

TO: SAN JUAN COUNTY, WA 98250

APRIL 30, 2012

RESPONSE TO SHORELINE INVENTORY REPORT AT  
<http://sanjuanco.com/CDP/docs/SMP/SJC> Shoreline Inventory and Characterization Report  
January 2012 Final.pdf

PROPERTY OWNERS: CLAES AND KATHLEEN EKLUND

STREET ADDRESS: 1603 BIRCH CT, MOUNT VERNON, WA 98274

S.J.C. COMMUNITY  
APR 30 2012  
DEVELOPMENT & PLANNING

TAX PARCEL NUMBERS	ISLAND	DESCRIPTION	MAP INDEX 37 REACH NUMBER
482143002000	Henry Island	Common Land 0.78 acre parcel	Reach No. 234
462811003000	Henry Island	50.52 acre parcel	Reach No. 233

ROCHE HARBOR MANAGEMENT AREA

SEE ATTACHMENT 1

FOR COMENTS TO TABLE 27A PAGE 167, TABLE 27B PAGE 169, AND COMMENTS ON MAPS 9A, 12A, 14A, 17A, 19A, 20A, 22A, 23A, AND 24A. THE REFERENCED REACH TABLES AND CHARACTERIZATION MAPS LISTED HEREIN DO NOT PROPERLY REFLECT OUR PROPERTY.

SEE ATTACHMENT 2

FOR MAPS SHOWING AERIAL VIEWS OF HENRY ISLAND, THE COMMON LAND, THE WEST SIDE OF HENRY ISLAND, CONNECTING ROADS, EASEMENTS, AND SURVEY. PLOT PLAN AND TREE PLAN APPROVALS. LETTER FROM JOHN BRADELY TO CLAES EKLUND WITH HISTORY OF AREA.

SEE ATTACHMENT 3

FOR 28 PHOTOS OF THE COMMON LAND AND EKLUNDS' 50 ACRE PARCEL. 26 OF THESE PHOTOS REFLECT EXISTING CONDITONS.

SEE ATTACHMENT 4

FOR REFERENCE INFORMATION INCLUDING FEMA MAPS, EKLUND SECTION 7 BIOLOGICAL EVALUATION ADDENDUM #1, LIST OF BARGE LANDINGS, AND EELGRASS SURVEY.

OUR PARCELS ARE NOT LISTED ON MAP 35A AS POTENTIALLY NONCONFORMING AND THE EKLUNDS COULD NOT IDENTIFY ANY SCIENTIFIC BASIS FOR MAKING OUR PROPERTY A NONCONFORMING USE.

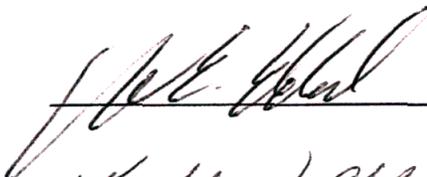
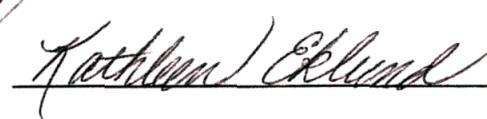
THE SHORELINE DESIGNATION - CONSERVANCY, COMPREHENSIVE PLAN - RURAL, ZONING - RFF

THE EKLUNDS REQUEST THAT THE MATERIALS SUBMITTED HERewith BE INCORPORATED INTO THE COUNTY INVENTORY AND CHARACTERIZATION REPORTS TO MORE ACURATELY REFLECT THE CHARACTERIZATION OF THE SHORELINE AND LAND ABUTTING OUR PROPERTY.

OWNERS SIGNATURE

DATE

PRINT

<u></u>	<u>4-30-12</u>	<u>CLAES E. EKLUND</u>
<u></u>	<u>4-30-12</u>	<u>Kathleen Eklund</u>

## **ATTACHMENT 1**

- COMMENT ON TABLE 27A PAGE 167 REACH 234
- COMMENTS ON TABLE 27B PAGE 169 REACH 234
- COMMENT ON MAP 9A SHORELINE MODIFICATIONS
- COMMENTS ON MAP 12A FLOODPLAINS AND WETLANDS
- COMMENT ON MAP 14A CURRENT MARINE SHOREFORM TYPES
- COMMENTS ON MAP 17A GEOLOGIC HAZARD
- COMMENT ON MAP 19A LAND COVER
- COMMENT ON MAP 20A IMPERVIOUS SURFACES
- COMMENT ON MAP 22A PRIORITY HABITAT AND SPECIES REGIONS
- COMMENT ON MAP 23A AQUATIC VEGETATION
- COMMENT ON MAP 24A BIRDS AND MAMMALS

## ATTACHEMENT 1

### EKLUNDS' COMMENTS ON THE SHORELINE INVENTORY AND CHARACTERIZATION REPORT SAN JUAN COUNTY – JANUARY 2012 DRAFT ROCHE HARBOR MANAGEMENT AREA

#### Table 27A – Page 167

**Reach 234** is located on the west side of Open Bay on Henry Island and extends from the BLM land to the end of Open Bay (Map 37A). Natural Sediment Transport Patterns are rated “5” high. This assessment is in conflict with the survey referenced below during the hearing for the Eklund dock proposal. Photos 1, 2, and 3 in Attachment 3 show the pocket beach.

Hearing Examiner - San Juan County HE 07-99 - Finding of Fact, Paragraph 62 - “Spring Beach is a pocket beach, isolated from the surrounding shore by rocky headlands. A recent survey resulted in a classification of “no appreciable net shore drift” for the area. Therefore, the dock would be unlikely to interfere with natural shore processes. In addition, there is no reason to think that the water quality or water circulation would suffer any adverse impact from the dock.”

#### Table 27B – Page 169

**Reach 234** - Estuary /Wetland Habitat – rated 1 – Wetlands are absent within this shoreline reach. The ground is not damp or soggy. Within the uplands of the reach the dominant forest tree species are Douglas fir, with some pacific madrone and western red cedar, interspersed with red alder, bitter cherry, and Scoulers willow. Ground cover is dominated by grasses. There is no emergent vegetation. Photos 4, 6, 7, 8, and 9 in Attachment 3 and the aerial photo of the Common Land in Attachment 1, show that this area is not a wetland.

Estuaries are also absent within this reach. There are no fresh water rivers/streams flowing down to a transition zone with marine influences. Seeps do occur along the toe of the shoreline bank above the bedrock at various points along the shoreline. These seeps are a general expression of groundwater at the till/bedrock interface. Except were these seeps occur, the groundwater is not close enough to the surface to label the bank or the upland bench a wetland or a Palustrine Forested Wetland nor should any small damp bedrock surfaces below seeps on the bank just above the beach surface be classified as wetlands. Although the shoreline is influenced by the tides, there is no area on this reach that is protected from the full force of waves, winds, and storms. That’s why it called Open Bay.

**Table 27B – Page 169**

**Reach 234 - Smelt, Herring, and Sandlance Presence Probability -** Prior documentation may conflict with Table 27B presence probability. Addendum #1 to the Biological Evaluation the Eklunds submitted to the Army Corp in 2007 (Eklund Henry Island Pier Project NWS-2007-775-NO) addressed issues raised by the US Army Corps of Engineers below:

**C. Species/Habitat Information.**

*Please provide information on forage fish use of the area.*

*Is the sandy beach area in the intertidal zone used by sand lance for spawning?*

*No sandlance or surf smelt spawning have been documented anywhere on Henry Island (Washington Department of Fish and Wildlife 2007 and 2007a).*

*Are the eelgrass beds used as spawning areas for Pacific herring?*

*No herring spawning has been documented along the shoreline of Open Bay (Washington Department of Fish and Wildlife 2007b).*

**References:**

WDFW, 2007. Sandlance biology. URL: <http://wdfw.wa.gov/fish/forage/sandlance.htm#lbiology>. Visited October 18, 2007.

WDFW, 2007a. Surf smelt biology. URL: <http://wdfw.wa.gov/fish/forage/smelt.htm#sbiology>. Visited October 18, 2007.

WDFW, 2007b. Herring biology. URL: <http://wdfw.wa.gov/fish/forage/sandlance.htm#hbiology>. Visited October 18, 2007.

**COMMENTS ON THE MAPS CHARACTERISTICS OF THE EKLUNDS' HENRY ISLAND SHORELINE**

**Map 9A, Shoreline Modifications** - The single piling at the pocket beach is not derelict (as reported by the Friends of the San Juans 2009). The piling is used by the reef net operators who seasonally tie their floats to the piling for short periods prior to and after conducting their fishing in Open Bay near the old fisherman shacks on the shoreline of the BLM land (piling is shown in photos 1 and 2).

**Map 12A, Floodplains and Wetlands** - The steep terrain on the west facing shoreline of the southern half of Henry Island cannot be flooded as shown on Map 12A. The west side terrain is shown in photos 15 thru 22. The west side shoreline of Henry Island is not classified as Zone A by FEMA except for the very north tip as shown in the FEMA map in Attachment 4. Note that Haro Strait is not Zone A, but indicates that the shaded areas on the map are Zone A. For

example on the next map, lakes or wetlands along streams East of Garrison Bay are labeled Zone A and are shaded accordingly. .

If the flood zone designation is referring to the flooding that may occur from a tsunami, then this would also not apply to our 50 acre parcel. The west side of our property on Henry Island is colored on the map as a flood zone to an elevation above 200 feet. A tsunami height of 5 feet in the area may be possible but highly unlikely and some shorelines may be at risk, but if this designation is in regard to the effects of a tsunami, it does not apply to our property.

On page 162, the Shoreline I & C report states that: "The tsunami threat is highly variable throughout the management area. The southern side of Henry Island is susceptible to all tsunamis originating in or passing through the Strait of Juan de Fuca, including a tsunami triggered by a slip of the Southern Whidbey Island Fault; however, this area is largely unpopulated." If all the southwest facing shorelines are colored to indicate possible tsunami flooding without any regard to shoreline elevation, than the map serves only to confuse rather than inform.

**Map 14A, Current Marine Shoreform Types** - The cove on the Westside shoreline of Open Bay on Henry Island has a pocket beach as shown on photos 1 and 2. Refer to comments above regarding Reach 234.

**Map 17A, Geologic Harzard** - The southern rocky west shoreline of Henry Island is labeled as an intermediate slope on this map. Intermediate designation is between stable and unstable per the DOE Coastal Zone Atlas Stability Map. The Eklunds have observed no instability or landslides on the west side of their property over the last 24 years. It is also labeled as having erosion-prone soils (2003 San Juan County). The Eklunds have observed no soil sheet or rill erosion by water on the west side shoreline over the last 24 years. See photos 17 to 24.

The Eklund shoreline on Map 16A indicates that the shoreline is composed of 5000 Cady-Rock outcrop complex and 5001 Rock outcrop-Haro complex. Both soils are well drained and both soils have a land capability subclass 8 (nonirrigated). Class 8 soils have limitations that restrict their use to recreational purposes, wildlife habitat, watershed, or esthetic purposes. The 5001 Rock outcrop-Haro complex contains 40% Haro soil. Haro soil has a land capability subclass of 7e (nonirrigated). The "e" after 7 indicates that the main hazard is the risk of erosion unless close-growing vegetation cover is maintained (see photos 15 thru 22 of the west side of Henry Island). The possibility of erosion that is contained within this area of shallow 40% Haro soil has been modified by the close-growing grass cover and the abundance of rock outcroppings (50%). Therefore, at this location the soils are not erosion-prone.

