

“LAKE BUFFER INCENTIVES & LAKE SETBACK / RESTORATION INCENTIVES ON LAKE SAMMAMISH & OTHER LAKES IN THE REGION.”

- BY DAN NICKEL, THE WATERSHED COMPANY &
KATHY CURRY, CITY OF SAMMAMISH



LAKE BUFFER INCENTIVE OPTIONS

HISTORY & BACKGROUND OF SAMMAMISH'S INCENTIVE OPTIONS

 *Critical Areas Ordinance Update (2004 - 2006)*

 *Preceding Incentive Options*

 *Expanded to Include Shorelines*

LAKE BUFFER INCENTIVE OPTIONS

HOW ARE LAKE BUFFERS TIED TO CAO & FUTURE IMPACTS TO SMP ?

 *Only Adopted for Lake Sammamish*

 *Pine & Beaver Lake Buffers Were Proposed, but Not Adopted*

 *Considered Science, Aerial Photography, & Political Realm*

LAKE BUFFER INCENTIVE OPTIONS

THE NUTS & BOLTS OF INCENTIVES :

 ***45 Foot Standard Buffer from OHWM***

 ***Buffer Can be No Less Than 15 Feet.***

 ***Buffer Reduction Only When Mitigation Results in Equal or Greater Protection of Lake Functions.***

 ***Shore Access: Up to 25% or No Less Than 15 ft Wide***

LAKE BUFFER INCENTIVE OPTIONS

BULKHEAD REMOVAL

15 FOOT REDUCTION FOR :

-  **Removal of an existing bulkhead located at, below, or within five feet landward of the lake's ordinary high water mark (OHWM) & subsequent restoration of the shoreline to a natural or semi-natural state, including restoration of topography, soil composition, & vegetation;**
-  **Restoration of shoreline to a natural or semi-natural state if no bulkhead is present, but other existing unnatural shoreline contours are present;**
-  **Preservation of existing natural shoreline conditions if no bulkhead or other unnatural shoreline features are present;**



LAKE BUFFER INCENTIVE OPTIONS

REVEGETATION

10 FOOT REDUCTION FOR :

 **Preservation of existing trees and native vegetation or restoration of native vegetation, as necessary, in the remaining Lake Sammamish buffer to be retained along at least 75 percent of the site's lake frontage. Up to 25 percent by area of preserved and/or restored vegetation can be comprised of non-invasive, non-native vegetation. Up to 25 percent, or no less than 15 feet, of the lake frontage may be used for shoreline access; provided, that access areas are located to avoid areas of greater sensitivity and habitat value. Restoration of native vegetation shall consist of a mixture of native trees, shrubs, and groundcover and be designed to improve habitat functions.**



LAKE BUFFER INCENTIVE OPTIONS

REVEGETATION

10 FOOT REDUCTION FOR :

 **Preservation of existing trees and native vegetation or restoration of native vegetation, as necessary, in the remaining Lake Sammamish buffer to be retained along at least 75 percent of the site's lake frontage. Up to 25 percent by area of preserved and/or restored vegetation can be comprised of non-invasive, non-native vegetation. Up to 25 percent, or no less than 15 feet, of the lake frontage may be used for shoreline access; provided, that access areas are located to avoid areas of greater sensitivity and habitat value. Restoration of native vegetation shall consist of a mixture of native trees, shrubs, and groundcover and be designed to improve habitat functions.**



LAKE BUFFER INCENTIVE OPTIONS

RESTORE NEARSHORE EMERGENT VEGETATION

5 FOOT REDUCTION FOR :

 *Preservation of existing native vegetation or restoration of native vegetation, as necessary, in the minimum five-foot-wide nearshore area below the lake's ordinary high water mark (OHWM);*

