.480	2527601.091		
		N 90°00'00" E	110.000
2379490.480	2527711.091		
		S 00°00'00" E	32.000
2379458.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 284.000
Polyline Area: 3520 sq ft, 0.08 acres

Lot 3

Northing	Easting	Bearing	Distance
2379426.480	2527711.091		
		N 90°00'00" W	110.000
2379426.480	2527601.091		
		N 00°00'00" W	32.000
2379458.480	2527601.091		
		N 90°00'00" E	110.000
2379458.480	2527711.091		
		S 00°00'00" E	32.000
2379426.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 284.000
Polyline Area: 3520 sq ft, 0.08 acres

Lot4

Northing	Easting	Bearing	Distance
2379406.480	2527711.091		
		N 90°00'00" W	100.000
2379406.480	2527611.091		
		S 00°00'00" E	50.000
2379356.480	2527611.091		
		N 90°00'00" W	80.000
2379356.480	2527531.091		
		N 00°00'00" W	70.000
2379426.480	2527531.091		
		N 90°00'00" E	180.000
2379426.480	2527711.091		
		S 00°00'00" E	20.000
2379406.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 500.000
Polyline Area: 7600 sq ft, 0.17 acres

Lot 5

Northing	Easting	Bearing	Distance
2379356.480	2527611.091		
		N 00°00'00" W	50.000
2379406.480	2527611.091		
		N 90°00'00" E	100.000
2379406.480	2527711.091		
		S 00°00'00" E	50.000
2379356.480	2527711.091		
		N 90°00'00" W	100.000
2379356.480	2527611.091		

Closure Error Distance> 0.00000
Total Distance> 300.000
Polyline Area: 5000 sq ft, 0.11 acres

Lot 6

Northing	Easting	Bearing	Distance
2379306.480	2527611.091		
		N 90°00'00" E	100.000
2379306.480	2527711.091		
		N 00°00'00" W	50.000
2379356.480	2527711.091		
		N 90°00'00" W	100.000
2379356.480	2527611.091		
		S 00°00'00" E	50.000
2379306.480	2527611.091		

Closure Error Distance> 0.00000
Total Distance> 300.000
Polyline Area: 5000 sq ft, 0.11 acres

Lot 7

Northing	Easting	Bearing	Distance
2379286.480	2527711.091		
		N 90°00'00" W	180.000
2379286.480	2527531.091		
		N 00°00'00" W	70.000
2379356.480	2527531.091		
		N 90°00'00" E	80.000
2379356.480	2527611.091		
		S 00°00'00" E	50.000
2379306.480	2527611.091		
		N 90°00'00" E	100.000
2379306.480	2527711.091		
		S 00°00'00" E	20.000
2379286.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 500.000
Polyline Area: 7600 sq ft, 0.17 acres

Lot 8

Northing	Easting	Bearing	Distance
2379266.480	2527711.091		
		N 00°00'00" W	20.000
2379286.480	2527711.091		
		N 90°00'00" W	160.109
2379286.480	2527550.982		
		S 00°00'00" E	93.380
2379193.100	2527550.982		
		S 81°26'30" E	41.359
2379186.946	2527591.880		
		N 90°00'00" E	39.100
2379186.946	2527630.980		
		N 00°00'00" W	79.535
2379266.480	2527630.980		
		N 90°00'00" E	80.111
2379266.480	2527711.091		

Closure Error Distance> 0.00000
Total Distance> 513.594
Polyline Area: 9439 sq ft, 0 acres

Lot 9

Northing	Easting	Bearing	Distance
2379186.946	2527701.100		
		N 90°00'00" W	70.120
2379186.946	2527630.980		
		N 00°00'00" W	79.535
2379266.480	2527630.980		
		N 90°00'00" E	80.111
2379266.480	2527711.091		
		S 00°00'00" E	77.983
2379188.497	2527711.091		
		S 81°10'15" W	10.110
2379186.946	2527701.100		

Closure Error Distance> 0.00000
Total Distance> 317.859
Polyline Area: 6364 sq ft, 0 acres