**Map 19A, Land Cover** – The land above the pocket beach on the west side of Open Bay on Henry Island is not a Palustrine Forested Wetland. Palustrine comes from the Latin word *palus* or marsh. Wetlands within this category include inland marshes and swamps as well as bogs, fens, tundra and floodplains. Forested palustrine wetlands occur in areas with abundant moisture, such as in the mountains. If the land was a Palustrine Forested Wetland, the ground

would be damp if not soggy, ferns and mosses would be normally abundant and other understory plants would be thicker. Near the pocket beach the dominate tree is Douglas fir interspersed with red alder. Ground cover is dominated by grasses (see photo 4 and 6 of the bank above the beach and photo 7, 8, and 9 for the bench above the bank).

**Map 20A, Impervious Surfaces** – The roads on the south end of big Henry are gravel roads and are therefore classified as impervious surfaces. These roads are not shown on the map. Technically, the gravel road on the Common Land and Hart property serve more than one parcel and therefore is a road. The gravel road on the Eklunds' 50 acre parcel and the Walton's parcel is a driveway. Photos 9 to 12, 15 to 17, 21 and 22 show the road through the Common Land and Hart property and the driveway through the Eklund property. A map of the road with the driveways sketched in is located in Attachment 1 along with the road easement survey.

**Map 22A, Priority Habitats and Species Regions** – The southern west side of Henry Island has been designated on the map as cliffs/bluffs PHS Region. The priority habitat is the cliff face which ends at the Eklunds southern property line. The map indicates that the cliff face continues North over 1/3 of the Eklund westside waterfront which it does not. Photos 25 and 26, show that the cliff face is on the Hart property which is south of the Eklund property. The Eklund property line starts on the left side of the white guano area near the left side of photo 25 as marked. The Eklunds shoreline has been labeled on the County Map 14A as a Plunging Rocky Shoreline which is a more accurate description.

**Map 23A, Aquatic Vegetation** – This map shows an unrealistic amount of eelgrass in front of the pocket beach in Open Bay. There is eelgrass, but not so much that a dock could not be installed between two eelgrass beds and permitted by all the relevant governmental agencies. Eelgrass survey has been included in Attachment 4.

**Map 24A, Birds and Mammals** – The bald eagle nest shown on the west side of Henry Island in the middle of Eklund's shoreline fell to the ground over 12 years ago. Photo 27 shows the bald eagle tree 24 years ago. The tree was easily recognized by the right angle dead branch near its base. Photo 28 shows the area where the tree once stood. It fell years ago. The County Map 24A needs to be corrected.

## **ATTACHMENT 2**

- AERIAL MAP OF HENRY ISLAND SHOWING EKLUND PROPERTIES
- AERIAL MAP OF COMMON LAND ON OPEN BAY
- AERIAL MAP OF THE EKLUND 50 ACRE PARCEL ON THE WEST SIDE
- AERIAL MAP OF BUILDING SITE
- SKETCH OF ROAD AND DRIVEWAYS CONNECTING EKLUND PROPERTY
- SURVEY OF EASEMENTS
- SJC PLOT PLAN APPROVAL
- SJC BUILDING SITE AND TREE PLAN APPROVAL
- BRADLEY LETTER TO EKLUND DESCRIBING THE HISTORY OF AREA



### HENRY ISLAND



1:12000

This data has been compiled for San Juan County. Various official and unofficial sources were used to gather this information. Every effort was made to ensure the accuracy of this data, however, no guarantee is given or implied as to the accuracy of said data.





On the go? Use [m.bing.com](http://m.bing.com) to find maps, directions, business, and more.

PARCEL #462811003000  
 EKLUND/HART COMMON LAND  
 HENRY ISLAND

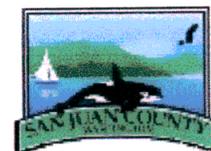
**bing** Maps

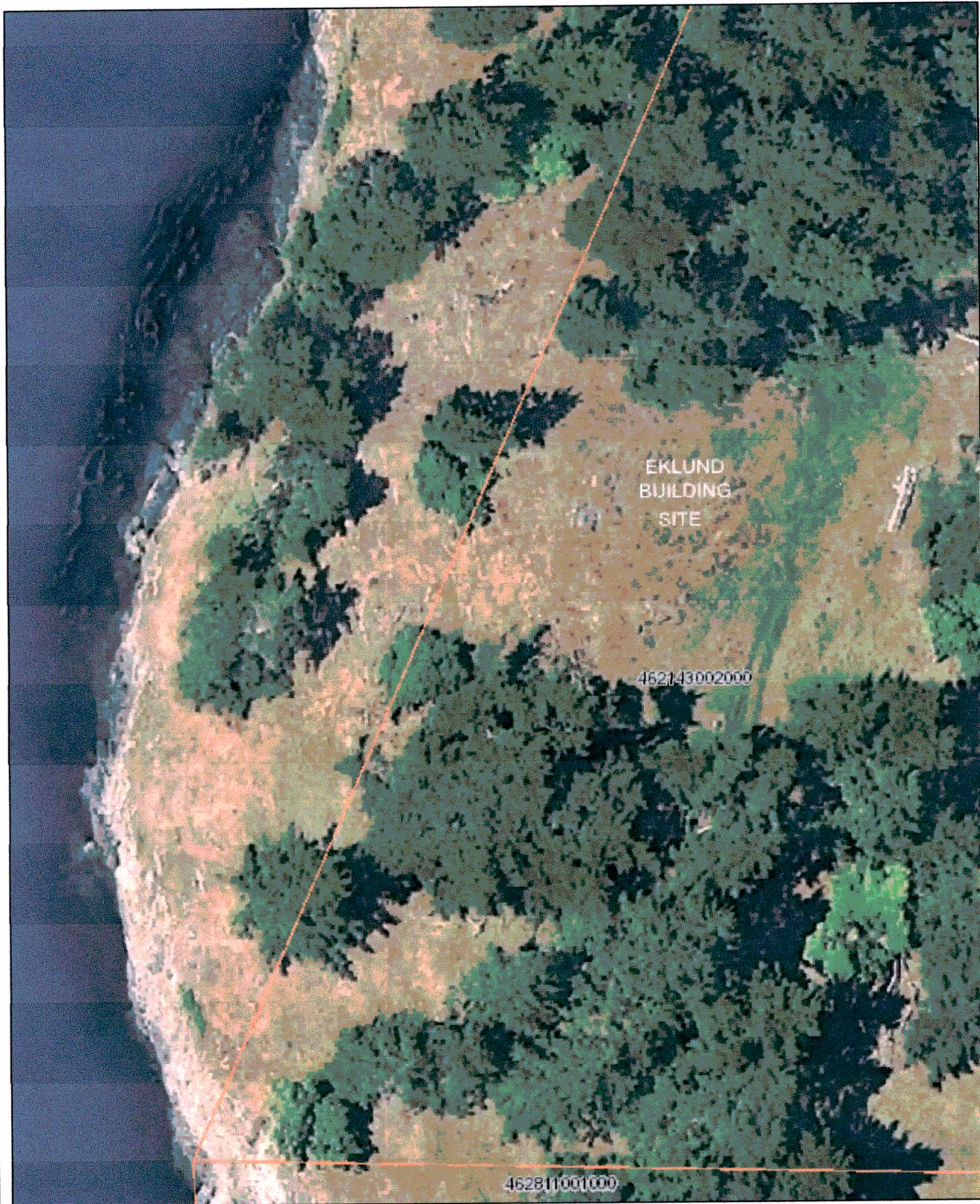


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### EKLUND WEST SIDE

This data has been compiled for San Juan County. Various official and unofficial sources were used to gather this information. Every effort was made to ensure the accuracy of this data, however, no guarantee is given or implied as to the accuracy of said data.



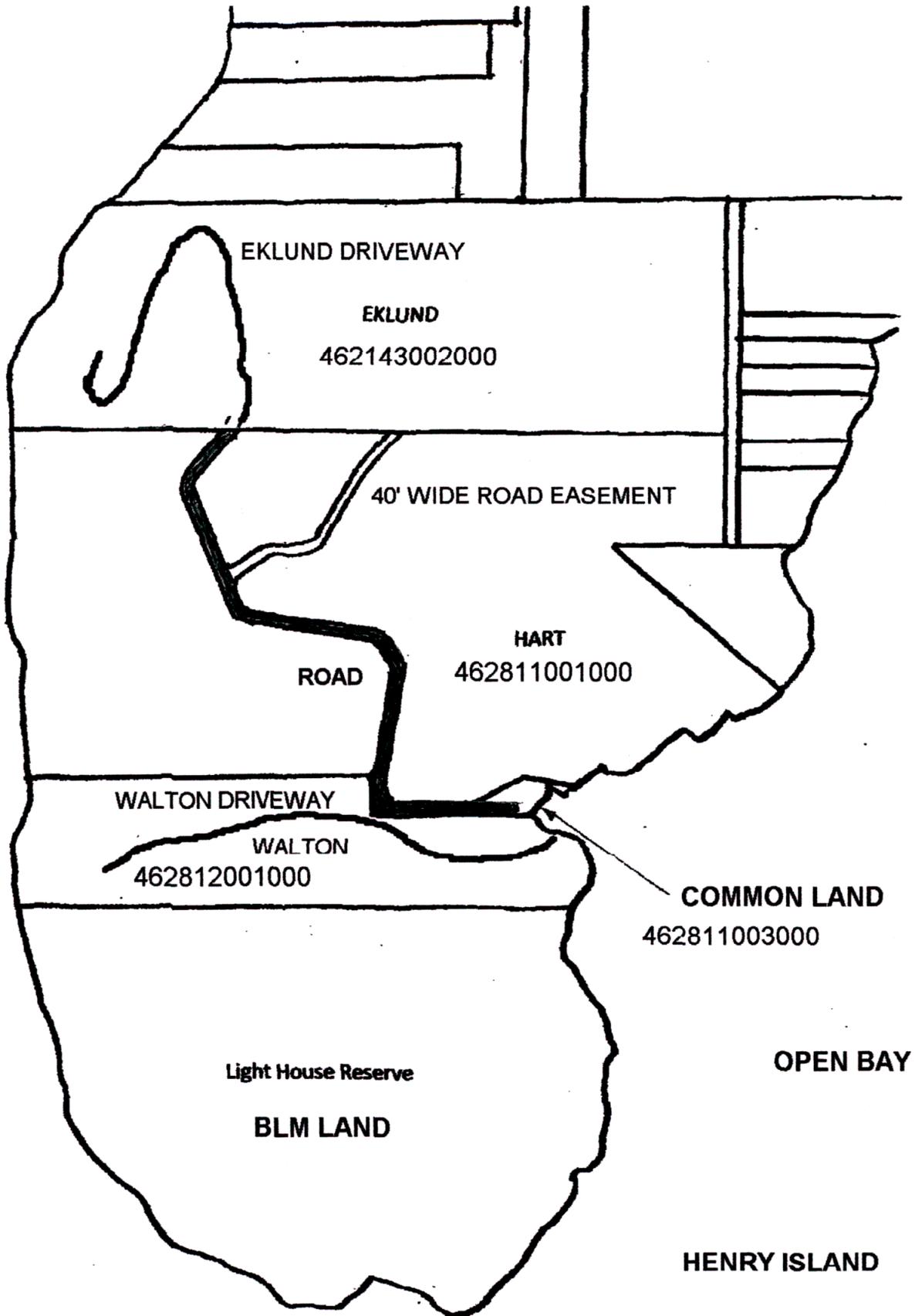


1:600

### EKLUND BUILDING SITE

This data has been compiled for San Juan County. Various official and unofficial sources were used to gather this information. Every effort was made to ensure the accuracy of this data, however, no guarantee is given or implied as to the accuracy of said data.



