



2010

WASHINGTON STATE

Joint Aquatic Resources Permit Application (JARPA) Form¹

USE BLACK OR BLUE INK TO ENTER ANSWERS IN WHITE SPACES BELOW.



US Army Corps of Engineers Seattle District

AGENCY USE ONLY

Date received:

Agency reference #:

Tax Parcel #(s):

Part 1-Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [help]²

Moses Lake Shoreline Naturalization and Dock

Part 2-Applicant

The person or organization responsible for the project. [help]

2a. Name (Last, First, Middle) and Organization (if applicable)

2b. Mailing Address (Street or PO Box)

2c. City, State, Zip

Moses Lake, WA

2d. Phone (1)

2e. Phone (2)

2f. Fax

2g. E-mail

()

Part 3-Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b. of this application.) [help]

3a. Name (Last, First, Middle) and Organization (if applicable)

3b. Mailing Address (Street or PO Box)

¹Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- If your project might affect species listed under the Endangered Species Act, you will need to fill out a Specific Project Information Form (SPIF) or prepare a Biological Evaluation. Forms can be found at http://www.nws.usace.army.mil/PublicMenu/Menu.cfm?sitename=REG&pagename=mainpage_ESA
- If you are applying for an Aquatic Resources Use Authorization you will need to fill out and submit an Application for Authorization to Use State-Owned Aquatic Lands form to DNR, which can be found at http://www.dnr.wa.gov/Publications/aqr_use_auth_app.doc
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you think you will need a Shoreline permit, contact the appropriate city or county government to make sure they will accept the JARPA.

²To access an online JARPA form with [help] screens, go to http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx. For other help, contact the Governor's Office of Regulatory Assistance at 1-800-917-0043 or help@ora.wa.gov.

3c. City, State, Zip			
Spokane, WA 99224			
3d. Phone (1)	3e. Phone (2)	3f. Fax	3g. E-mail

Part 4–Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. [\[help\]](#)

Same as applicant. (Skip to Part 5.)

Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)

There are multiple property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.

4a. Name (Last, First, Middle) and Organization (if applicable)			
4b. Mailing Address (Street or PO Box)			
4c. City, State, Zip			
4d. Phone (1)	4e. Phone (2)	4f. Fax	4g. E-mail
()	()	()	

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

There are multiple project locations (e.g., linear projects). Complete the section below and use JARPA Attachment B for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]
<input checked="" type="checkbox"/> State Owned Aquatic Land (If yes or maybe, contact the Department of Natural Resources (DNR) at (360) 902-1100) <input type="checkbox"/> Federal <input type="checkbox"/> Other publicly owned (state, county, city, special districts like schools, ports, etc.) <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Private
5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]
5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]
Moses Lake, WA
5d. County [help]
Grant County

5e. Provide the section, township, and range for the project location. [\[help\]](#)

¼ Section	Section	Township	Range

5f. Provide the latitude and longitude of the project location. [\[help\]](#)
 • Example: 47.03922 N lat. / -122.89142 W long. (NAD 83)

 N lat. / - (NAD 83)

5g. List the tax parcel number(s) for the project location. [\[help\]](#)
 • The local county assessor's office can provide this information.

5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [\[help\]](#)

Name	Mailing Address	Tax Parcel # (if known)
	Moses Lake, WA	
	Moses Lake, WA	

5i. List all wetlands on or adjacent to the project location. [\[help\]](#)

n/a

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [\[help\]](#)

Moses Lake

5k. Is any part of the project area within a 100-year flood plain? [\[help\]](#)

Yes No Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [\[help\]](#)

The property is a developed residential lot fronting on Moses Lake. The current vegetation is non-native ornamental landscaping including lawn, ornamental juniper shrubs, and one black locust tree. The shoreline includes a failing concrete bulkhead approximately 3 feet high. Lawn extends from the bulkhead landward approximately 10 feet to a concrete retaining wall. The bed of the lake at the subject shoreline is silty muck and clay, except that there is a firmer and more sandy nearshore substrate at the south corner of the property.

5m. Describe how the property is currently used. [\[help\]](#)

Residence of

5n. Describe how the adjacent properties are currently used. [\[help\]](#)

Residential use

5o. Describe the structures (above and below ground) on the property, including their purpose(s). [\[help\]](#)

In addition to the bulkhead and landward retaining wall described above in section 5 L, there are a single family home with attached garage. At the NE corner of the property there is an existing roofed boat moorage embayment extending into the upland, landward of the OHWM. Residential landscape irrigation equipment is built into this structure also (SEE attached photos).

5p. Provide driving directions from the closest highway to the project location, and attach a map. [\[help\]](#)

SEE attached map and directions.

Part 6--Project Description

6a. Summarize the overall project. You can provide more detail in 6d. [\[help\]](#)

The project will consist of removing most of the failing bulkhead and naturalizing the shoreline with terraced native soils, basalt rock of varying diameters, a fabric encased soil lift founded on an armored toe, and extensive use of native shrubs and trees. A small dock, 6 feet by 22 feet will be constructed adjacent to, and extending partially in front of, the existing covered moorage. This dock would cover approximately 15 lineal feet of shoreline from which the exiting bulkhead is to be removed. The dock will be built so as to extend three feet over the existing shoreline, and three feet waterward of the existing bulkhead. Placed riprap will be installed underneath the dock to stabilize the shoreline. The removed bulkhead will be replaced with a fabric encased soil and gravel lift, which will be extensively planted with native shrubs, including golden currant, redosier dogwood, and coyote willow. The existing lawn area will be reduced by approximately 90%. The new naturalized shoreline will not encroach waterward of the existing bulkhead. A 16 foot section of the existing bulkhead at the south end of the shoreline will be lowered to the ordinary high water mark, and a small area of pea gravel will be created landward of the bulkhead to provide swimming access to the only hard nearshore substrate on the property.