BLOCK B
Lot 1

Northing	Easting	Bearing	Distance
2379196.264	2527761.091		
		N 00°00'00" W	62.500
2379258.764	2527761.091		
		N 90°00'00" E	80.000
2379258.764	2527841.091		
		S 00°00'00" E	62.500
2379196.264	2527841.091		
		N 90°00'00" W	80.000
2379196.264	2527761.091		

Closure Error Distance> 0.00000
Total Distance> 285.000
Polyline Area: 5000 sq ft, 0 acres

Lot 2

Northing	Easting	Bearing	Distance
2379258.764	2527761.091		
		N 00°00'00" W	62.500
2379321.264	2527761.091		
		N 90°00'00" E	80.000
2379321.264	2527841.091		
		S 00°00'00" E	62.500
2379258.764	2527841.091		
		N 90°00'00" W	80.000
2379258.764	2527761.091		

Closure Error Distance> 0.00000
Total Distance> 285.000
Polyline Area: 5000 sq ft, 0 acres

Lot 3

Northing	Easting	Bearing	Distance
2379321.264	2527761.091		
		N 00°00'00" W	62.500
2379383.764	2527761.091		
		N 90°00'00" E	80.000
2379383.764	2527841.091		
		S 00°00'00" E	62.500
2379321.264	2527841.091		
		N 90°00'00" W	80.000
2379321.264	2527761.091		

Closure Error Distance> 0.00000
Total Distance> 285.000
Polyline Area: 5000 sq ft, 0 acres

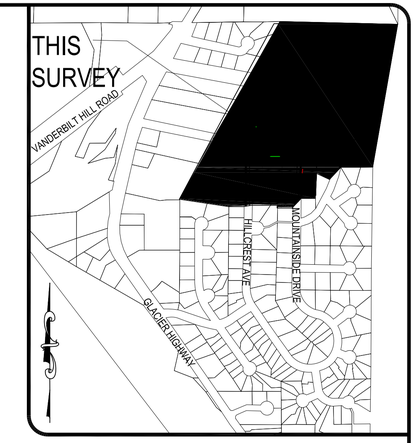
Tract B1

Northing	Easting	Bearing	Distance
2379193.100	2527550.982		
		N 81°26'30" W	323.971
2379241.313	2527230.618		
		N 28°05'00" E	513.740
2379694.567	2527472.464		
		N 28°16'00" E	170.950
2379845.132	2527553.422		
		N 28°30'30" E	784.080
2380534.140	2527927.653		
		S 89°52'00" E	726.810
2380532.449	2528654.461		
		S 00°02'30" E	1054.150
2379478.299	2528655.227		
		N 90°00'00" W	245.110
2379478.299	2528410.117		
		S 39°33'10" W	118.408
2379387.002	2528334.716		
		N 64°48'00" W	109.340
2379433.556	2528235.782		
		S 00°00'00" E	164.270
2379269.286	2528235.782		
		N 89°58'15" W	115.310
2379269.345	2528120.472		
		S 00°00'00" E	30.000
2379239.345	2528120.472		
		S 43°34'00" W	87.060
2379176.264	2528060.471		
		N 90°00'00" W	110.000
2379176.264	2527950.471		
		N 00°00'00" W	20.000
2379196.264	2527950.471		
		N 90°00'00" W	109.380
2379196.264	2527841.091		
		N 00°00'00" W	187.500
2379383.764	2527841.091		
		N 90°00'00" W	80.000
2379383.764	2527761.091		
		N 00°00'00" W	138.720
2379522.484	2527761.091		
		N 90°00'00" W	160.000
2379522.484	2527601.091		
		S 00°00'00" E	96.000
2379426.484	2527601.091		
		N 90°00'00" W	70.000
2379426.484	2527531.091		
		S 00°00'00" E	140.000
2379286.484	2527531.091		
		N 90°00'00" E	19.890
2379286.484	2527550.981		
		S 00°00'00" E	93.383
2379193.101	2527550.981		