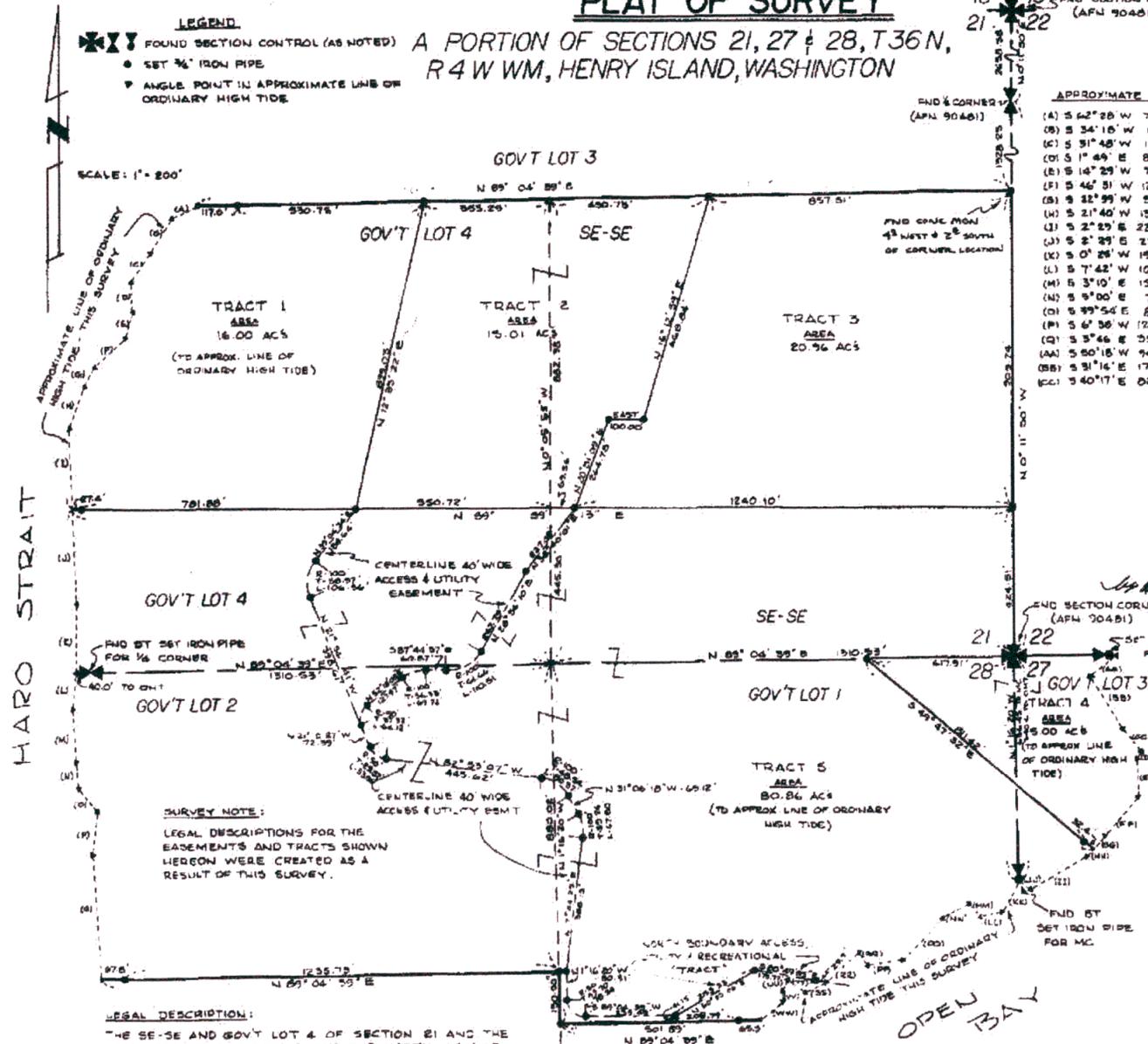


# PLAT OF SURVEY

A PORTION OF SECTIONS 21, 27 & 28, T36N,  
R 4 W WM, HENRY ISLAND, WASHINGTON

- LEGEND**
- ✕ FOUND SECTION CONTROL (AS NOTED)
  - SET 3/4" IRON PIPE
  - ▽ ANGLE POINT IN APPROXIMATE LINE OF ORDINARY HIGH TIDE

SCALE: 1" = 200'



**APPROXIMATE LINE OF ORDINARY HIGH TIDE (OHT)**

(A) 5 62° 28' W 77.7'	(OO) 5 94° 35' W 24.2'
(B) 5 34° 18' W 116.0'	(OE) 5 2° 01' E 104.5'
(C) 5 31° 48' W 101.6'	(OF) 5 91° 43' W 144.6'
(D) 5 1° 49' E 85.8'	(OG) 5 42° 25' W 49.1'
(E) 5 14° 29' W 75.2'	(OH) 5 42° 29' W 30.0'
(F) 5 46° 31' W 121.0'	(OI) 5 59° 06' W 184.7'
(G) 5 32° 39' W 57.8'	(OJ) 5 91° 25' W 44.1'
(H) 5 21° 40' W 152.8'	(OK) 5 29° 15' W 104.5'
(I) 5 2° 29' E 229.1'	(OL) 5 71° 40' W 61.9'
(J) 5 2° 29' E 271.5'	(OM) 5 43° 23' W 45.5'
(K) 5 0° 28' W 115.5'	(ON) 5 41° 32' W 84.1'
(L) 5 7° 42' W 103.4'	(OO) 5 49° 18' W 163.0'
(M) 5 3° 10' E 153.2'	(OP) 5 82° 12' W 102.0'
(N) 5 9° 00' E 75.0'	(OQ) 5 28° 28' W 44.2'
(O) 5 39° 54' E 87.3'	(OR) 5 47° 57' W 131.9'
(P) 5 6° 38' W 123.6'	(OS) 5 42° 15' W 62.3'
(Q) 5 3° 46' E 259.7'	(OT) 5 95° 45' W 65.1'
(R) 5 50° 15' W 94.5'	(OU) 5 25° 23' W 38.2'
(S) 5 31° 14' E 174.9'	(OV) 5 0° 50' E 29.6'
(T) 5 40° 17' E 82.0'	(OW) 5 47° 51' W 19.4'

**AUDITOR'S CERTIFICATE**  
 FILED FOR RECORD THIS 12 DAY OF June  
 1982 AT 11:32 IN BOOK 4 OF PLATS PAGE 48  
 AT THE REQUEST OF:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 SAN JUAN COUNTY AUDITOR  
 APN 117329



**SURVEYOR'S CERTIFICATE**  
 THIS MAP CORRECTLY REPRESENTS A SURVEY  
 MADE BY ME OR UNDER MY DIRECTION IN  
 CONFORMANCE WITH THE REQUIREMENTS OF THE  
 SURVEY RECORDING ACT AT  
 THE REQUEST OF \_\_\_\_\_ HART  
 IN \_\_\_\_\_ MAY \_\_\_\_\_ 1982.  
 \_\_\_\_\_  
 LARRY D. MORROW CERTIF. NO. 15666

**SURVEY NOTE:**  
 LEGAL DESCRIPTIONS FOR THE  
 EASEMENTS AND TRACTS SHOWN  
 HEREON WERE CREATED AS A  
 RESULT OF THIS SURVEY.

**LEGAL DESCRIPTION:**  
 THE SE-SE AND GOV'T LOT 4 OF SECTION 21 AND THE  
 NORTH 880' OF GOV'T LOT 2 AND THE NORTH 1030' OF  
 GOV'T LOT 1 OF SECTION 28 AND GOV'T LOT 3 OF  
 SECTION 27 ALL N 36 N, R 4 W WM SAN JUAN COUNTY,  
 WASHINGTON.

**MERIDIAN NOTE:** THIS MERIDIAN WAS ASSUMED FOR THE SURVEY  
 AND SUBDIVISION OF ADJACENT SECTIONS 21 & 22 (T 36 N, R 4 W WM.)  
 PER THE SHORT PLAT OF 'HENRY WEST' AS RECORDED IN VOLUME 1 OF  
 SHORT PLATS, PAGE 18, RECORDS OF SAN JUAN COUNTY, WASHINGTON.

**FOR THE EXCLUSIVE USE OF**  
 ALEX & SARAH HART

LARRY D. MORROW LAND SURVEYOR P. O. BOX 483 FRONT HARBOR, WA. 98220 376-2270	MAY 81 80 - 6 PG 1 OF 1
--	-------------------------------

**Jim  
Crain  
Construct**

**PROJECT INFORMATION**

Owner's Address: Claes and Kathy Eklund  
473 S. Terry Lane  
Orange, CA 92668

Tax Parcel Number: 4821 43002

Legal Description:  
The SE SE and Gov't Lot 4 of Section 21 and the North 880' of Gov't Lot 2 and the North 1030' of Gov't Lot 1 of Section 28 and Gov't Lot 3 of Section 27 All in T38N, R4W, W1 San Juan County, Washington

