Lake Watershed Action Plans

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What is an LWAP?

- Lake Watershed Action Plans are assessment and planning tools
- Goal: Identify the greatest threats to the health of the lake coming from the shore
- Essentially answering two questions
  - What issues threaten the health of the lake the most?
  - What can we do about them?
- The end product is a plan that identifies problem areas, identifies possible fixes, and prioritizes them using a series of factors
- Results in a series of potentially implementable projects

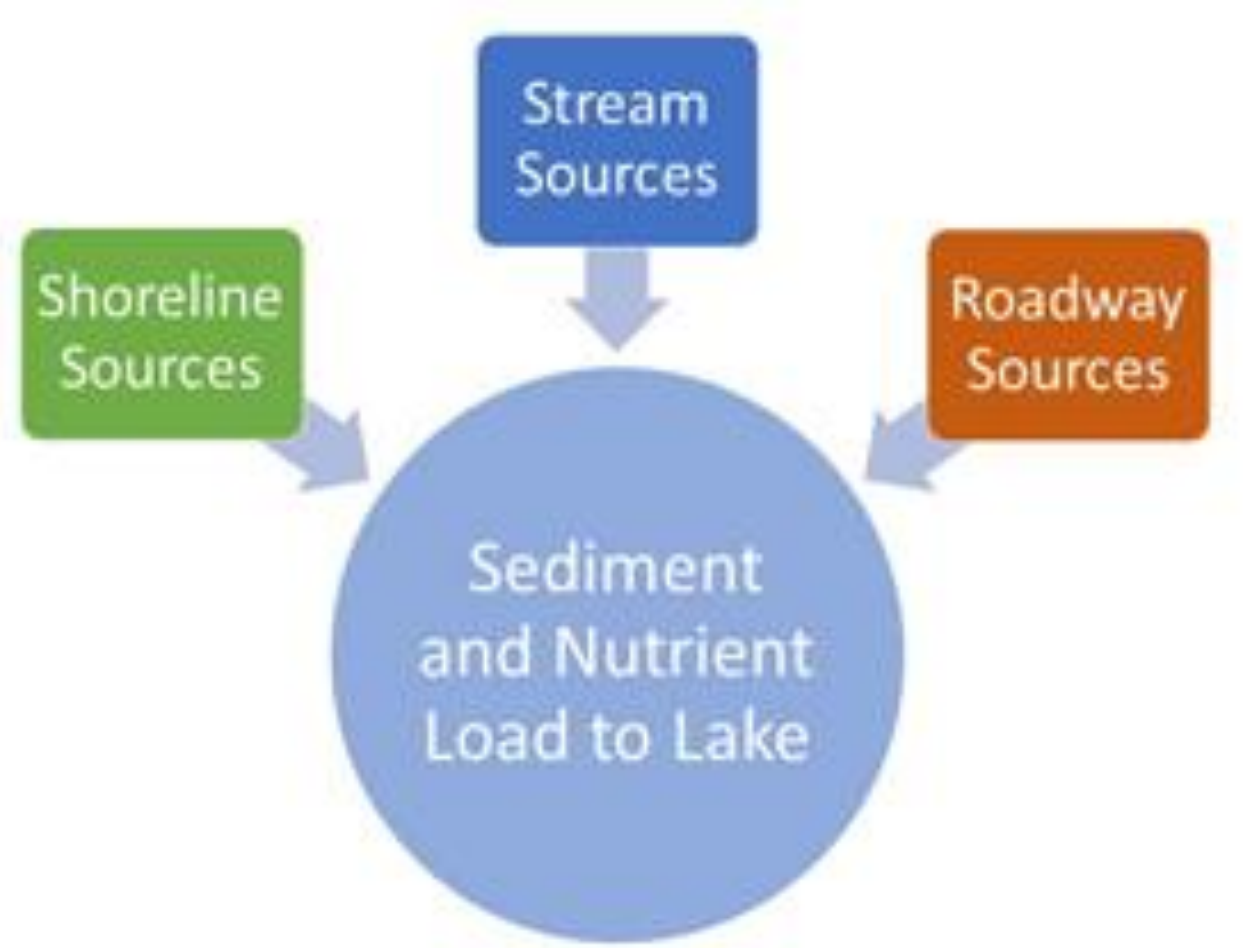
Why are we doing this?