Closure Error Distance> 0.00090 Error Bearing> S 81°26'30" E
Closure Precision> 1 in 6266245.1 Total Distance> 5668.072
Polyline Area: 1253007 sq ft, 29 acres

LEGEND:

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- 3650-S SECONDARY MONUMENT RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- EASEMENT BOUNDARY CREATED THIS PLAT
- EASEMENT CREATED THIS PLAT
- WETLANDS BOUNDARY
- DRAINAGE
- SETBACK LINE
- TEMPORARY CUL-DA-SAC LIMITS
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47



CHILKAT SURVEYING
BLK B
ROW L 2 / L 1
2019
PLS 12314

TYPICAL MONUMENT DETAIL
N.T.S.
5/8" x 36" REBAR WITH 2.5" ALUMINUM CAP

20' PUBLIC SEWER EASEMENT

TEMPORARY 60' CUL-DA-SAC

TRACT B

HILLCREST AVE

LOT 1 — 3,080 SF 0.07 AC
LOT 2 — 3,080 SF 0.07 AC
LOT 3 — 3,080 SF 0.07 AC
LOT 4 — 7,600 SF 0.17 AC
LOT 5 — 5,000 SF 0.11 AC
LOT 6 — 5,000 SF 0.11 AC
LOT 7 — 7,600 SF 0.17 AC
LOT 8 — 9,437 SF 0.22 AC
LOT 9 — 6,355 SF 0.15 AC
LOT 10 — 5,000 SF 0.11 AC
LOT 11 — 5,000 SF 0.11 AC
LOT 12 — 5,000 SF 0.11 AC
LOT 13 — 5,000 SF 0.11 AC
LOT 14 — 5,137 SF 0.11 AC

20' ACCESS EASEMENT FOR LOT 3
20' ACCESS EASEMENT FOR LOT 6
20' ACCESS EASEMENT FOR LOT 9

10 X 10 UTILITY EASEMENT

LOT 2A
PLAT
2015-41

TRACT 1A1
PLAT
2015-41

20' REAR SETBACK

BASIS OF BEARINGS
S 81°26'30" E 365.33

15' DRAINAGE EASEMENT

15' DRAINAGE & ACCESS EASEMENT

LOT 3
PLAT 99-52

LOT 4
PLAT 99-52

APPROXIMATE LIMITS OF HOME

LOT 9
PLAT 88-39

LOT 19
PLAT 88-39

1"=30'
0 30 60 90 120

EXHIBIT B
PHASE A
RICHLAND MANOR 2
A FUTURE SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SCALE: 1" = 30'
DATE: 04 SEPTEMBER 2019
SHEET NO. 2 OF 3