6b. Indicate the project category. (Check all that apply) [\[help\]](#)

- Commercial Residential Institutional Transportation Recreational
 Maintenance Environmental Enhancement

6c. Indicate the major elements of your project. (Check all that apply) [\[help\]](#)

- | | | | |
|--|---|--|--|
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Culvert | <input type="checkbox"/> Float | <input type="checkbox"/> Road |
| <input checked="" type="checkbox"/> Bank Stabilization | <input type="checkbox"/> Dam / Weir | <input type="checkbox"/> Geotechnical Survey | <input type="checkbox"/> Scientific Measurement Device |
| <input type="checkbox"/> Boat House | <input type="checkbox"/> Dike / Levee / Jetty | <input type="checkbox"/> Land Clearing | <input type="checkbox"/> Stairs |
| <input type="checkbox"/> Boat Launch | <input type="checkbox"/> Ditch | <input type="checkbox"/> Marina / Moorage | <input type="checkbox"/> Stormwater facility |
| <input type="checkbox"/> Boat Lift | <input checked="" type="checkbox"/> Dock / Pier | <input type="checkbox"/> Mining | <input type="checkbox"/> Swimming Pool |
| <input type="checkbox"/> Bridge | <input type="checkbox"/> Dredging | <input type="checkbox"/> Outfall Structure | <input type="checkbox"/> Utility Line |
| <input type="checkbox"/> Bulkhead | <input type="checkbox"/> Fence | <input type="checkbox"/> Piling | |
| <input type="checkbox"/> Buoy | <input type="checkbox"/> Ferry Terminal | <input type="checkbox"/> Retaining Wall (upland) | |
| <input type="checkbox"/> Channel Modification | <input type="checkbox"/> Fishway | | |

Other: Shoreline Naturalization

6d. Describe how you plan to construct each project element checked in 6c. Include specific construction methods and equipment to be used. [\[help\]](#)

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year flood plain.

Dock will be constructed from approved, treated wood and recycled plastic composite decking, founded on concrete or galvanized steel piling. The existing bulkhead will be removed. The shoreline will be biotechnically stabilized with a fabric encased soil lift using woven and nonwoven coir fabric laminate, and will be heavily planted with native shrubs. The fabric encased soil lift will be founded on an armored toe, which will be constructed of angular basalt and located at the existing lakebed grade, in the void and disturbed area where the bulkhead and footing is removed. There will be a modest net reduction in the shoreline cross sectional profile. The existing shoreline vegetation will be largely converted from lawn to native woody plantings including coyote willow, golden currant, redosier dogwood, etc.

The project will be constructed in the dry, in the fall after the annual lowering of the level of Moses Lake. The

bulkhead will be removed, and new materials will be placed with a combination of small track hoe, Bobcat, and hand labor. Native woody plant materials will be placed during construction.

6e. What are the start and end dates for project construction? (month/year) [help]

- If the project will be constructed in phases or stages, use JARPA Attachment D to list the start and end dates of each phase or stage.

Start date: October 25, 2011 End date: November 7, 2011 See JARPA Attachment D

6f. Describe the purpose of the project and why you want or need to perform it. [help]

The purpose of the project is to remove a failing bulkhead, and biotechnically stabilize the shoreline with a naturalized shoreline. A small dock will be constructed, oriented parallel to the shoreline next to the existing covered moorage.

This project is an opportunity to restore some native riparian habitat to a portion of Moses Lake shoreline which has long been transformed from a natural undeveloped shoreline into a typical residential shoreline of Moses Lake with bulkhead and lawn.

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [help]

Approximately

6h. Will any portion of the project receive federal funding? [help]

- If yes, list each agency providing funds.

Yes No Don't know

Part 7–Wetlands: Impacts and Mitigation

Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [help]

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [help]

Not applicable

The project is partially located along shallow water lacustrine wetlands. The project is specifically designed to restore major structural and functional elements of lentic riparian habitat, and lacustrine (lentic) shallow water habitat.

7b. Will the project impact wetlands? [\[help\]](#)

Yes X No Don't know

7c. Will the project impact wetland buffers? [\[help\]](#)

Yes X No Don't know

7d. Has a wetland delineation report been prepared? [\[help\]](#)

- If yes, submit the report, including data sheets, with the JARPA package.

Yes X No

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [\[help\]](#)

- If yes, submit the wetland rating forms and figures with the JARPA package.

Yes X No Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [\[help\]](#)

- If yes, submit the plan with the JARPA package and answer 7g.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes No X Not applicable

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [\[help\]](#)

7h. Use the table below to list the type and rating of each wetland impacted; the extent and duration of the impact; and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type ⁴	Wetland mitigation area (sq. ft. or acres)
Fill: some on-site soil and angular rock will be placed where the bulkhead is removed. There will be a net reduction in shoreline cross sectional profile, since the perpendicular bulkhead will be replaced by a sloping fabric encased soil lift founded on an armored toe. The armored toe will lie at the same grade as the existing lake bed.	Moses Lake		0	± 3 days (total project time)	Project itself is mitigation: C, R, E.	Approximately 1308 square feet of naturalized shoreline, planted with native shrubs, landward of the OHWM.
Excavation: The existing bulkhead will be removed from most of the shoreline. A 16 foot long portion of the bulkhead will be lowered to ordinary high water mark.				See above.	See above.	See above.

¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.

² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____

7i. For all filling activities identified in 7h., describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [\[help\]](#)

Fill will be approximately 20 cubic yards of angular basalt of D80=6 in., located where bulkhead and bulkhead footing is removed.

7j. For all excavating activities identified in 7h., describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [\[help\]](#)

Bulkhead removal, armored toe and soil lift placement will be accomplished with a track hoe, Bobcat (or similar) and hand labor.

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, "waterbodies" refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [\[help\]](#)

Not applicable

The project is specifically designed to enhance shoreline ecological function while stabilizing the shoreline, where currently, an existing concrete bulkhead is failing. Approximately 1150 square feet of lawn will be removed and replaced with native riparian and upland shrubs.

8b. Will your project impact a waterbody or the area around a waterbody? [\[help\]](#)

Yes No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [\[help\]](#)

- If yes, submit the plan with the JARPA package and answer 8d.
- If No, or Not applicable, explain below why a mitigation plan should not be required.

Yes No Not applicable

The large bulk of the project is specifically designed to naturalize the subject shoreline.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g., you do not need to restate your answer here. [\[help\]](#)

See items 5 and 6 above, and attached drawings.

8e. Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name ¹	Impact location ²	Duration of impact ³	Amount of material to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Fill: armored toe of angular rock described above in item 7h.	Moses Lake	in	permanent	.165 cubic yard per shoreline foot.	Approximately 150 square feet

¹ If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

² Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

³ Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e., describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

Approximately 15 cubic yards of locally sourced native basalt will be placed at the location of, and landward of the removed bulkhead, but no higher than the existing lake bed grade.

8g. For all excavating or dredging activities identified in 8e., describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

Removed bulkhead will be disposed at authorized location out of shoreline jurisdiction. Existing soils landward of bulkhead will be redistributed on site, incorporated into the fabric-encased soil lift.