Occupancy: Single Family

Building Type: Residential

Building Area: House 1104 SF

Decks 1149 SF

PO BOX 1782  
FRIDAY HARBOR, WA 98251

360 378 8111  
360 378 8111 FAX  
360 317 8431 CE

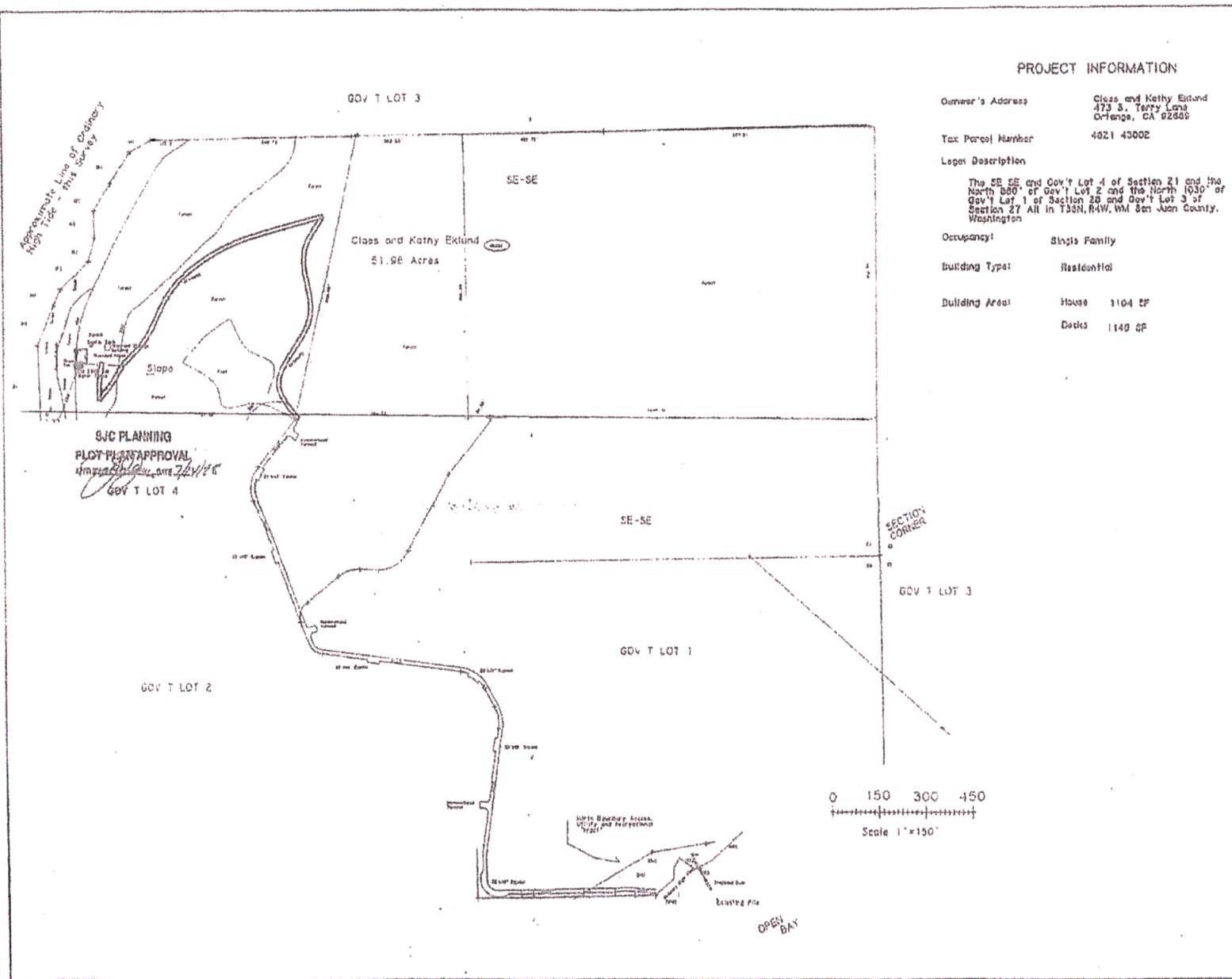
Claes and Kathy Eklund  
Henry Island, WA  
360 378 8888

Job Number

drawn:

date:

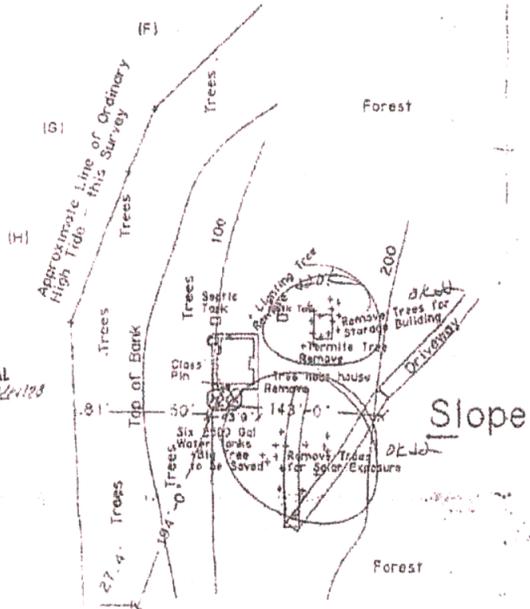
revision



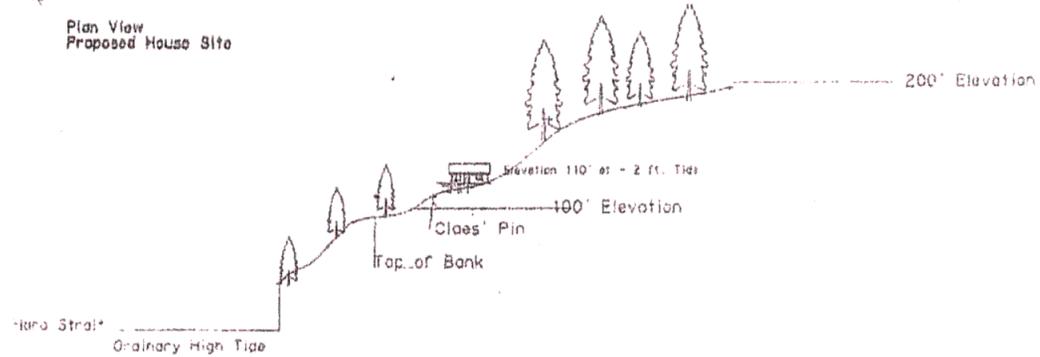
HARO STRAIT

SJC PLANNING  
PLOT PLAN APPROVAL  
1/15/13

North  
↑



Plan View  
Proposed House Site



Cross Section House Site

0 50 100 150  
Scale 1"=50'

Jim  
Crain  
Construction

PO BOX 1782  
FRIDAY HARBOR, W.A.  
98250  
360 378 8111 P.O.  
360 378 8111 P.O.  
360 378 8431 CELL

Claes and Kathleen Eklund  
Henry Island, WA  
360 378 9259

job number  
drawn:  
date:  
revision

**ISLAND ENVIRONMENTAL SCIENCES  
Court Street Professional Building, Suite 4  
P. O. Box 1182  
Friday Harbor, WA 98250  
PH 360-378-4155 \* FAX 360-378-4140  
E-mail Jbradley@**

22 March 2004

Mr. Claes Ecklund  
P. O. Box 4337  
Roche Harbor, WA 98250

Re: Spring Beach, Henry Island, WA

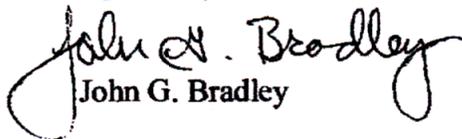
Dear Claes,

You asked if I could relate some of the history of Spring Beach with regards to usage. I remember Wilfred Rouleau (deceased) discussing how he excavated a landing ramp on the southern most portion of Spring Beach circa 1940 for access to the site for the purpose of allowing vehicles to be brought over for logging. The cut and the road along the top of the bank are still evident. At the top of the bank, near the center of the beach, in an area that has been replanted, there is evidence that this location was used for the purpose of yarding logs to the beach for subsequent barging. During the replanting and contouring, several large logging cables were unearthed, in one instance under less than 18" of soil. Also old logging cable was observed on a large Douglas Fir to the northwest of the site.

As a youngster I used to travel to Open Bay from Mitchell Bay with my Aunts to visit this area. My grandfather, Harold Lightheart had a home on Open Bay in the 1930's. My Aunt Marje and Aunt Norma remembered fondly visiting with the fishermen whom would camp in the bay during fishing season. The fishermen would sometimes pull their boats onto the beach, to work on them. Deeper draft fishing boats would anchor in the cove protected from the southwest winds. The remains of the old fishing camp are evident on the lighthouse reserve property to the south of Spring Beach.

Hopefully this will prove of interest.

Respectfully Yours,

  
John G. Bradley

## ATTACHMENT 3

- PHOTO 1 POCKET BEACH NORTH OF BLM LAND
- PHOTO 2 POCKET BEACH
- PHOTO 3 POCKET BEACH SHORELINE
- PHOTO 4 ACCESS RAMP ON THE COMMON LAND
- PHOTO 5 BARGE LANDING
- PHOTO 6 BANK VEGETATION
- PHOTO 7 VEGETATION ON BENCH ABOVE PHOTO 6 BANK
- PHOTO 8 VEGETATION ON BENCH ABOVE PHOTO 4 BANK
- PHOTO 9 TOP OF COMMON LAND LOOKING UP ROAD
- PHOTO 10 GRASS COVERED GRAVEL ROAD
- PHOTO 11 ROAD ON EASEMENT
- PHOTO 12 GRAVEL ROAD
- PHOTO 13 PASTURE ON EKLUNDS' 50.52 ACRE PARCEL
- PHOTO 14 EQUIPMENT STORAGE AT PASTURE SITE
- PHOTO 15 DRIVEWAY ABOVE SHORELINE ON WEST SIDE
- PHOTO 16 DRIVEWAY ABOVE BUILDING SITE
- PHOTO 17 BUILDING SITE ON WEST SIDE SHORELINE
- PHOTO 18 LOOKING SOUTHEAST FROM THE BUILDING SITE
- PHOTO 19 LOOKING NORTHWEST AT THE BUILDING SITE
- PHOTO 20 LOOKING SOUTHWEST OVER THE BUILDING SITE
- PHOTO 21 LOOKING SOUTH ABOVE BUILDING SITE
- PHOTO 22 LOOKING NORTH ABOVE BUILDING SITE
- PHOTO 23 LOOKING AT THE BUILDING SITE FROM HARO STRAIT
- PHOTO 24 EKLUNDS' 936 FEET WEST SIDE WATERFRONT
- PHOTO 25 CLIFF ON HART'S PROPERTY SOUTH OF EKLUNDS' PROPERTY
- PHOTO 26 VIEWING PHOTO ABOVE EXTENDED FURTHER TO THE SOUTH
- PHOTO 27 PHOTO OF EAGLE NEST TREE SHOWN ON COUNTY MAP 24A
- PHOTO 28 PHOTO SHOWS AREA WHERE THE EAGLE TREE ONCE STOOD



PHOTO 1 (4-22-12) - POCKET BEACH NORTH OF BLM LAND (LIGHT HOUSE RESERVE) ON HENRY ISLAND – Located on the west side of Open Bay. Barely visible on the left side of the photo is the last standing fisherman shack on the BLM land. A single old piling stands near the shore.



PHOTO 2 (4-22-12) - POCKET BEACH – A dock was approved at the right rock but never built. The Eklund/Hart Common Land is the right half of the photo. The parcel # is 4628110030000. Land is 0.78 acres with 214' of waterfront. Tidelands are owned by Eklunds, Hart, and Waltons.



PHOTO 3 (4-22-12) - POCKET BEACH SHORELINE – There are 3 access ramps in the surrounding bank. The Eklund/Hart ramp is marked. This beach is access for 150 acres of land with 4,127 ft. of shoreline. Eklunds can only access their property at this location. Tide at 1.4 ft. at 2 pm.