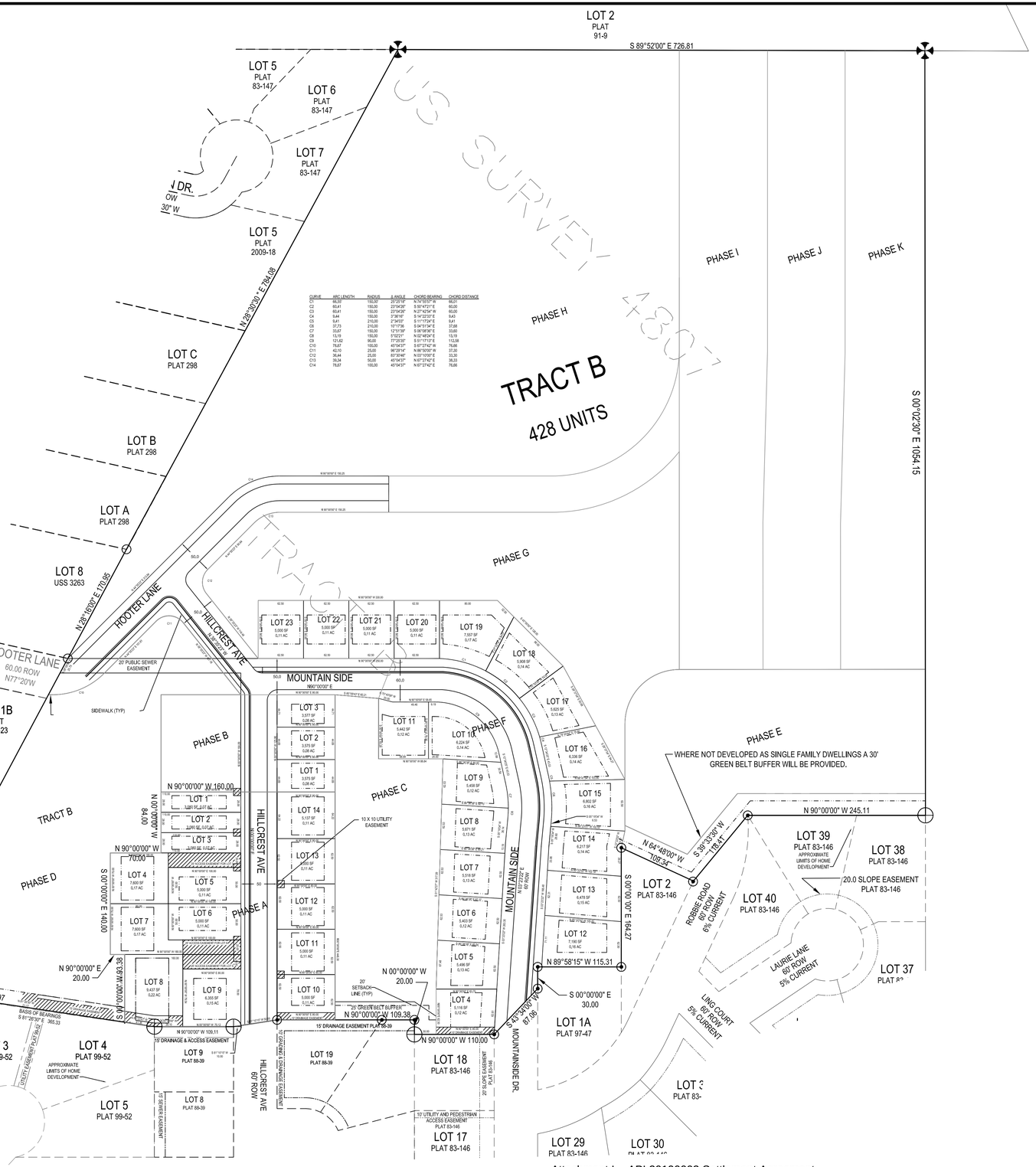

EXHIBIT C
RICHLAND MANOR 2
A FUTURE SUBDIVISION OF
TRACT B RICHLAND MANOR
A FRACTION OF US SURVEY 4807
WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA
JUNEAU RECORDING DISTRICT
CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908
OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801
SCALE:
1" = 50'
DATE:
4 SEPTEMBER 2019
SHEET NO.
1 OF 1
1"=50'
0 50 100 150 200
THIS SURVEY
VANDERBILT HILL ROAD
GLACIER HIGHWAY
HILLCREST AVE
MOUNTAINSIDE DRIVE
DEVELOPMENT ACCESSED BY ROBBIE ROAD SHALL INCLUDE NO MORE THAN 7 DETACHED SINGLE FAMILY DWELLINGS AND 3 ACCESSORY APARTMENTS
WHERE NOT DEVELOPED AS SINGLE FAMILY DWELLINGS A 30' GREEN BELT BUFFER WILL BE PROVIDED.
LOT A
PLAT 298
LOT 8
USS 3263
HOOTER LANE
60.00 ROW
N77°20'W
HOOTER LANE
N 28°16'00" E 170.95
LOT 1B
PLAT
2003-23
TRACT B
N 28°05'00"E 513.74
LOT 2A
PLAT
2015-41
TRACT 1A1
PLAT
2015-41
20' PUBLIC SEWER EASEMENT
SIDEWALK (TYP)
HILLCREST AVE
MOUNTAIN SIDE
N90°00'00" E
20' REAR SETBACK
N 81°26'30" W 323.97
BASIS OF BEARINGS
S 81°26'30" E 365.33
LOT 3
PLAT 99-52
LOT 4
PLAT 99-52
LOT 5
PLAT 99-52
APPROXIMATE LIMITS OF HOME DEVELOPMENT
UTILITY EASEMENT PLAT 99-52
15' DRAINAGE & ACCESS EASEMENT
LOT 9
PLAT 88-39
LOT 8
PLAT 88-39
15' SEWER EASEMENT
HILLCREST AVE
60' ROW
10' GRADING & DRAINAGE EASEMENT
LOT 19
PLAT 88-39
15' DRAINAGE EASEMENT PLAT 88-39
25' GREEN BELT BUFFER
N 90°00'00" W 109.38
20' SETBACK LINE (TYP)
N 00°00'00" W
20.00
10 X 10 UTILITY EASEMENT
N 90°00'00" W 110.00
LOT 18
PLAT 83-146
20' SLOPE EASEMENT PLAT 83-146