- We know Vermont's lake shores are highly developed
- We know Vermont lake shores have poor development
  - Vermont lakes have been measured to be below the national average for the health of our shoreland by the EPA
- We know that development correlates strongly with pollution
- We know when a lake's natural vegetation is removed for development that wildlife habitat degrades, shores erode, and nutrient loading into lakes increases

A Whole Watershed Approach

- Looking at not just the water quality or just the shoreline but at the whole watershed
- This a holistic approach to water quality management
- And allows us to look for sources of nutrients beyond the lake itself

A Watershed is…
All the land area that drains to a common body of water, like streams and runoff from all the land uses in the area draining to Coles Pond, pictured below, in Jamaica, VT.



Three Key Areas of Assessment

- **Shoreland**
  - Areas of erosion usually due to shoreland development practices that are close to the lake edge and remove vegetation
- **Roads**
  - Stormwater runoff from roadways can add pollution and sediment into the lake
  - Many roads were built right along lake shores and can be prone to undercutting and erosion
- **Streams**
  - Erosion further inland from the lake due to forestry or agricultural practices can cause sediments to enter the streams and flow into the lake

Outcomes

- Prioritized list of projects that would address inputs of nutrients
- Projects are prioritized using a custom prioritization matrix
- A handful are selected to move to 30% design by the stakeholders

Where have LWAPs been completed?

- Lake Eden (2019)
- Lake Elmore (2020)
- Lake Dunmore (2021)
- Maidstone Lake (2023)
- Lake Fairlee (2023)

Where are LWAPs Happening Now?

<u>Will Be Complete 2023</u>

- Caspian Lake

<u>Will Be Complete 2024</u>

- Lake Willoughby
- Shadow Lake (Glover)
- Lake Morey
- Woodford Pond
- Halls Lake
- Echo/Seymour
- Lake Iroquois
- Lake St. Catherine
- Fairfield Pond
- Keeler Bay

- Lake Bomoseen

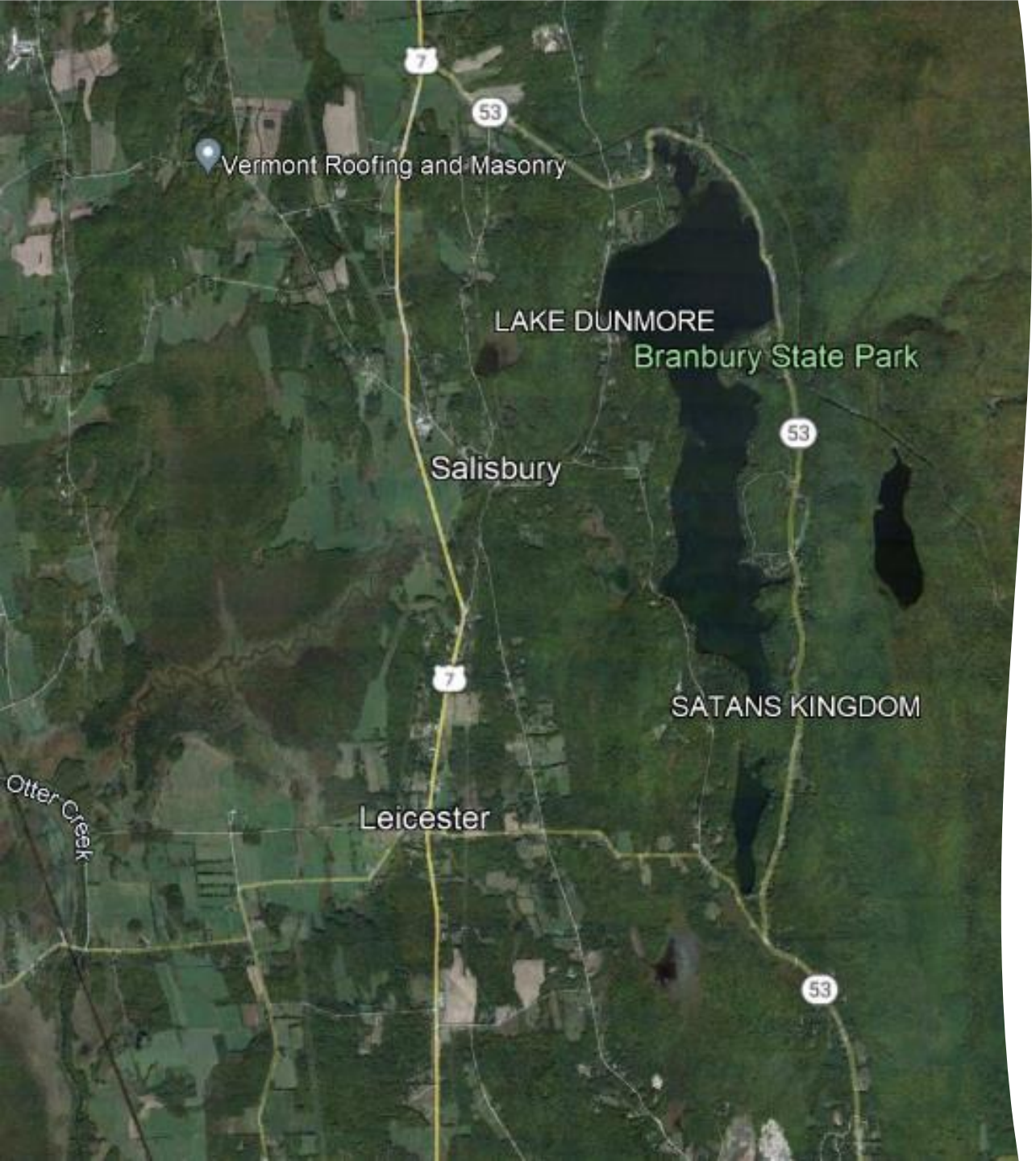
Who Funds All This?