Part 9-Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [help]			
Agency Name	Contact Name	Phone	Most Recent Date of Contact
Moses Lake Planning Dept.	Anne Henning	(509) 766-9235	August 24, 2011
Washington Dept. of Fish and Wildlife	Eric Pentico	(509) 754-4624 ext.215	September 21, 2011
Dept. of Natural Resources	Cindy Preston	(509) (509) 925-0969	September 22, 2011
9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 on the Washington Department of Ecology's 303(d) List? [help]			
<ul style="list-style-type: none"> • If yes, list the parameter(s) below. • If you don't know, use Washington Department of Ecology's Water Quality Assessment tools at: http://www.ecy.wa.gov/programs/wq/303d/. 			
X <input type="checkbox"/> Yes <input type="checkbox"/> No			
9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [help]			
<ul style="list-style-type: none"> • Go to http://cfpub.epa.gov/surf/locate/index.cfm to help identify the HUC. 			
Lower Crab Watershed -- 17020015			
9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [help]			
<ul style="list-style-type: none"> • Go to http://www.ecy.wa.gov/services/gis/maps/wria/wria.htm to find the WRIA #. 			
WRIA# 44			
9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [help]			
<ul style="list-style-type: none"> • Go to http://www.ecy.wa.gov/programs/wq/swqs/criteria.html for the standards. 			
X <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable			
9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [help]			
<ul style="list-style-type: none"> • If you don't know, contact the local planning department. • For more information, go to: http://www.ecy.wa.gov/programs/sea/sma/laws_rules/173-26/211_designations.html. 			
<input type="checkbox"/> Rural <input checked="" type="checkbox"/> Urban <input type="checkbox"/> Natural <input type="checkbox"/> Aquatic <input type="checkbox"/> Conservancy <input type="checkbox"/> Other _____			

9g. What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesApplications/Pages/fp_watertyping.aspx for the Forest Practices Water Typing System.

Shoreline Fish Non-Fish Perennial Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [\[help\]](#)

- If no, provide the name of the manual your project is designed to meet.

Yes No

Name of manual:

9i. If you know what the property was used for in the past, describe below. [\[help\]](#)

Not known.

9j. Has a cultural resource (archaeological) survey been performed on the project area? [\[help\]](#)

- If yes, attach it to your JARPA package.

Yes No

9k. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [\[help\]](#)

None

9l. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [\[help\]](#)

Freshwater Riparian habitat will be enhanced.

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.ecy.wa.gov/opas/>.
- Governor's Office of Regulatory Assistance at (800) 917-0043 or help@ora.wa.gov.
- For a list of agency addresses to send your application, click on the "where to send your completed JARPA" at <http://www.epermitting.wa.gov>.

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [help]

- For more information about SEPA, go to www.ecy.wa.gov/programs/sea/sepa/e-review.html.

- A copy of the SEPA determination or letter of exemption is included with this application.
- A SEPA determination is pending with _____ (lead agency). The expected decision date is _____.
- I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [help]
- This project is exempt (choose type of exemption below).
- Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

- Other: _____
- SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [help]

LOCAL GOVERNMENT

Local Government Shoreline permits:

- Substantial Development Conditional Use Variance
- X Shoreline Exemption Type (explain): shoreline stabilization

Other city/county permits:

- Floodplain Development Permit X Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

- X Hydraulic Project Approval (HPA) Fish Habitat Enhancement Exemption

Washington Department of Ecology:

- X Section 401 Water Quality Certification

Property Owner Printed Name

Property Owner Signature

Date

9-22-11

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact The Governor's Office of Regulatory Assistance (ORA). People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341.
ORA publication number: ENV-019-09

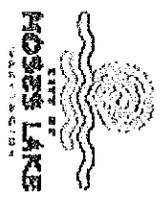
ADDRESS AND
ZONING MAP
2011



PARCEL:
OWNER:
ADDRESS:
NOTES:

COUNTY
INFO UPDATED
FEB. 22, 2010

0 60 120
Feet

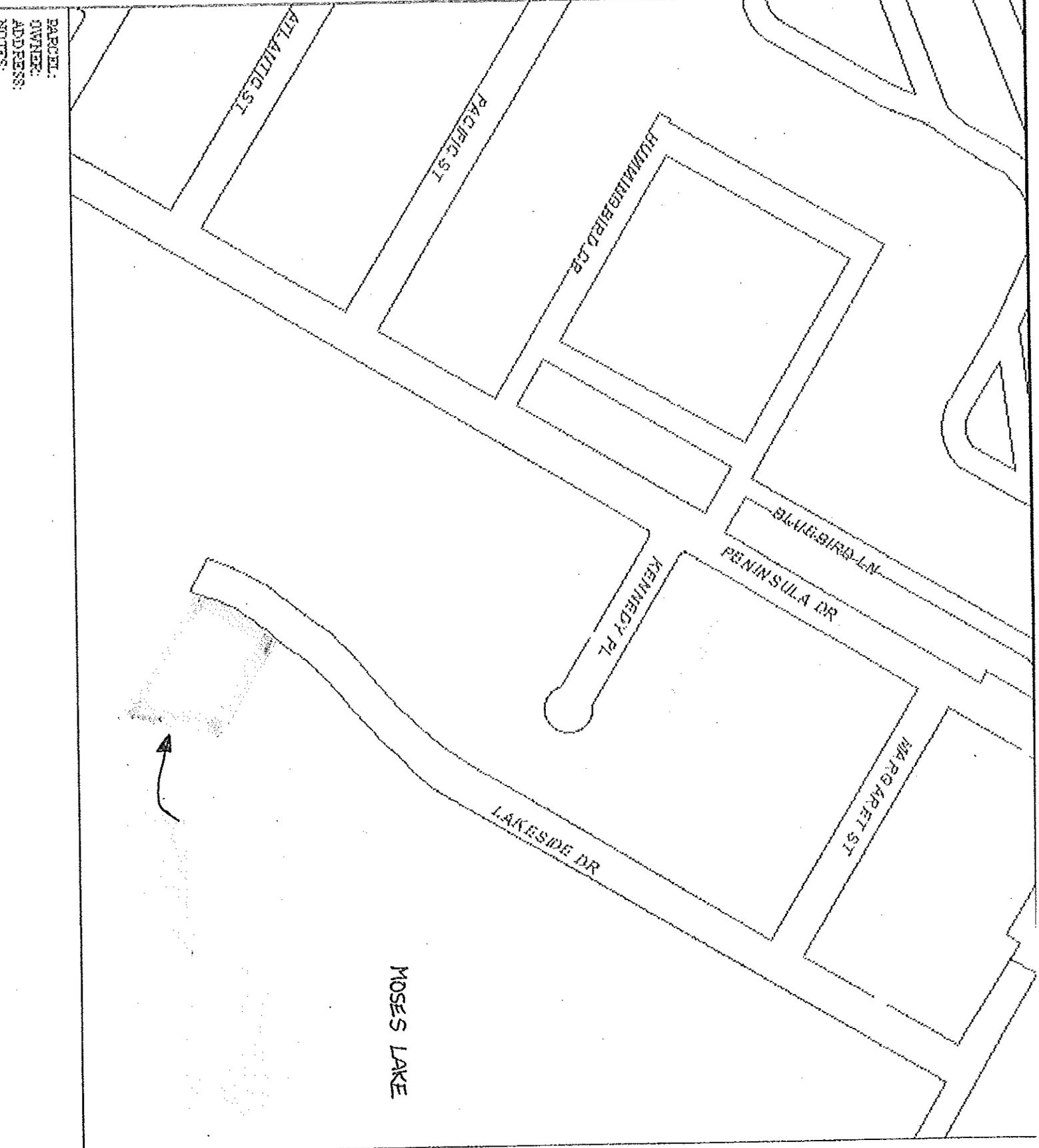


DRAWN BY: BKP
DATE: 2/20/11

ADDRESS AND ZONING MAP

2011

STREET YEAR 1900s
LOTS



PARCEL:
OWNER:
ADDRESS:
NOTES:

0 120 240 Feet

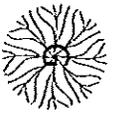
COUNTY INQUIRED FEB 22, 2014

CITY OF MOSES LAKE WASHINGTON

PLAN BKE 2607

MOSES LAKE, WA

PLANTING KEY FOR
MAJOR WOODY PLANTS:



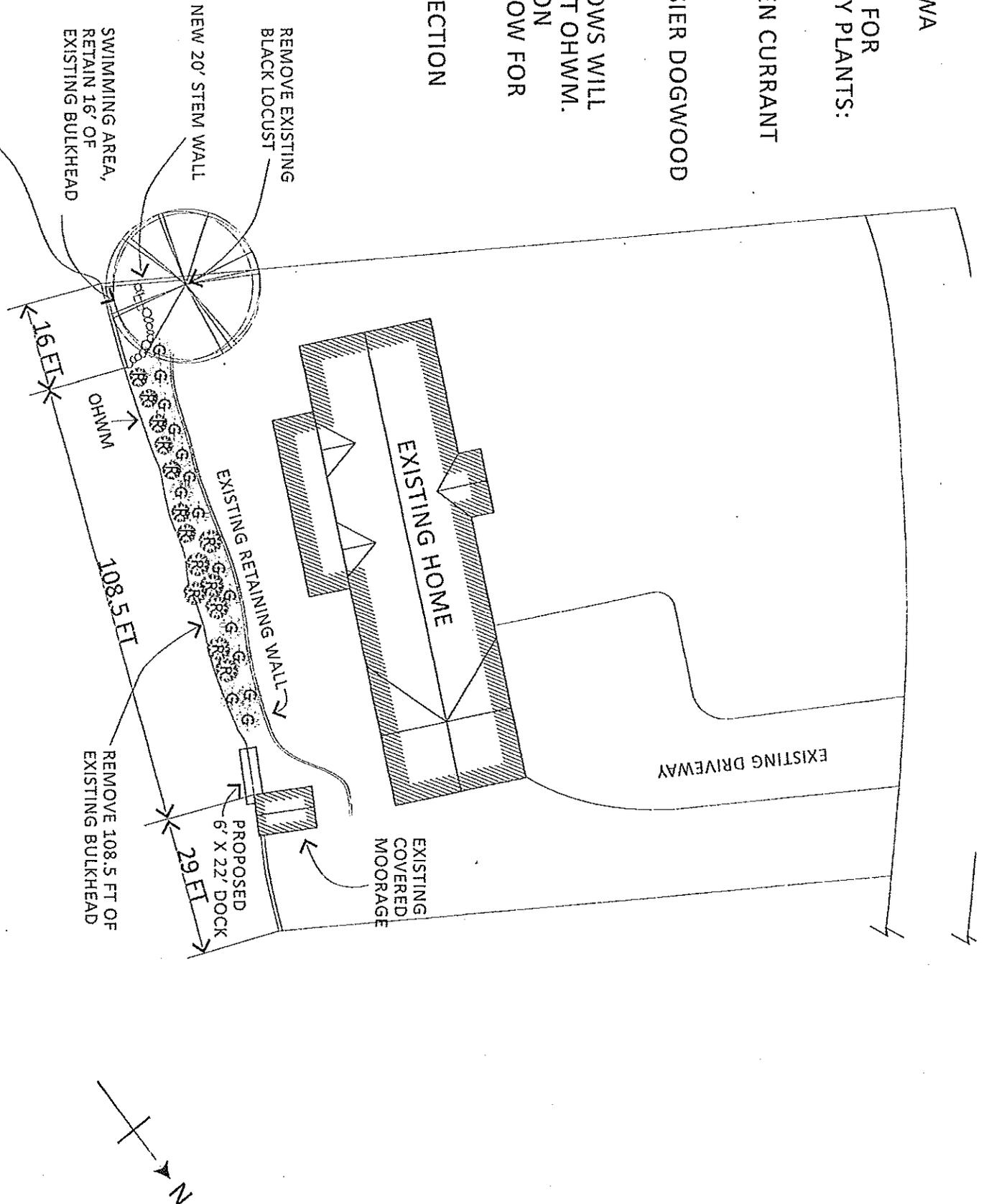
GOLDEN CURRANT



REDOSIER DOGWOOD

* COYOTE WILLOWS WILL
BE PLANTED AT OHWM.
NOT SHOWN ON
DRAWING BELOW FOR
CLARITY

SEE TYPICAL SECTION
DRAWING

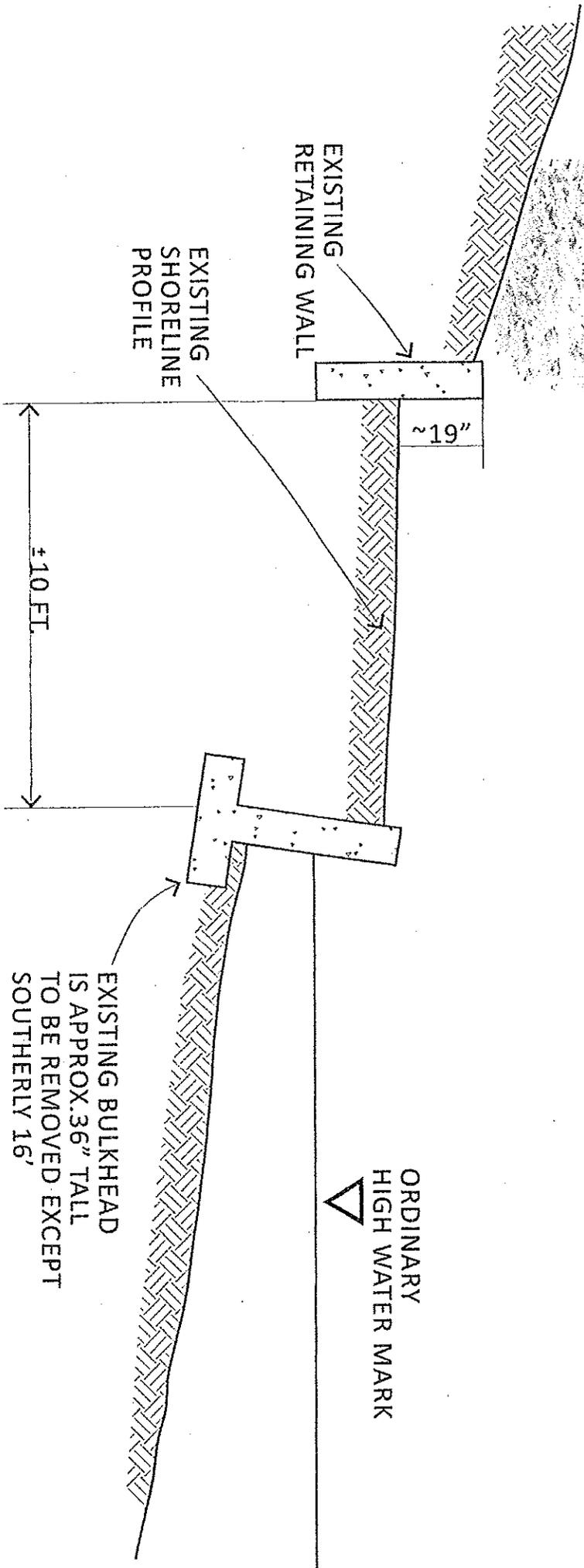


MOSES LAKE SHORELINE NATURALIZATION + DOCK

SITE PLAN

no scale

EXISTING
ORNAMENTAL
LANDSCAPING



MOSES LAKE SHORELINE NATURALIZATION + DOCK

TYPICAL EXISTING SECTION

no scale

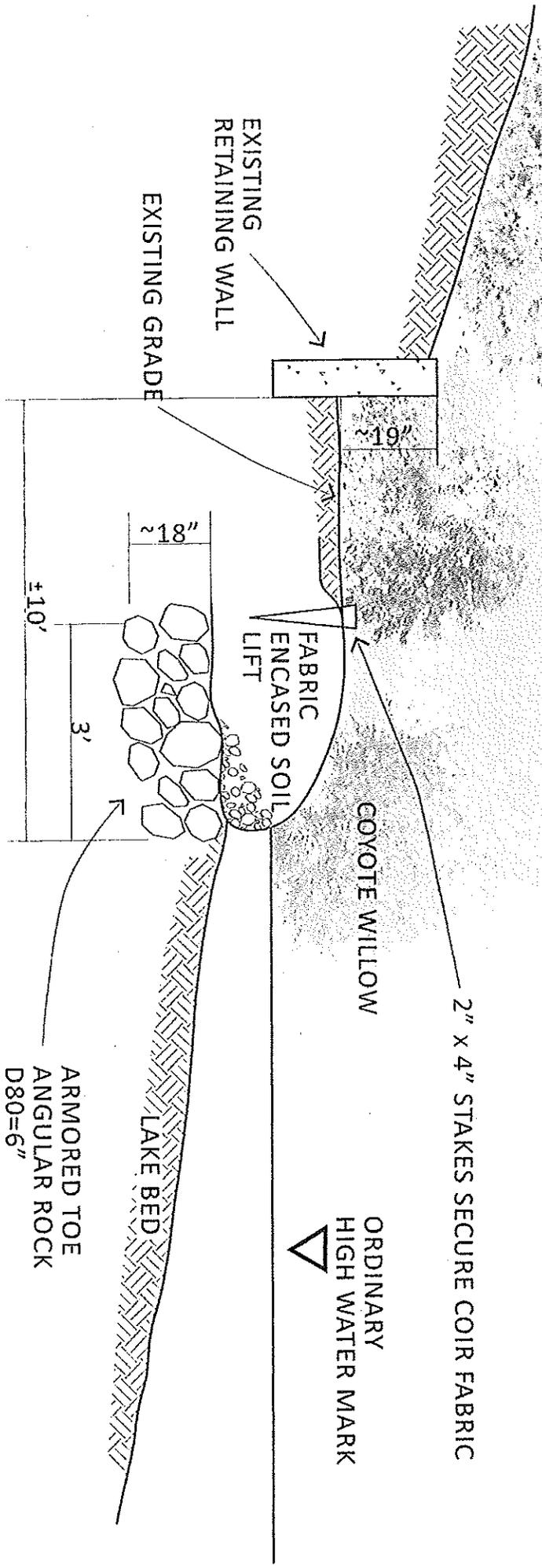
EXISTING
ORNAMENTAL
LANDSCAPING

NEW GOLDEN CURRANT
+
REDOSIER DOGWOOD

FABRIC TO BE C90 COIR FABRIC, BACKED
BY NON-WOVEN COIR FABRIC TO
CONTROL PIPING

SOIL LIFT WILL CONSIST OF 3"-4" LIFT OF
COARSE GRAVELS TOPPED BY NATIVE SOIL

FABRIC ENCASED SOIL LIFT WILL NOT
PROJECT WATERWARD OF EXISTING
BULKHEAD



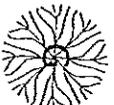
ARMORED TOE
ANGULAR ROCK
D80=6"
PLACED IN DISTURBED LAKE BED
WHERE BULKHEAD AND FOOTING
WILL BE REMOVED

NEW TYPICAL SECTION

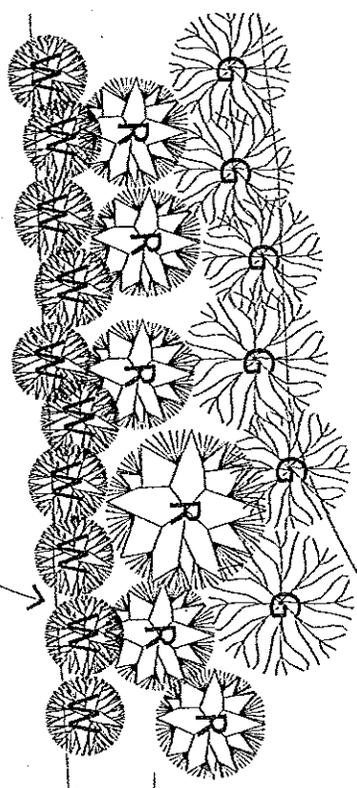
MOSES LAKE SHORELINE NATURALIZATION + DOCK

no scale

PLANTING KEY FOR
MAJOR WOODY PLANTS:

-  GOLDEN CURRANT
-  REDOSIER DOGWOOD
-  COYOTE WILLOW

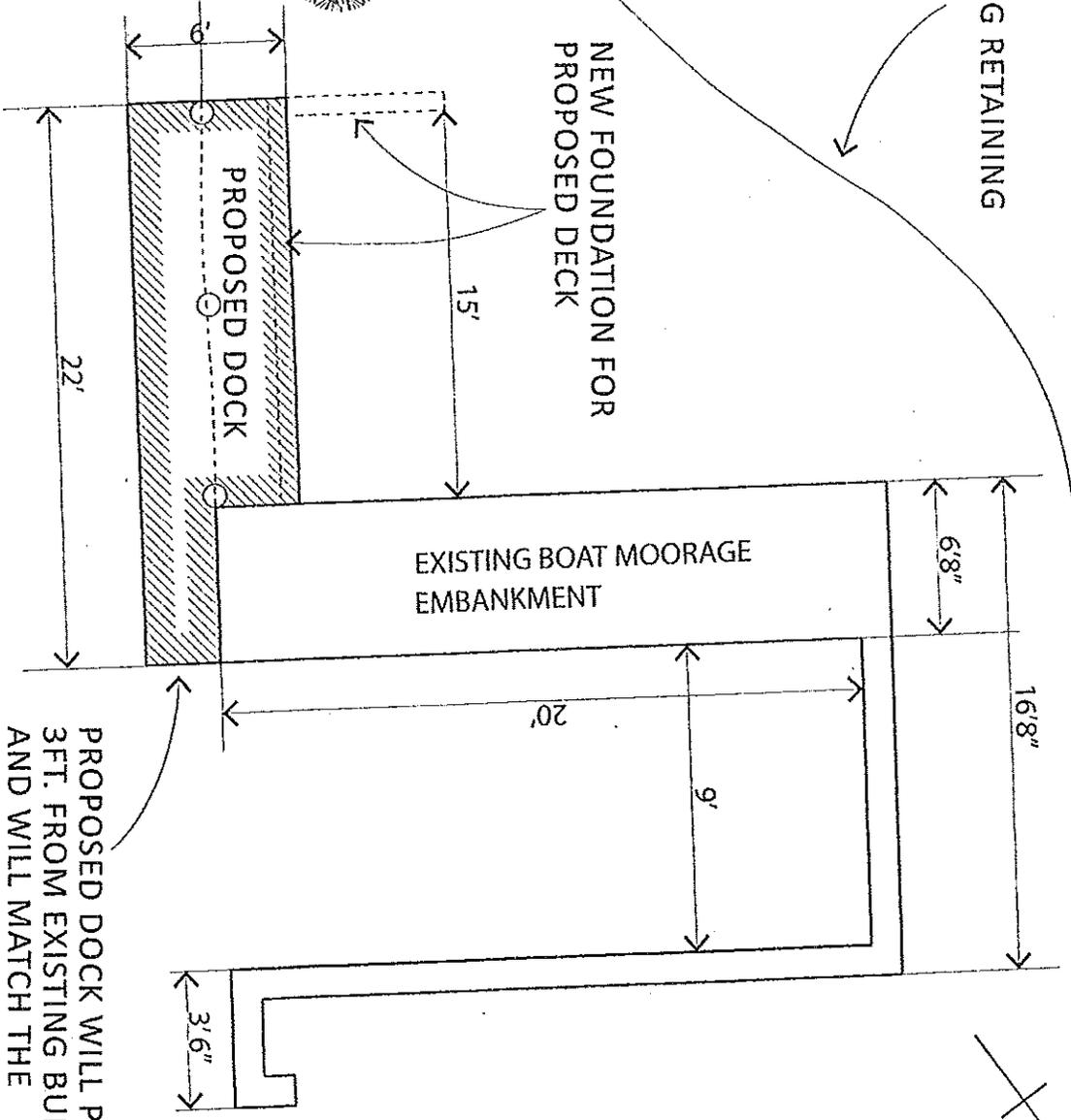
EXISTING ORNAMENTAL
LANDSCAPING



EXISTING RETAINING
WALL

NEW FOUNDATION FOR
PROPOSED DECK

TOE OF FABRIC ENCASED
SOIL LIFT



PROPOSED DOCK WILL PROJECT
3 FT. FROM EXISTING BULKHEAD
AND WILL MATCH THE
ELEVATION OF THE EXISTING
BULKHEAD

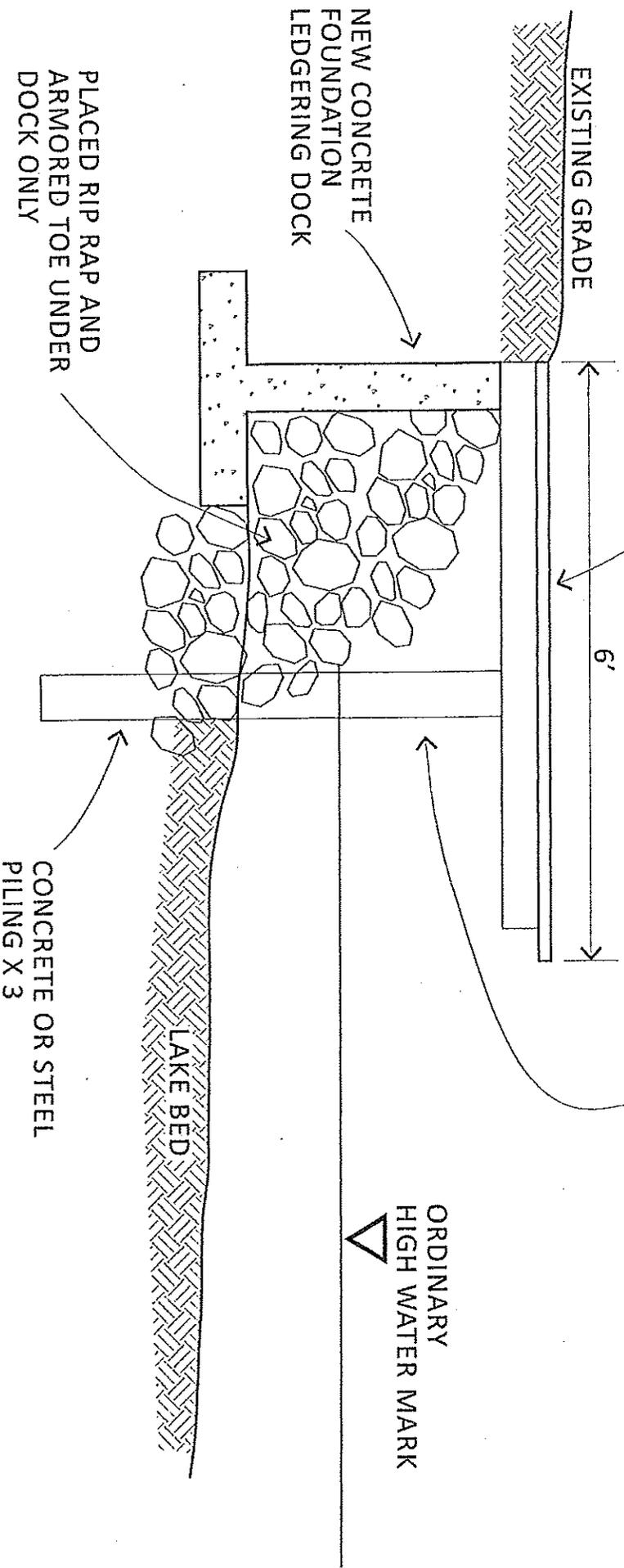
MOSES LAKE SHORELINE NATURALIZATION + DOCK