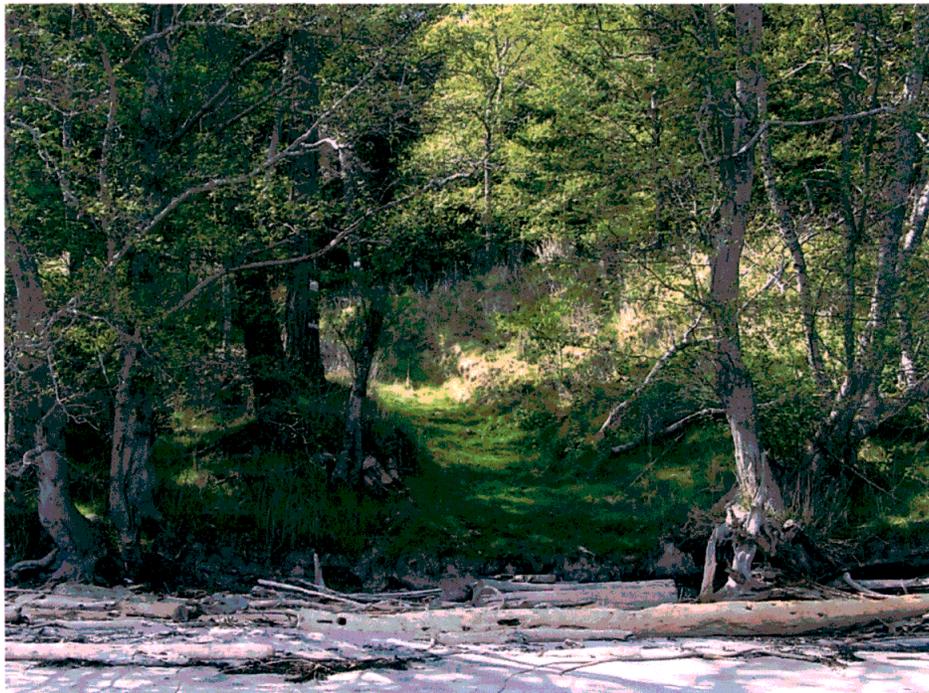


PHOTO 4 (4-22-12) – ACCESS RAMP ON THE COMMON LAND (SJC approved restoration) - All three access ramps were historically developed to support logging operations as evidenced by the many abandoned steel logging cables. See John Bradley 3-22-04 letter in Attachment 2.



PHOTO 5 (March 1998) – BARGE LANDING – Nordland barge landing on the beach in front of the Common Land access ramp. Materials, supplies, and vehicles have been delivered to this beach by barges over 30 times since 1998. See barge landing list in Attachment 4.



PHOTO 6 (4-22-12) – BANK VEGITATION – This is a photo of the bank on south side of the Common Land access ramp. The dominate tree on the pocket beach shoreline bank is Douglas fir interspersed with red alder. Ground cover is dominated by grass.



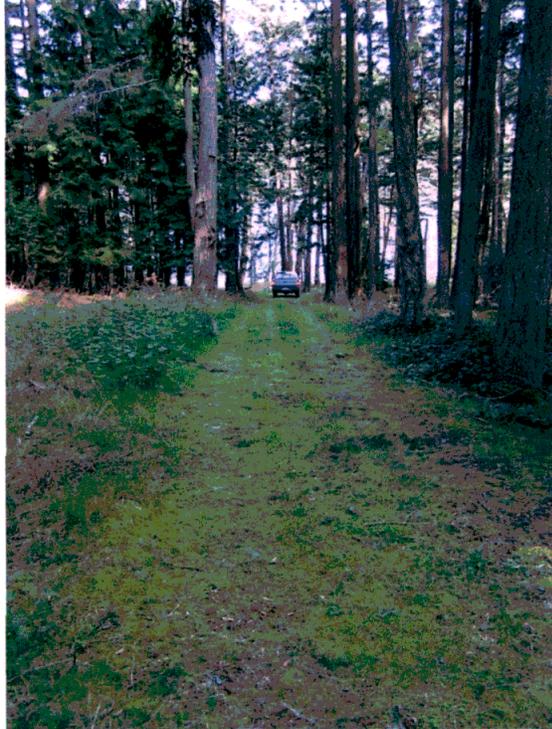
PHOTO 7 (4-22-12) – VEGITATION ON BENCH ABOVE PHOTO 6 BANK.



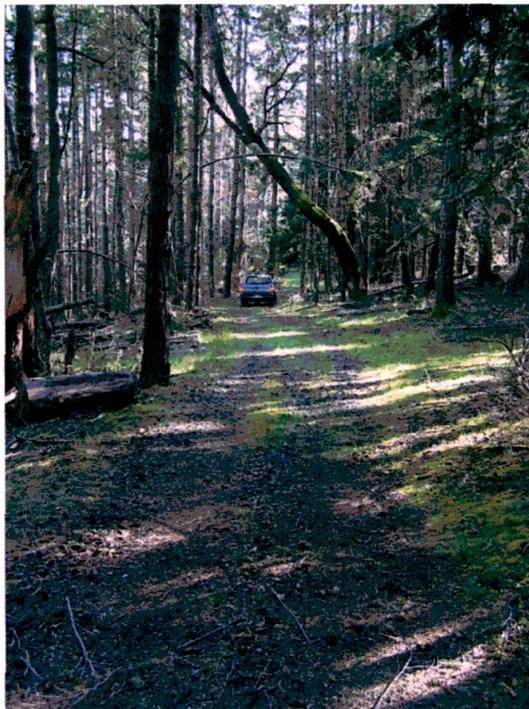
PHOTO 8 (4-22-12) - VEGITATION ON BENCH ABOVE PHOTO 4 BANK.



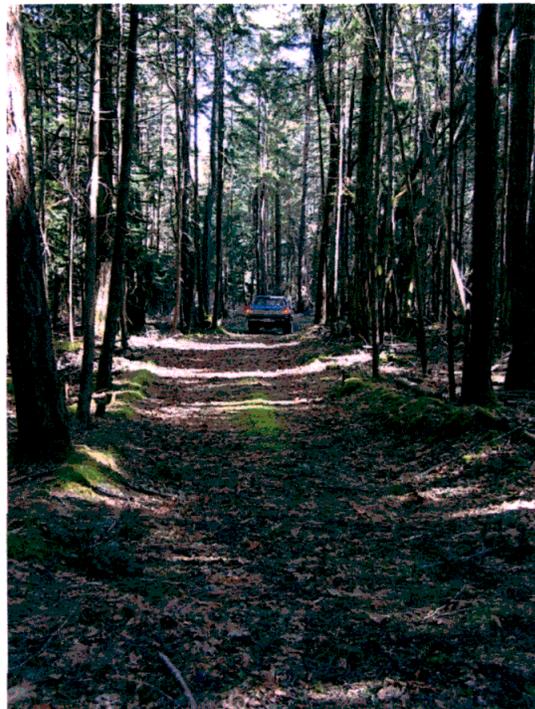
**PHOTO 9 (4-21-12) – TOP OF COMMON LAND LOOKING UP ROAD - Road connects to the Eklunds' 50 acre parcel.**



**PHOTO 10 (4-22-12) – GRASS COVERED GRAVEL ROAD - Looking down at truck parked above ramp. Road located on road easement.**



**PHOTO 11 (4-22-12)– ROAD ON EASEMENT All roads/driveways were constructed in 1998 and are covered with gravel.**



**PHOTO 12 (4-22-12) – GRAVEL ROAD - Located on easement. This section of road was built over an existing logging road.**



**PHOTO 13 (4-22-12) - PASTURE ON EKLUNDS' 50.52 ACRE PARCEL – 10' X 16' Cedar shed was built in 1999. Storage shed is 600 ft. from the shoreline at an elevation of 283 feet. See Attachment 2 for the location of the shed on the property. Parcel # 462143002000.**



**PHOTO 14 (4-22-12) – EQUIPMENT STORAGE AT PASTURE SITE – The Eklunds store their equipment and materials near the pasture. Water is stored in trash cans and water tanks for fire protection. This property has numerous logging roads and trails for their recreational use.**

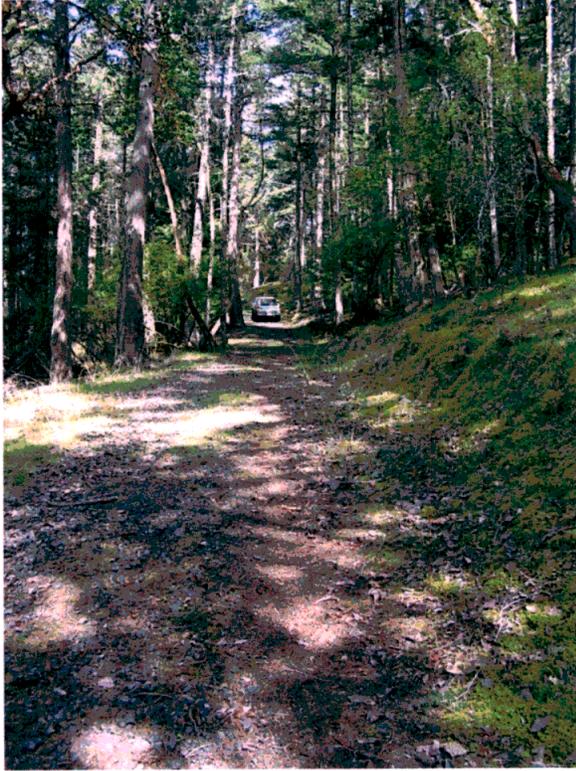


PHOTO 15 (4-22-12) - DRIVEWAY ABOVE SHORELINE ON WESTSIDE



PHOTO 16 (4-22-12) - DRIVEWAY ABOVE BUILDING SITE



PHOTO 17 (4-22-12) - BUILDING SITE ON WEST SIDE SHORELINE – The truck is at an elevation of approximately 120 feet. Building site and tree plan approved by SJC on 7-14-98.



PHOTO 18 (4-22-12) – LOOKING SOUTHEAST FROM THE BUILDING SITE



PHOTO 19 (4-22-12) – LOOKING NORTHWEST AT THE BUILDING SITE



PHOTO 20 (4-22-12) – LOOKING SOUTHWEST OVER THE BUILDING SITE – The Eklunds relax on their redwood 6'x 8' deck on every visit to Henry Island. The deck was built in 1992.



PHOTO 21 (4-21-12) – LOOKING SOUTH ABOVE BUILDING SITE

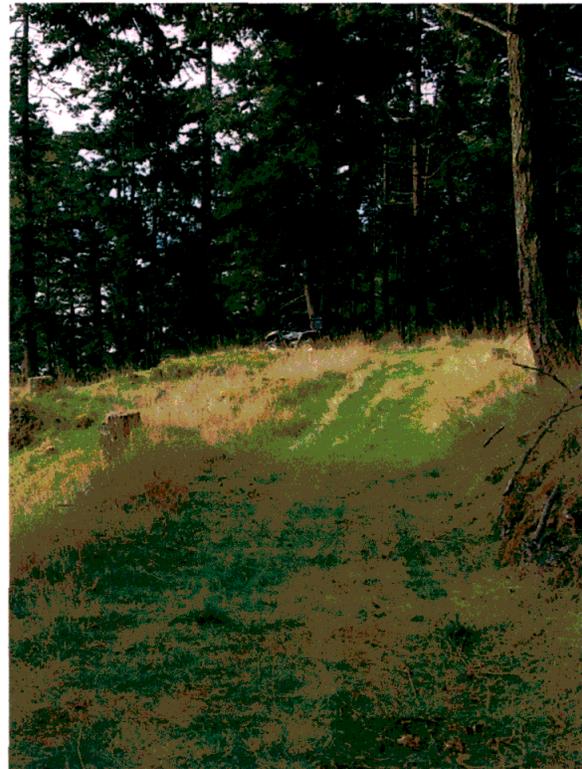


PHOTO 22 (4-21-12) – LOOKING NORTH ABOVE BUILDING SITE



**PHOTO 23 (4-22-12) – LOOKING AT THE BUILDING SITE FROM HARO STRAIT – Building site is at the middle of the photo and at an approximate elevation of 110 feet.**



**PHOTO 24 (4-22-12) – EKLUNDS' 936 FEET WESTSIDE WATERFRONT**



PHOTO 25 (4-22-12) – CLIFF ON HART’S PROPERTY SOUTH OF EKLUNDS’ PROPERTY – Eklund property line is left of the biggest guano area on left side of the photo.