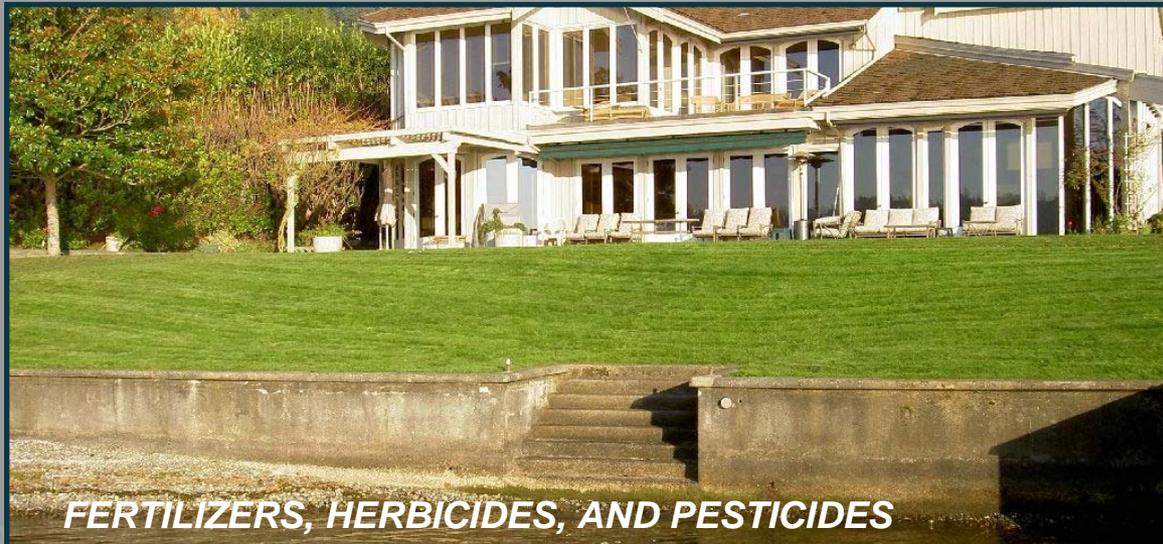


LAKE BUFFER INCENTIVE OPTIONS

VEGETATION MANAGEMENT PLAN

5 FOOT REDUCTION FOR :

 Preparation of, and agreement to adhere to, a shoreline vegetation management plan that includes appropriate **limitations on the use of fertilizer, herbicides, and pesticides** as needed to protect lake water quality;



FERTILIZERS, HERBICIDES, AND PESTICIDES

LAKE BUFFER INCENTIVE OPTIONS

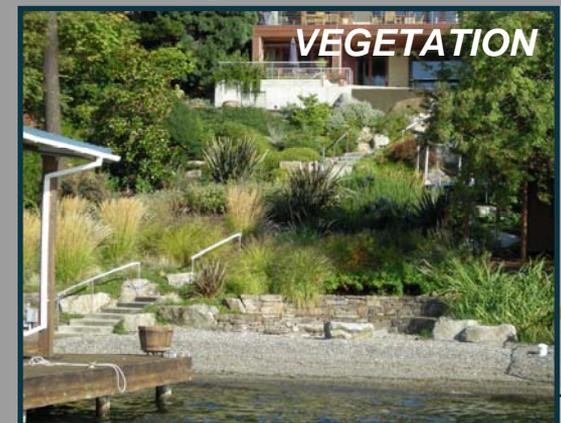
LIMITING LAWN COVERAGE

5 FOOT REDUCTION FOR :

 *Limiting lawn area to no greater than 20 percent of the lot area. Landscaped areas outside of the lawn and buffer areas shall be maintained or planted in non-invasive vegetation.*



VS.



LAKE BUFFER INCENTIVE OPTIONS

LIMITING LAWN COVERAGE

5 FOOT REDUCTION FOR :

 *Limiting lawn area to no greater than 20 percent of the lot area. Landscaped areas outside of the lawn and buffer areas shall be maintained or planted in non-invasive vegetation.*



VS.



LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



CREATION OF PREDATOR HABITAT

LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



LAKE BUFFER INCENTIVE OPTIONS

WHY ARE THESE MEASURES IMPORTANT ?



WAVE ATTENUATION

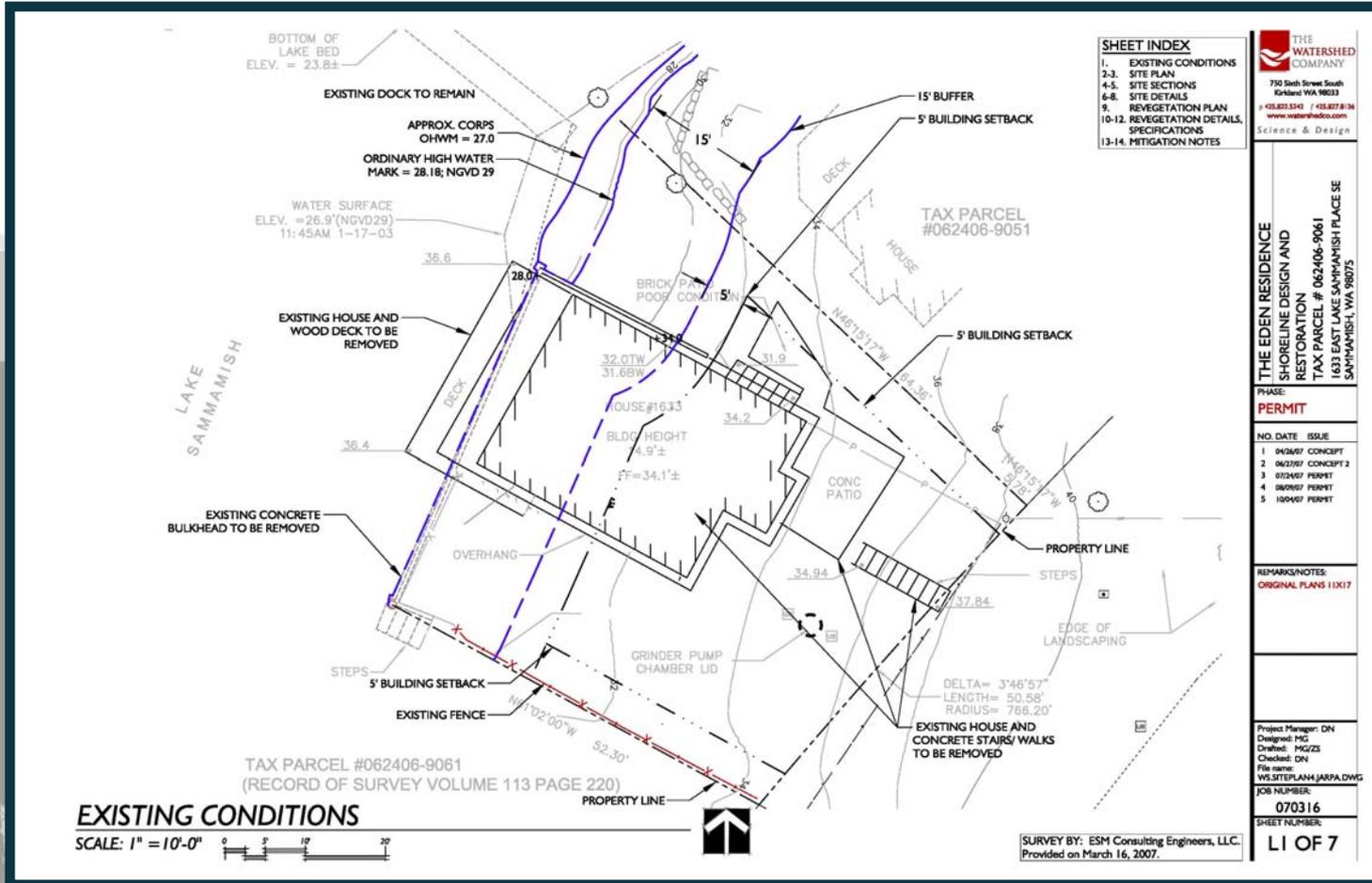
LAKE BUFFER INCENTIVE OPTIONS

HOW IS THIS BEING IMPLEMENTED ?