Four Sources of Funding have been used

- DEC Enhancement Money
  - Eden, Elmore, Maidstone, Fairlee, Willoughby, Morey, Shadow, Halls, Woodford, Echo/Seymour
- Lake Champlain Basin Fund
  - Fairfield Pond, Keeler Bay, Caspian, Iroquois, St. Catherine
- Self Funded
  - Lake Dunmore
- Clean Water Service Provider
  - Lake Bomoseen

How Are Locations Determined

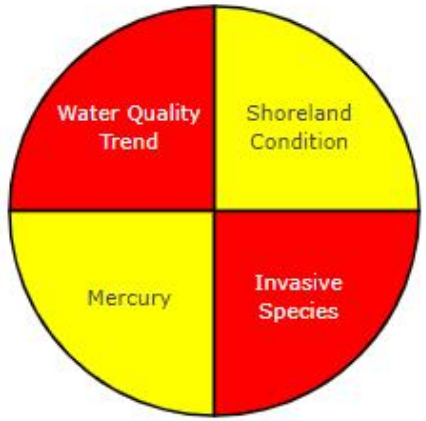
- Significantly increasing phosphorus trend
- Disturbed watershed (we look at lake shore, hydrologically connected roads, and streams in our assessment)
- Active and engaged lake association or other user group
- All three funding sources that aren't self funded have geographical restrictions
  - LCBP only in LCB
  - DEC outside of Champlain and Memph
  - CWSP only in their region



Lake Dunmore & Fern Lake – Addison County

- Self-funded by the Lake Dunmore and Fern Lake Association
- Performed by Fitzgerald Environmental 2019-2021
- Resulted in seven 30% designs
- Two projects are completed and several more are in the process of being implemented using various sources of clean water funding