PHOTO 26 (4-22-12) – VIEWING PHOTO ABOVE EXTENDED FURTHER TO THE SOUTH ON HART’S PROPERTY.



PHOTO 27 (1988) – PHOTO OF BALD EAGLE NEST TREE SHOWN ON COUNTY MAP 24A – The Nest tree was easily identified by the angled dead tree branch. The nest fell down over 12 years ago. The tree fell down several years later. County MAP 24A needs to be corrected.



PHOTO 28 (4-22-12) – PHOTO SHOWS THE AREA WHERE THE BALD EAGLE TREE ONCE STOOD.

## **ATTACHMENT 4**

- FEMA MAPS
- EKLUND SECTION 7 BIOLOGICAL EVALUATION ADDENDUM #1
- LIST OF BARGE LANDINGS
- DOCK PROJECT HISTORY AND DOCK PLAN VIEW
- EELGRASS SURVEY



## Definitions of FEMA Flood Zone Designations

Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk. These zones are depicted on a community's Flood Insurance Rate Map (FIRM) or Flood Hazard Boundary Map. Each zone reflects the severity or type of flooding in the area.

### Moderate to Low Risk Areas

In communities that participate in the NFIP, flood insurance is available to all property owners and renters in these zones:

ZONE	DESCRIPTION
<b>B and X (shaded)</b>	Area of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Are also used to designate base floodplains of lesser hazards, such as areas protected by levees from 100-year flood, or shallow flooding areas with average depths of less than one foot or drainage areas less than 1 square mile.
<b>C and X (unshaded)</b>	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level.

### High Risk Areas

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
<b>A</b>	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
<b>AE</b>	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones.
<b>A1-30</b>	These are known as numbered A Zones (e.g., A7 or A14). This is the base floodplain where the FIRM shows a BFE (old format).
<b>AH</b>	Areas with a 1% annual chance of shallow flooding, usually in the form of a pond, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.
<b>AO</b>	River or stream flood hazard areas, and areas with a 1% or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Average flood depths derived from detailed analyses are shown within these zones.
<b>AR</b>	Areas with a temporarily increased flood risk due to the building or restoration of a flood control system (such as a levee or a dam). Mandatory flood insurance purchase requirements will apply, but rates will not exceed the rates for unnumbered A zones if the structure is built or restored in compliance with Zone AR floodplain management regulations.
<b>A99</b>	Areas with a 1% annual chance of flooding that will be protected by a Federal flood control system where construction has reached specified legal requirements. No depths or base flood elevations are shown within these zones.

**High Risk - Coastal Areas**

In communities that participate in the NFIP, mandatory flood insurance purchase requirements apply to all of these zones:

ZONE	DESCRIPTION
V	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. No base flood elevations are shown within these zones.
VE, V1 - 30	Coastal areas with a 1% or greater chance of flooding and an additional hazard associated with storm waves. These areas have a 26% chance of flooding over the life of a 30-year mortgage. Base flood elevations derived from detailed analyses are shown at selected intervals within these zones.

**Undetermined Risk Areas**

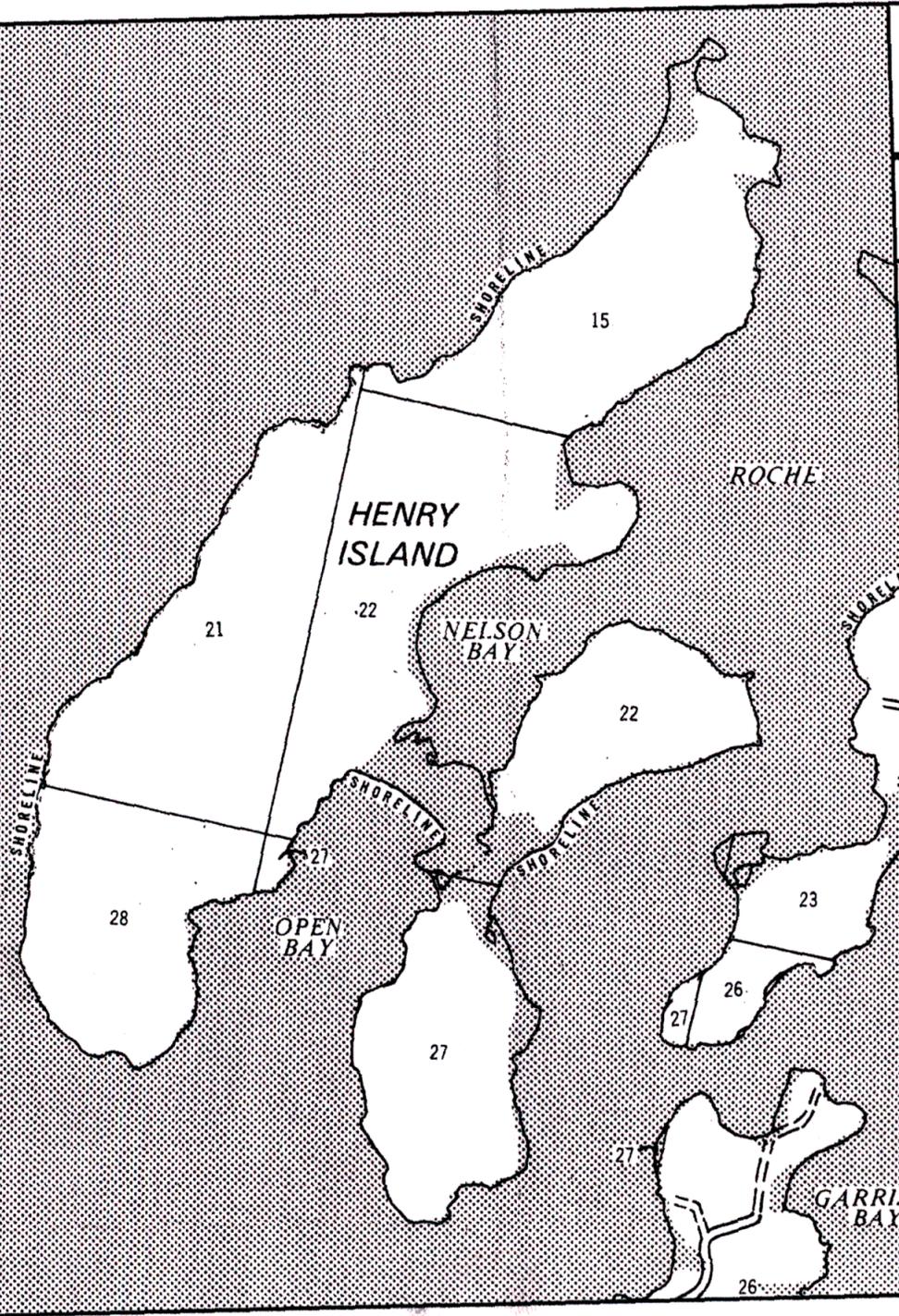
ZONE	DESCRIPTION
D	Areas with possible but undetermined flood hazards. No flood hazard analysis has been conducted. Flood insurance rates are commensurate with the uncertainty of the flood risk.

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FEMA Map Service Center, P.O. Box 1038 Jessup, Maryland 20794-1038 Phone: (877) 336-2627

Adobe Acrobat Reader required to view certain documents. [Click here to download.](#)

ZONE A



FLOOD HAZARD BOUNDARY MAP

**SAN JUAN COUNTY  
WASHINGTON**  
UNINCORPORATED AREA  
PAGE 3 OF 8  
(SEE INDEX MAP FOR PAGES PRINTED)

**EFFECTIVE DATE:**  
JUNE 7, 1977

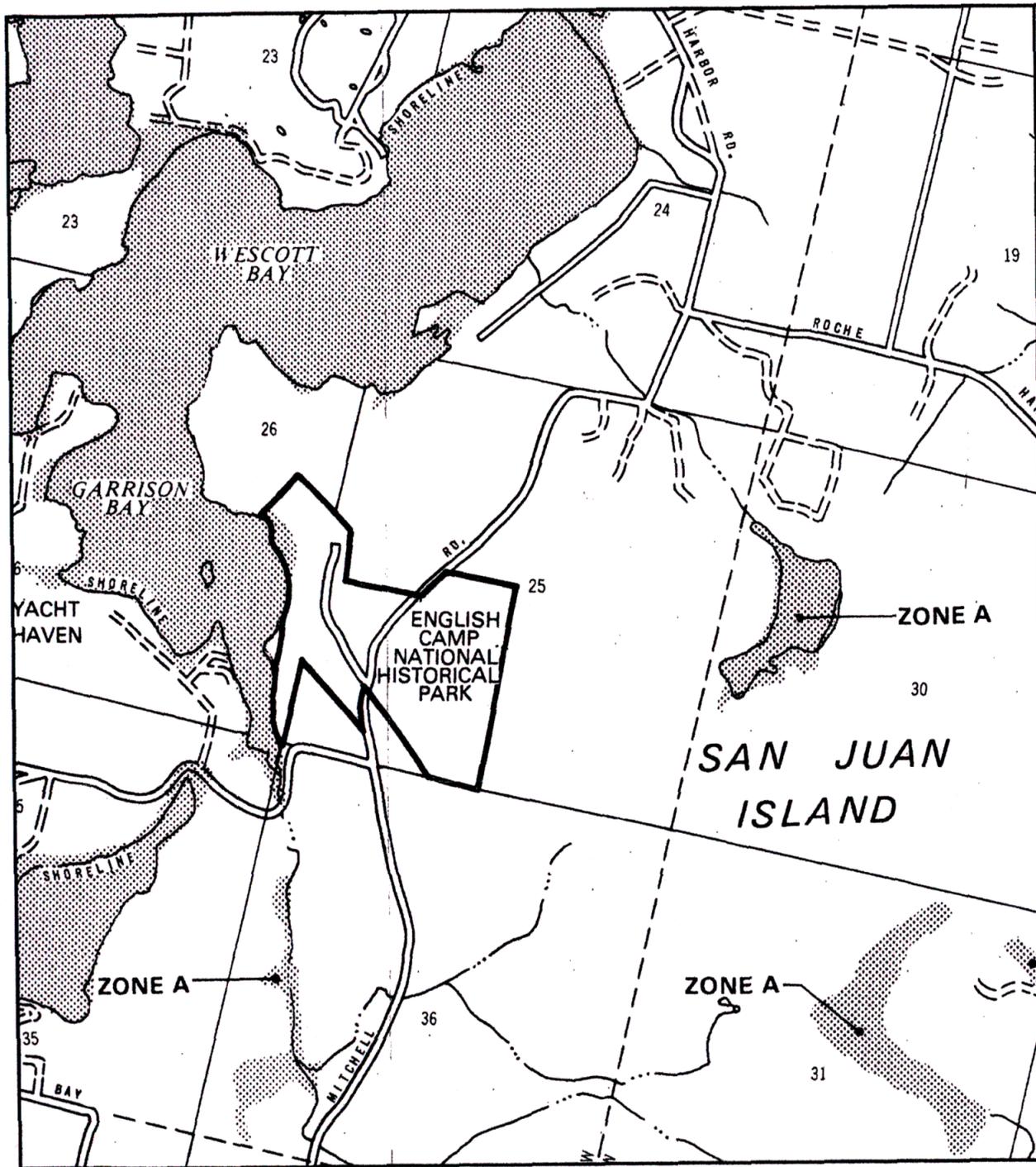
CONVERTED BY LETTER  
EFFECTIVE 3/1/91

**COMMUNITY-PANEL NO.**  
530149 0003 A



**U.S. DEPARTMENT OF HOUSING  
AND URBAN DEVELOPMENT**  
FEDERAL INSURANCE ADMINISTRATION

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)