PROPOSED DOCK PLAN

no scale

NEW DOCK, CONSTRUCTED OF APPROVED TREATED TIMBERS AND DECKED WITH TREX OR SIMILAR PRODUCT

CONCRETE PILING PLACED AT LOCATION OF REMOVED BULKHEAD



MOSES LAKE SHORELINE NATURALIZATION + DOCK

PROPOSED DOCK SECTION

no scale

NEW STEM WALL, 20 FT. LONG
ALONG SOUTH PROPERTY LINE
TIES IN LANDWARD OF THE
EXISTING BULKHEAD

BOULDERS, NATURALLY
PLACED AS RETAINING
WALL

+/- 6" LIFT OF PEA
GRAVEL

EXISTING 19" RETAINING WALL

20'

STEPS INTO SWIM AREA

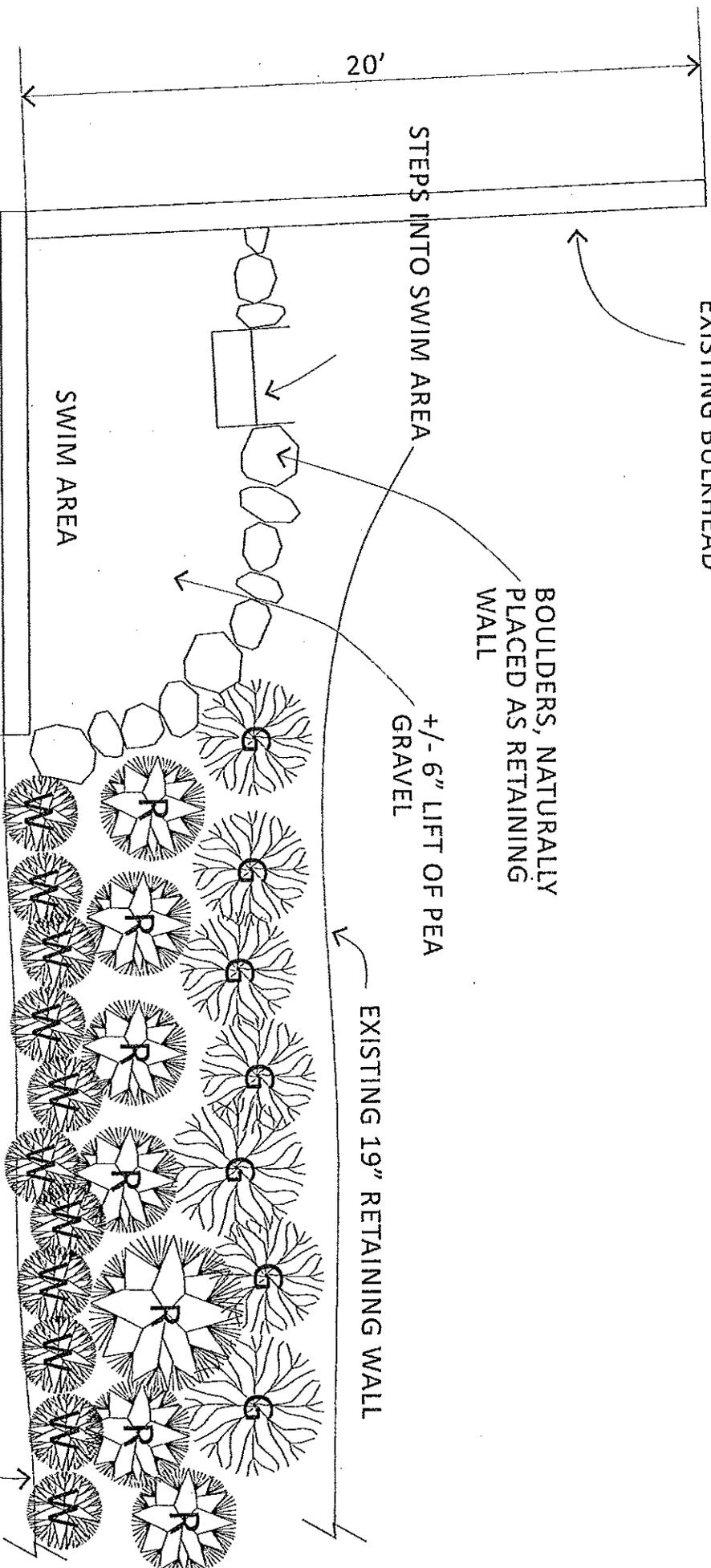
SWIM AREA

16'

RETAIN 16' OF EXISTING BULKHEAD,
CUT AT ORDINARY HIGH WATERMARK

108.5' OF EXISTING BULKHEAD
TO BE REMOVED

WATERWARD TOE OF FABRIC
ENCASED SOIL LIFT



MOSES LAKE SHORELINE NATURALIZATION + DOCK

SOUTH-SWIMMING AREA PLAN

no scale

EXISTING
ORNAMENTAL
LANDSCAPING

EXISTING
RETAINING WALL

~19"