Scores | Water Quality Data | Lake Information



Watershed:	Minimally Disturbed
WQ Standards:	Impaired

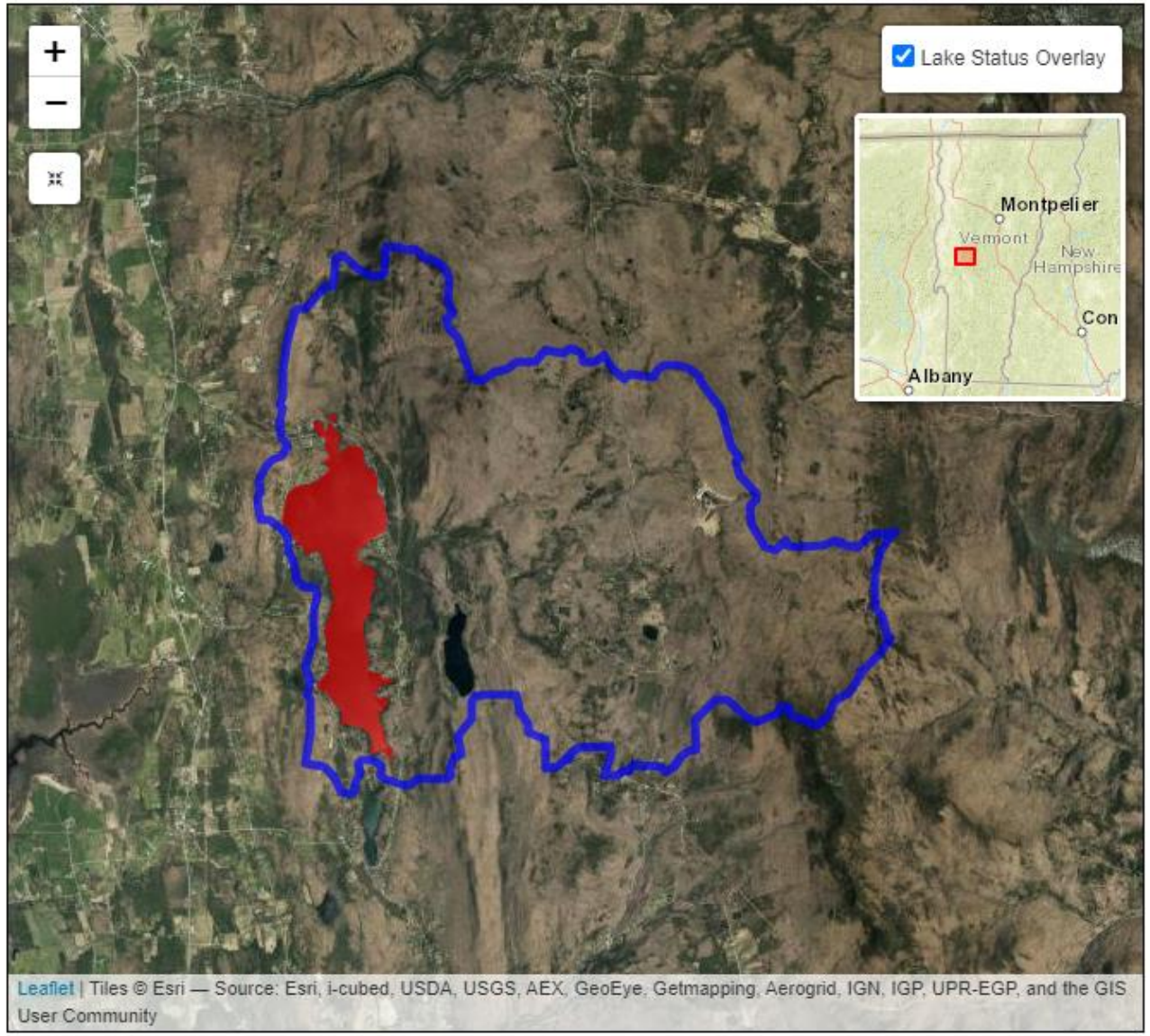
WQ Standards Details

Altered – Flow alteration

Color Scoring System

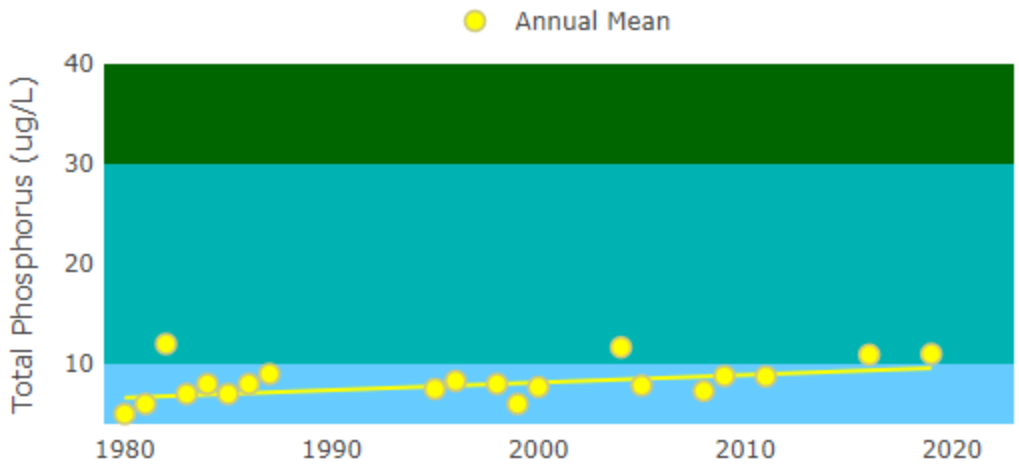
- Good Conditions
- Fair Conditions
- Poor Conditions
- Insufficient Data