FLOOD HAZARD BOUNDARY MAP

**SAN JUAN COUNTY  
WASHINGTON**

UNINCORPORATED AREA

PAGE 3 OF 8

(SEE INDEX MAP FOR PAGES PRINTED)

**EFFECTIVE DATE:**  
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CONVERTED BY LETTER  
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**U.S. DEPARTMENT OF HOUSING  
AND URBAN DEVELOPMENT**  
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**Claes and Kathy Eklund Henry Island Pier Project  
SECTION 7 BIOLOGICAL EVALUATION ADDENDUM #1**

**Reference Number:** NWS-2007-775-NO  
**Applicant:** Claes and Kathy Eklund  
**Project Manager:** Jonathan Smith (U.S. Army Corps of Engineers)  
**Date:** October 18, 2007

This addendum to the above referenced Biological Evaluation addresses issues raised by the US Army Corps of Engineers (Corps) in a memorandum for the record (MFR) dated October 9, 2007

**A. Project Description and Construction Description.**

*Will the ramp be grated?*

Yes. The ramp has been constructed off-site, and is fully grated with 69% open area. This exceeds the RGP 6 minimum requirement.

*What size and how many watercraft will be moored at the pier?*

One 15-foot Triumph with a 50 hp Suzuki outboard, and one 31-ft cruiser with twin 225 hp Mercury outboards.

*Please provide the following information regarding the boat and type boating activity:*

*a) Is the watercraft currently used in the action area?*

Yes, but only the 15-foot vessel at present.

*Please describe the frequency of watercraft use and the area of use*

The vessel is used approximately every 2 weeks, with less frequency during months with poor weather. Travel is from Roach Harbor, through Mosquito Pass, to Open Bay and return.

*b) Does boating currently occur or will it occur in the San Juan Islands National Wildlife Refuge, including the Whale Rocks area?*

No.

*Approximately how many times per year and during what season would this area be used?*

Not applicable.

*Has the applicant been educated in the current guidelines that advise watercraft to stay 200 yards offshore from refuge sites to provide a marine buffer for birds and marine mammals utilizing the refuge?*

Yes.

c) *Has the applicant been educated in the whale watching guidelines?*

Yes.

d) *Please describe the type of engine on the watercraft.*

The 15-foot Triumph has one 50 hp Suzuki outboard. The 31-foot cruiser is powered by two 225 hp Mercury outboards.

*What underwater noise level would be produced by the watercraft engine at the source?*

A literature search resulted in two sources that come close to providing estimates of noise levels for these two vessels. Sources levels (SL) for the twin 225 hp Evenrude outboards were estimated to be in the range of 157 to 164 dB re 1 m Pa @ 1 meter, depending on the speed on the vessel (Erbe, 2001). Noise generated from a small boat with a 55 horsepower outboard motor was measured at 142 dB re 1 m Pa @ 1 meter (Scholik and Yan 2002).

### **C. Species/Habitat Information.**

*Please provide information on forage fish use of the area.*

*Is the sandy beach area in the intertidal zone used by sand lance for spawning?*

No sand lance or surf smelt spawning have been documented anywhere on Henry Island (Washington Department of Fish and Wildlife 2007 and 2007a).

*Are the eelgrass beds used as spawning areas for Pacific herring?*

No herring spawning has been documented along the shoreline of Open Bay (Washington Department of Fish and Wildlife 2007b).

### **F. Conservation Measures.**

*Please consider grating the ramp.*

The ramp has been constructed that includes full grating with 69% transmission.

### **References:**

Erbe, Christine, 2001. *Underwater noise of whale-watching boats and potential effects on killer whales (Orcinus orca), based on an acoustic impact model.* Fisheries & Oceans Canada, Institute of Ocean Sciences, Sidney, British Columbia, Canada.

Scholik, A.R. and H. Y. Yan. 2002. *Effects of boat engine noise on the auditory sensitivity of the fathead minnow, Pimephales promelas.* [Environmental Biology of Fishes](#) Vol. 63, Number 2. pp 203-209.

WDFW, 2007. *Sandlance biology.* URL: <http://wdfw.wa.gov/fish/forage/sandlance.htm#lbiology>. Visited October 18, 2007.

WDFW, 2007a. *Surf smelt biology*. URL: <http://wdfw.wa.gov/fish/forage/smelt.htm#sbiology>.  
Visited October 18, 2007.

WDFW, 2007b. *Herring biology*. URL: <http://wdfw.wa.gov/fish/forage/sandlance.htm#hbiology>.  
Visited October 18, 2007.

## LIST OF BARGE LANDINGS AT EKLUND/HART ACCESS RAMP

<u>DATE</u>	<u>BARGE</u>	<u>SERVICE</u>	<u>CARGO</u>
3-16-1998	Nordland	Deliver	Excavator (590) and Bulldozer (450)
3-30-1998	Nordland	Deliver	Kenworth Dump Truck
3-31-1998	Nordland	Deliver	Excavator (2650)
4-1-1998	Nordland	Deliver	Fuel
April 1998	Nordland	Deliver & Pickup	Pickup Truck with tools to service equipment
4-21-1998	Nordland	Pickup	Truck, Excavator (590), and Bulldozer (450)
Summer 98	Humpback	Deliver	Walton Uses Ramp to bring up Kawasaki Mule
August 1998	Unknown	Deliver & Pickup	Common Land ramp used by District #3 firefighters to put out fire on Walton Property (also used Walton ramp) Multiple barge Landings during firefighting and mop up.
12-14-98	Humpback	Deliver & Pickup	Deliver ATV and Pickup another ATV
12-20-98	Humpback	Deliver & Pickup	Passengers and Supplies
2-11-99	Humpback	Deliver & Pickup	Passengers and Supplies
1-20-00	Humpback	Deliver & Pickup	Site visit by SHB participants
8-2-01	Unknown	Deliver & Pickup	County and Ecology site visit
11-19-03	Narwhal	Deliver & Pickup	Site visit by County personnel
10-06-09	Humpback	Deliver	ATVs

LIST OF BARGE LANDINGS AT WALTONS ACCESS RAMP

<u>DATE</u>	<u>BARGE</u>	<u>SERVICE</u>	<u>CARGO</u>
August 1998	Unknown	Deliver & Pickup	Walton ramp used by District #3 firefighters to put out fire on Walton Property Multiple barge landings (also used Common Land ramp)
Summer 99	Nordland	Deliver	Walton Travel Trailer, Pickup, Bulldozer
8-17-99	Nordland	Deliver	Eklund Pickup Truck and Dump Trailer
April 01	Nordland	Deliver	Excavator
April 01	Nordland	Deliver	Dump Truck
April 01	Nordland	Pickup	Excavator and Dump Truck
JULY 01	Nordland	Deliver	Welldriller, Tanker Truck, Flatbed Truck (2 trips)
JULY 01	Nordland	Pickup	Welldriller, Tanker Truck, Flatbed Truck, Bulldozer (2 trips)
Summer 03	Humpback	Pickup	Pickup Truck

**ENDANGERED SPECIES ACT CONSULTATION INITIATION**  
**Eklund Henry Island**  
**BIOLOGICAL EVALUATION**  
**U.S. Army Corps of Engineers**  
**May 31, 2007**

7-915-15992-0

## **1.0 BACKGROUND AND HISTORY**

Claes and Kathy Eklund propose to build a new joint use pier along the western shoreline of Open Bay on Henry Island (Figure 1). The pier will consist of a 145-foot-long fixed pile pier, ramp, and float moorage for private recreational boats. The facility will be located on common land that is owned by Ms. Sara Hart and the Eklunds. The purpose of the project is to provide suitable safe access to property owned by the Eklunds, Ms. Hart, and Paul and Sheryl Walton. These properties are on Henry Island, which is not served by the Washington State Ferry system. Henry Island is located on the west side of Mosquito Pass, approximately one mile southwest of Roche Harbor in San Juan County, Washington.

### **1.1 Project History**

In the spring of 1998, the Eklunds developed a proposal for a joint use pier/ramp/float facility at the proposed project site. The Eklunds applied for a San Juan County (County) Shoreline Master Program Substantial Development permit, but it was denied. On March 2, 2000, the Washington State Shorelines Hearing Board (in a 6-0 vote) ordered San Juan County to issue this permit to the Eklunds (Case 99-029). They received a Hydraulic Project Approval (HPA) from the Washington Department of Fish and Wildlife (WDFW) on February 10, 1999, which expired after five years. The HPA was reissued on October 25, 2004, but it expired on December 31, 2006. The County has issued the Eklunds their permit, but will not allow the Eklunds to install the dock until the Eklunds reach agreement with their neighbors on the terms of a joint use agreement, or until a court determines that the terms of an agreement are reasonable. The joint users have been unable to reach agreement. The joint users have sought resolution by mediation and in Superior Court. In December 2006, the Eklunds filed a declaratory judgment action in San Juan County Superior Court asking the court to declare the terms of the proposed agreement to be reasonable.

### **1.2 Federal Action History**

The Eklunds received a Section 10/404 Letter of Permission from the U.S. Army Corps of Engineers (Corps) on February 2, 1999. This LOP was superseded by a revised LOP dated October 1, 2002, but expired February 2, 2003. The permit was conditioned upon implementing the requirements and agreements set forth in the Eklund Henry Island Residential Dock Construction Section 7 Biological Evaluation, dated February 1, 2001. The USFWS concurred with the finding of "may affect, not likely adversely affect" based on this document on December 3, 2001 (USFWS reference Number I-3-02-1-1353). NOAA Fisheries concurred with a finding of "may affect, not likely adversely affect" based on this document on September 17, 2001 (NMFS Reference Number WSB-001-142). The Corps reissued the permit on July 3, 2003 and it expired, unused, on October 1, 2005. The Corps permit was reissued on February 15, 2006 for

the work to be completed by October 1, 2006. A clarification letter from the Corps, stipulating four conditions, was sent to the Eklunds on March 24, 2006. The Eklunds are now reapplying for permits for the proposed facility, while the reasonableness of the joint use dock agreement is being decided by San Juan County Superior Court.