LAKE BUFFER INCENTIVE OPTIONS

HOW IS THIS BEING IMPLEMENTED ?



LAKE BUFFER INCENTIVE OPTIONS

HOW IS THIS BEING IMPLEMENTED ?



SHORELINE DESIGN AND RESTORATION PLAN - CONCEPT

SCALE: 1" = 10'-0"

THE WATERSHED COMPANY
 750 Sixth Street South
 Kirkland WA 98033
 p 425.832.5242 f 425.832.8134
 www.watershedco.com
 Science & Design

THE EDEN RESIDENCE AND SHORELINE DESIGN AND RESTORATION
 TAX PARCEL # 062406-9061
 1633 EAST LAKE SAMMAMISH PLACE SE
 SAMMAMISH, WA 98075

PHASE:
PRELIMINARY

NO.	DATE	ISSUE
1	04/26/07	CONCEPT
2	05/27/07	CONCEPT 2

REMARKS/NOTES:

Project Manager: DN
 Designed: MH
 Drafted: MH
 Checked: DN
 File name: WS.SITEPLAN2.DWG

JOB NUMBER:
070316

SHEET NUMBER:
1



LAKE BUFFER INCENTIVE OPTIONS

HOW IS THIS BEING IMPLEMENTED ?

REQUIREMENTS:

LARGE, FLAT STONE PAVERS
TO ALLOW DOCK ACCESS

NATURAL STONE PLACED
AS STEPS & RETAINING STRUCTURE

EXISTING ORDINARY HIGH WATER
MARK = 28.18 (BY OTHERS)

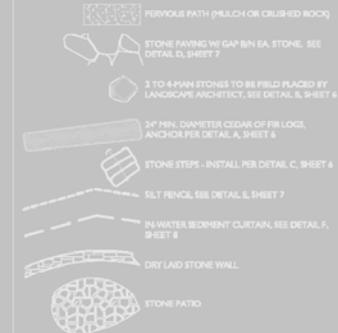
CRITICAL AREAS STUDY

PROPOSED STONE AND LOGS
(PARTIALLY BURIED AND
ANCHORED AS NEEDED)

PLAN BY QUALIFIED PROFESSIONAL

STATE & FEDERAL PERMITTING

LEGEND



BUFFER NOTES:

15'-0" LAKE BUFFER:

TOTAL BUFFER AREA = 1,006 SF
NATIVE PLANTED AREA = 794 SF (79%)

20'-0" SHORELINE SETBACK:

- * NO BALCONIES OR DECKS EXTEND FROM THE HOUSE AT A HEIGHT EXCEEDING IF WITH IN THE 20' SETBACK
- * NO COVERED DECK, COVERED BALCONIES, OR BUILDING STRUCTURES EXTEND WITHIN THE 20' SETBACK