BOULDERS, NATURALLY
PLACED AS RETAINING
WALL

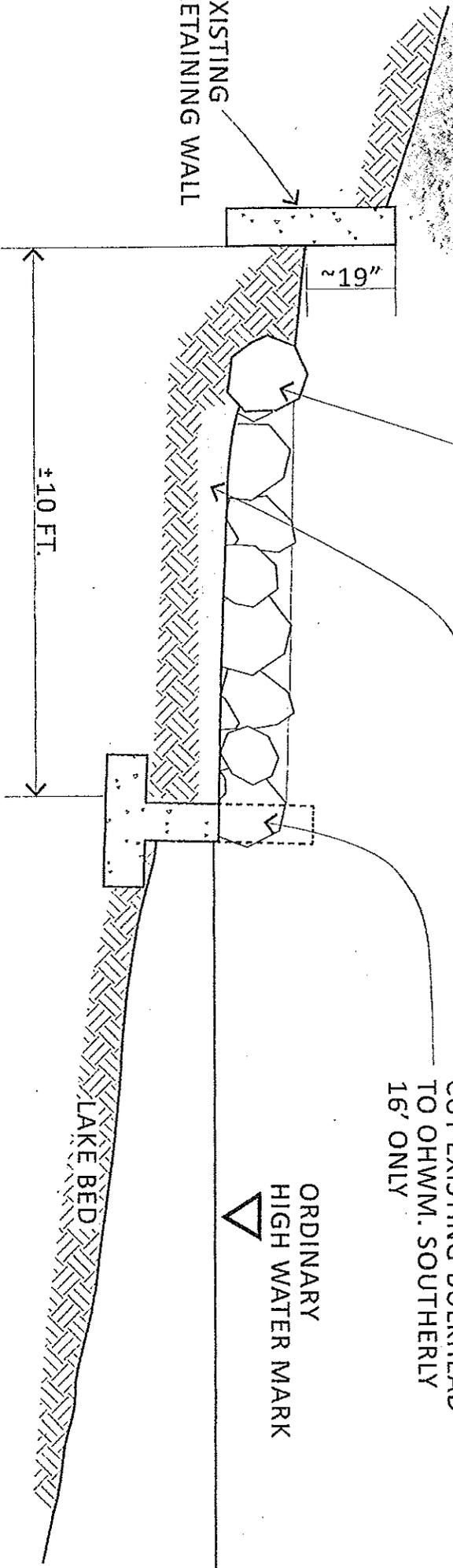
+/- 6" LIFT OF PEA
GRAVEL

CUT EXISTING BULKHEAD
TO OHWM. SOUTHERLY
16' ONLY

ORDINARY
HIGH WATER MARK
▽

+10 FT.

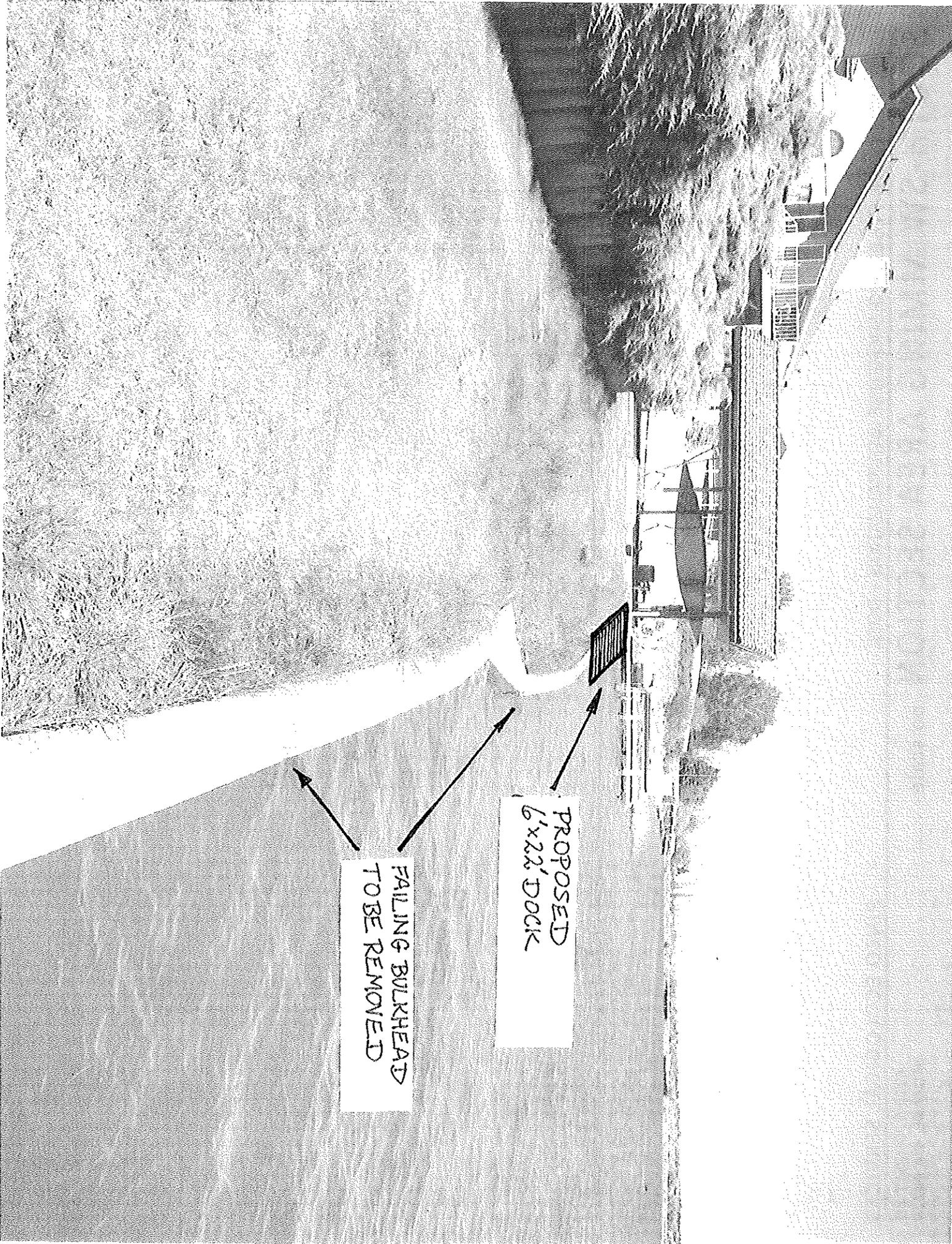
LAKE BED



MOSES LAKE SHORELINE NATURALIZATION + DOCK

SOUTH-SWIMMING AREA SECTION

no scale



FAILING BULKHEAD
TO BE REMOVED

PROPOSED
6x22' DOCK

FAILING
BULKHEAD TO BE
REMOVED



1/6 SECTION OF
BULKHEAD TO BE
LOWERED TO OHWM