## **2.0 DESCRIPTION OF THE ACTION AND THE ACTION AREA**

### **2.1 Discussion of Federal Action and Legal Authority and Agency Discretion**

The Corps (the action agency) will reinitiate ESA consultation with the Services based on the effects determination of this BE. If the Services concur in writing that the proposed action is not likely to adversely affect any listed species or designated critical habitat (i.e., the effects are completely beneficial, insignificant, or discountable), formal consultation will not be required.

Formal consultation becomes necessary when (1) the action agency requests consultation after determining the proposed action may affect listed species or designated critical habitat or (2) the Services, through informal consultation, do not concur with the action agency's finding that the proposed action is not likely to adversely affect the listed species or critical habitat. An action agency shall confer with the Services if the action is likely to jeopardize the continued existence of a proposed species or result in the destruction or adverse modification of proposed critical habitat. The conference process helps determine the likely effect of the proposed action and any alternatives to avoid jeopardy to a proposed species or destruction or adverse modification of proposed critical habitat.

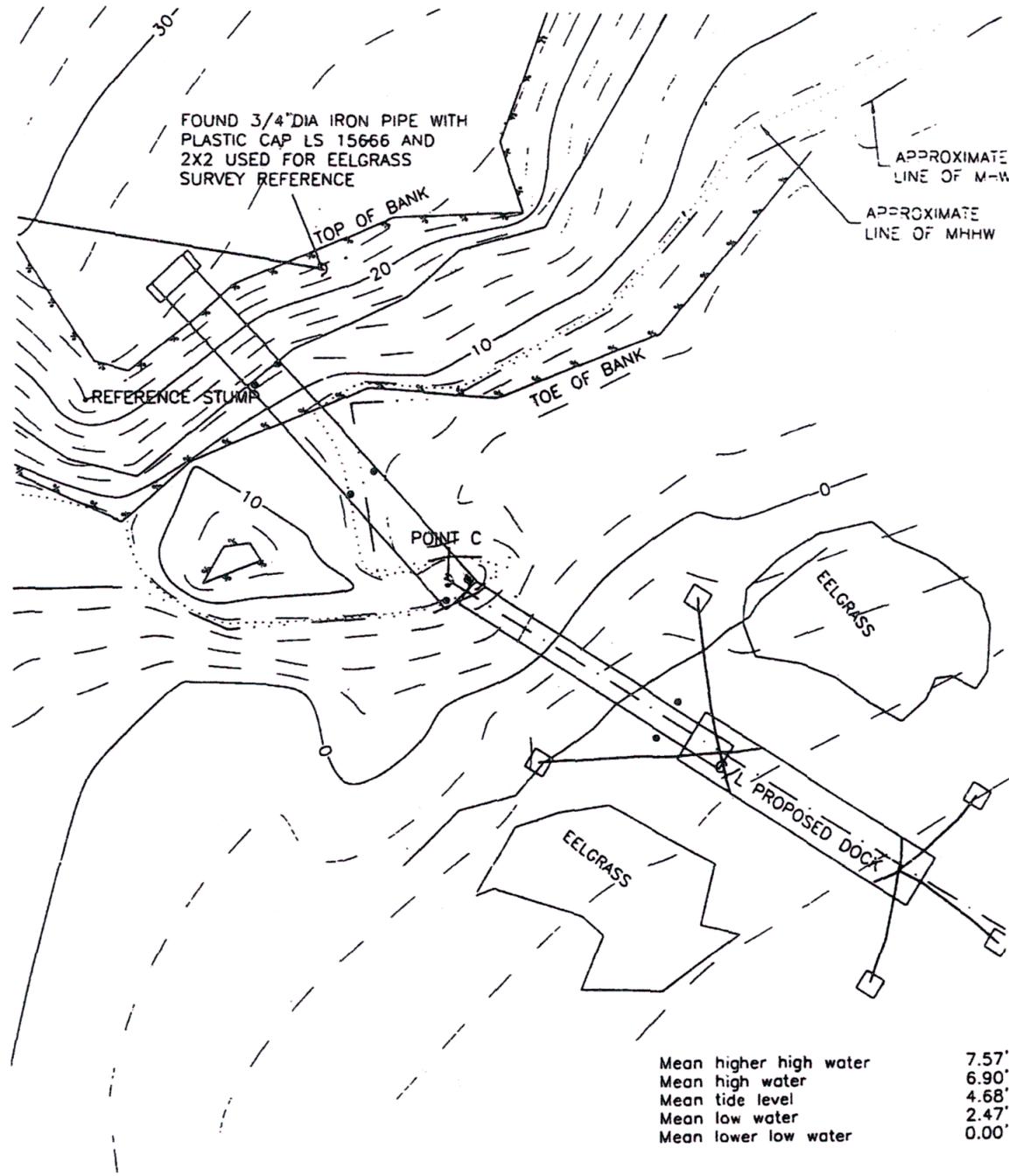
### **2.2 Description of the Project Purpose and Objectives**

The Eklunds propose to construct a new pier, ramp, and float to provide water access to their land. No docks currently exist on the property and the Island is not serviced by the Washington State Ferries. This project is required for the Eklunds to have reliable, safe access to their proposed year round home on Henry Island.

### **2.3 Project Descriptions: Activities to be Authorized, Funded, or Carried Out by the Federal Action Agency**

The proposed dock structure consists of a 65-foot long fixed pile pier and a 45-foot long ramp going down to a 40-foot long floating dock. The proposed fixed pier will be 6 feet wide, the ramp will be 4 feet wide, and the float will be 8-feet wide (Project drawings are presented in Appendix A). The float will be anchored with five concrete float anchors. The fixed pier will be supported by the shoreline and six piles. The ramp will be supported by the pier and two piles. The central 2 feet of the proposed float will be covered with grated decking to allow passage of light to the water.

Piles will be 10 inches in diameter and made of coated steel. Piles will not be installed with a pile driver. Holes will be drilled in the rock substrate, the piles set in place, and then grouted in. Holes for four of the eight piles will be drilled by hand drills and will take up to 3 hours each. The remaining four pile holes will be drilled with a Numa rock drill, and will take about 15 minutes per hole. The six most landward piles will be drilled in the dry at low tide.



Mean higher high water	7.57'
Mean high water	6.90'
Mean tide level	4.68'
Mean low water	2.47'
Mean lower low water	0.00'

Base figure provided by: C. Eklund, 1999



FIGURE A-1

PLAN VIEW



# JEN-JAY DIVING, INC.

Eelgrass Mapping Survey  
Eklund  
14 August 2006

**LOCATION:** Open Bay, Henry Island, San Juan County.

**PURPOSE:** To map existing eelgrass beds prior to construction of a dock for joint-use.

**TIME:** 9:00 to 10:30 AM

**DEPTH CALCULATIONS:** Measurements were made with a submersible electronic computer with the accuracy of +/- two feet. Corrections were made using the Port Townsend tide tables, corrected to Roche Harbor tide station #1185 with 0'=MLLW.

**BOTTOM TYPE:** Solid rock bluff on shore leading to a muddy sand bottom.

**VEGETATION:** The *Zostera marina* (eelgrass) bed was mapped and measured as shown on attached drawing.

**SURVEY PATTERN:** Using points from a 1999 survey as noted on the attached drawing, three parallel 140' lines were ran spaced 20' apart with 20' transects. Measurements were taken between the two eelgrass beds as shown on attached drawing.

**VISIBILITY:** 15'±.

**VERTEBRATE and INVERTEBRATE SPECIES:** None with numbers enough to be significant.

**FORAGE FISH HABITAT:** The project site has solid rock and therefore is not suitable for forage fish spawn. There is a gravel beach that has potential forage fish spawn habitat starting west of the solid rock bank at 48°35.595'N, 123°11.680'W, as shown on the attached drawing.

Any questions regarding this survey should be addressed to:

Chris Betcher  
**JEN-JAY DIVING, INC.**

P.O. Box 278, Deer Harbor, WA 98243-0278  
Ph: (360) 376-4664 Fax: (360) 376-6446 Boat: (360) 317-5373 Email: [jenjay@rockisland.com](mailto:jenjay@rockisland.com)



SCALE: 1" = 40'



# HENRY ISLAND

TAX PARCEL #462143002

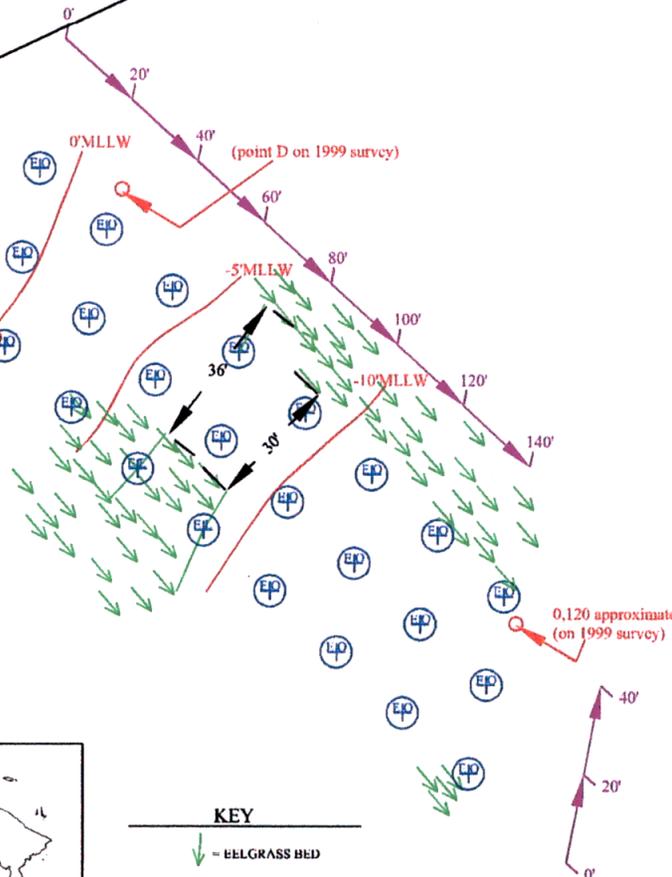
WHITE SURVEY POST  
(point B on 1999 survey)

STUMP  
(point A on 1999 survey)

closest point to potential  
forage fish spawn habitat  
from proposed dock system

DIVOT IN ROCK  
(point C on 1999 survey)

(point F on 1999 survey)



0,120 approximate  
(on 1999 survey)

**OPEN BAY**



### KEY

- = EELGRASS BED
- = Transects with eelgrass estimates:  
L=low density  
M=medium density  
H=high density  
0=No eelgrass

= Contour lines corrected to 0'-0" MLLW by Jen-Jay Diving Inc.,

EELGRASS MAPPING SURVEY  
FOR: CLABS AND KATHY EKLUND  
BY: JEN-JAY DIVING INC.  
DATE: AUGUST 14, 2006

NOT CONSTRUCTION DRAWINGS  
DEPTH CONTOURS AND ORIENTATION TO  
LAND FEATURES ARE APPROXIMATE



\*251544008000-139/140-048-BARGREEN-20120430\*