PERVIOUS SURFACE = 133 SF

REFER TO WORK
SEQUENCE ON SHEET 7
FOR MORE NOTES AND
SPECIFICATIONS

LAKE BUFFER INCENTIVE OPTIONS



BEFORE



& AFTER

COMPLETED PROJECTS

LAKE BUFFER INCENTIVE OPTIONS



BEFORE



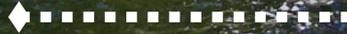
& AFTER

COMPLETED PROJECTS

LAKE BUFFER INCENTIVE OPTIONS



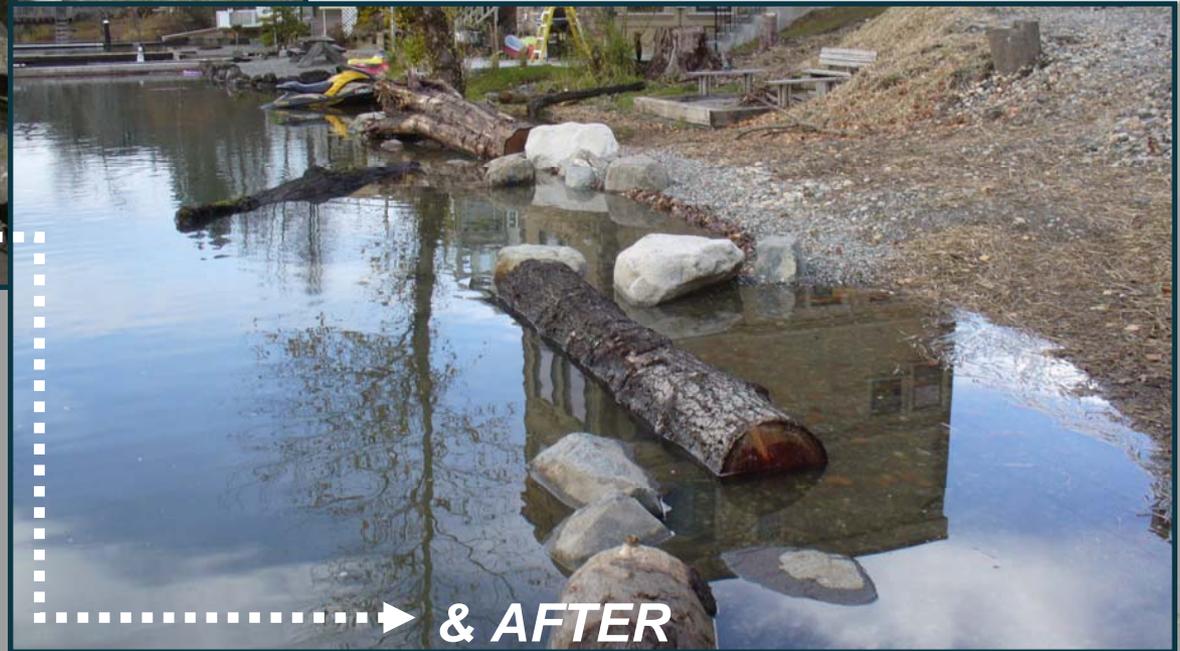
BEFORE



& AFTER

COMPLETED PROJECTS

LAKE BUFFER INCENTIVE OPTIONS



COMPLETED PROJECTS

LAKE BUFFER INCENTIVE OPTIONS

HOW CAN THIS FIT WITH SMPs?



Example - Lake Forest Park Proposed SMP

LAKE BUFFER INCENTIVE OPTIONS

BUILDING SETBACKS

 *Used Variable Setbacks Based on Lot Depth*

 *Evaluate Existing Setbacks for Conformity*

 *Does it Make Sense?*

LAKE BUFFER INCENTIVE OPTIONS

INCENTIVE OPTIONS

 *Water Related Options*

 *Upland Related Options*

LAKE BUFFER INCENTIVE OPTIONS

WATER RELATED OPTIONS

 *Bulkhead Removal (2 Options)*

 *Daylighting Piped Streams*

 *Preservation of Natural Shoreline Conditions*

 *Native Revegetation (2 Options)*

LAKE BUFFER INCENTIVE OPTIONS

UPLAND RELATED OPTIONS

 *Biofiltration / Infiltration Mechanisms*

 *Shoreline Vegetation Management Plan*

 *Use of Pervious Materials Where Necessary*

 *Limiting Lawn Area to Less Than 20 Percent*

LAKE BUFFER INCENTIVE OPTIONS

CONTACT INFORMATION

Dan Nickel
The Watershed Company
dnickel@watershedco.com
Tel: 425 - 822 - 5242

Kathy Curry
City of Sammamish
kcurry@ci.sammamish.wa.us
Tel: 425 - 295 - 0527