10' UTILITY AND PEDESTRIAN ACCESS EASEMENT
PLAT 83-146
LOT 17
MOUNTAINSIDE DR.
S 43°34'00" W
87.06
S 00°00'00" E
30.00
LOT 1A
PLAT 97-47
LOT 31
N 90°00'00" W 160.00
N 00°00'00" W
84.00
N 90°00'00" W
70.00
S 00°00'00" E 140.00
N 90°00'00" E
20.00
S 00°00'00" W 93.38
N 90°00'00" W 109.11
LOT 1 3,080 SF 0.07 AC
LOT 2 3,080 SF 0.07 AC
LOT 3 3,080 SF 0.07 AC
LOT 4 7,600 SF 0.17 AC
LOT 5 5,000 SF 0.11 AC
LOT 6 5,000 SF 0.11 AC
LOT 7 7,600 SF 0.17 AC
LOT 8 9,437 SF 0.22 AC
LOT 9 6,355 SF 0.15 AC
LOT 3 3,577 SF 0.08 AC
LOT 2 3,575 SF 0.08 AC
LOT 1 3,575 SF 0.08 AC
LOT 14 5,137 SF 0.11 AC
LOT 13 5,000 SF 0.11 AC
LOT 12 5,000 SF 0.11 AC
LOT 11 5,000 SF 0.11 AC
LOT 10 5,000 SF 0.11 AC
LOT 11 5,442 SF 0.12 AC
LOT 10 6,224 SF 0.14 AC
LOT 9 5,458 SF 0.12 AC
LOT 8 5,671 SF 0.13 AC
LOT 7 5,518 SF 0.13 AC
LOT 6 5,403 SF 0.12 AC
LOT 5 5,496 SF 0.13 AC
LOT 4 5,116 SF 0.12 AC
LOT 23 5,000 SF 0.11 AC
LOT 22 5,000 SF 0.11 AC
LOT 21 5,000 SF 0.11 AC
LOT 20 5,000 SF 0.11 AC
LOT 19 7,557 SF 0.17 AC
LOT 18 5,908 SF 0.14 AC
LOT 17 5,625 SF 0.13 AC
LOT 16 6,336 SF 0.14 AC
LOT 15 6,802 SF 0.16 AC
LOT 14 6,217 SF 0.14 AC
LOT 13 6,478 SF 0.15 AC
LOT 12 7,190 SF 0.16 AC
MOUNTAIN SIDE
N 03°23'22" E
60' ROW
N 89°58'15" W 115.31
S 00°00'00" E 164.27
LOT 2
PLAT 83-146
N 64°48'00" W
109.34
S 39°33'30" W
118.41
N 90°00'00" W 245.11
ROBBIE ROAD
60' ROW
6% CURRENT
LOT 39
PLAT 83-146
APPROXIMATE LIMITS OF HOME DEVELOPMENT
LOT 38
PLAT 83-146
20.0 SLOPE EASEMENT
PLAT 83-146
LOT 40
PLAT 83-146
LAURIE LANE
60' ROW
5% CURRENT
LOT 37
PLAT 83-146
LING COURT
60' ROW
5% CURRENT
LOT 36
PLAT 83-146
LOT 35
PLAT 83-146

SINGLE FAMILY UNIT TABLE

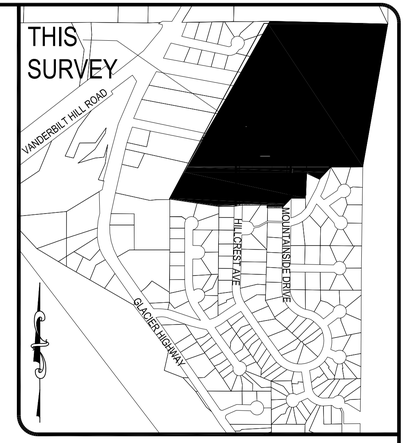
PHASE	NUMBER OF UNITS
1	12
2	16
3	18
4	20
5	20
6	15

MULTIFAMILY UNIT TABLE

PHASE	NUMBER OF UNITS
A	52
B	54
C	56
D	30



CURVE	ARC LENGTH	RADIUS	Δ ANGLE	CHORD BEARING	CHORD DISTANCE
C1	66,50'	150,00'	25°23'16"	N 74°35'57" W	66,01
C2	60,41	150,00	23°04'28"	S 50°47'57" E	60,00
C3	60,41	150,00	23°04'28"	N 27°42'54" W	60,00
C4	9,41	210,00	2°34'02"	S 11°17'54" E	9,41
C5	9,41	210,00	2°34'02"	S 11°17'54" E	9,41
C6	37,73	210,00	10°17'36"	S 04°51'34" E	37,68
C7	33,67	150,00	12°51'39"	S 06°08'58" E	33,60
C8	13,19	150,00	5°02'21"	N 02°48'34" E	13,19
C9	121,42	90,00	77°18'35"	S 51°11'13" E	112,58
C10	78,87	100,00	40°04'33"	S 67°37'42" W	78,66
C11	42,10	25,00	96°28'14"	N 66°50'00" W	37,30
C12	36,44	25,00	83°30'46"	N 03°10'00" E	33,30
C13	39,34	53,00	40°34'37"	N 67°37'42" E	38,33
C14	78,87	100,00	45°04'33"	N 67°37'42" E	76,86



LEGEND:

- BLM PRIMARY MONUMENT RECOVERED
- R&M PRIMARY MONUMENT RECOVERED
- 1410-S SECONDARY MONUMENT RECOVERED
- SECONDARY MONUMENT SET THIS SURVEY
- PROPERTY LINES
- UNSURVEYED LINES
- WETLANDS BOUNDARY
- DRAINAGE
- PHASE BOUNDARY
- (N 45°11' W)R1 RECORD INFORMATION FROM US SURVEY 4807
- (N45°04'15" W)R2 RECORD INFORMATION FROM PLAT No. 83-146
- (S00°06'33"W)R3 RECORD INFORMATION FROM PLAT No. 97-47
- (N45°11'W)R4 RECORD INFORMATION FROM PLAT No.99-52

1"=80'

0 80 160 240 320

EXHIBIT D

SKETCH PLAT OF

RICHLAND MANOR 2

A FUTURE SUBDIVISION OF

TRACT B RICHLAND MANOR

A FRACTION OF US SURVEY 4807

WITHIN THE CITY AND BOROUGH OF JUNEAU, ALASKA

JUNEAU RECORDING DISTRICT

CHILKAT SURVEYING & MAPPING, LLC
10654 PORTER LANE JUNEAU, ALASKA 99801
907-957-1908

OWNERS
WILLIAM C HEUMANN & MICHAEL P. HEUMANN
6000 THANE ROAD JUNEAU, ALASKA 99801

SCALE:	DATE:	SHEET NO.
1" = 80'	4 SEPTEMBER 2019	1 OF 1