Learn How Lakes Are Scored



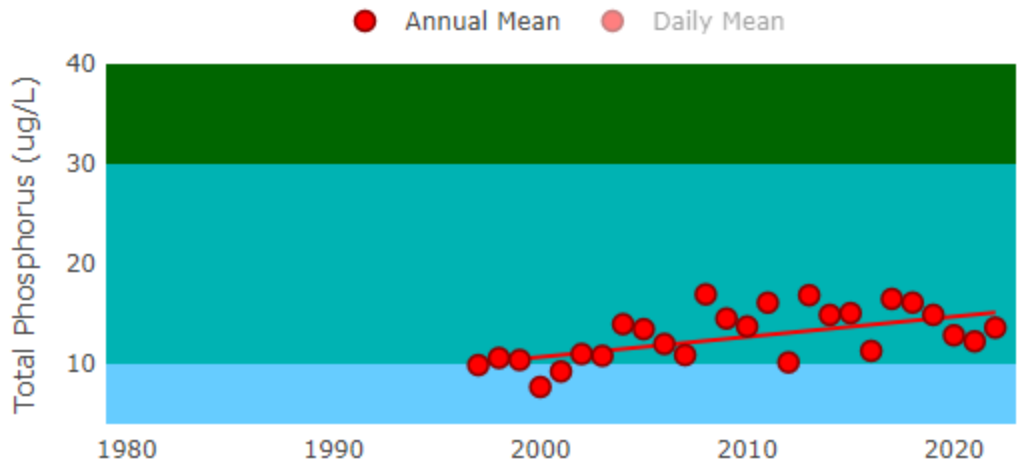
Spring Phosphorus

Trend: Significantly Increasing (p-value = 0.0292)



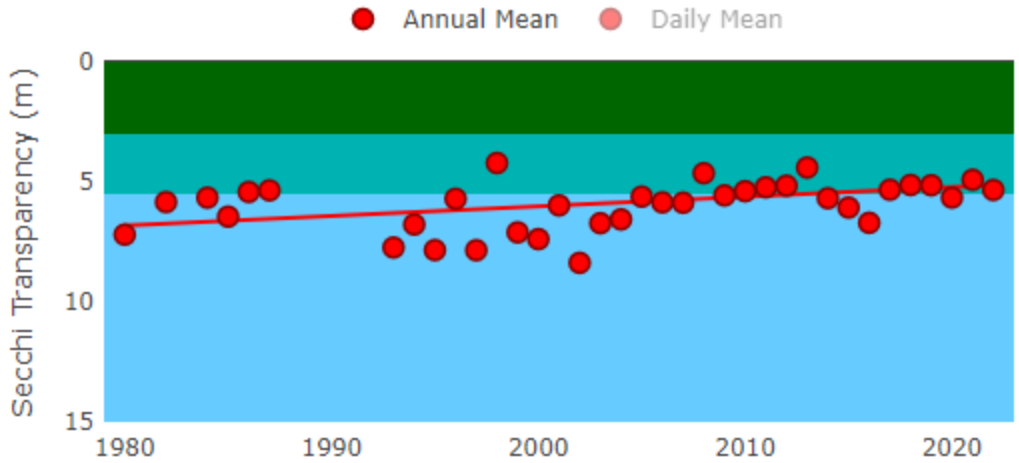
Summer Phosphorus

Trend: Highly Significantly Increasing (p-value = 0.0034)



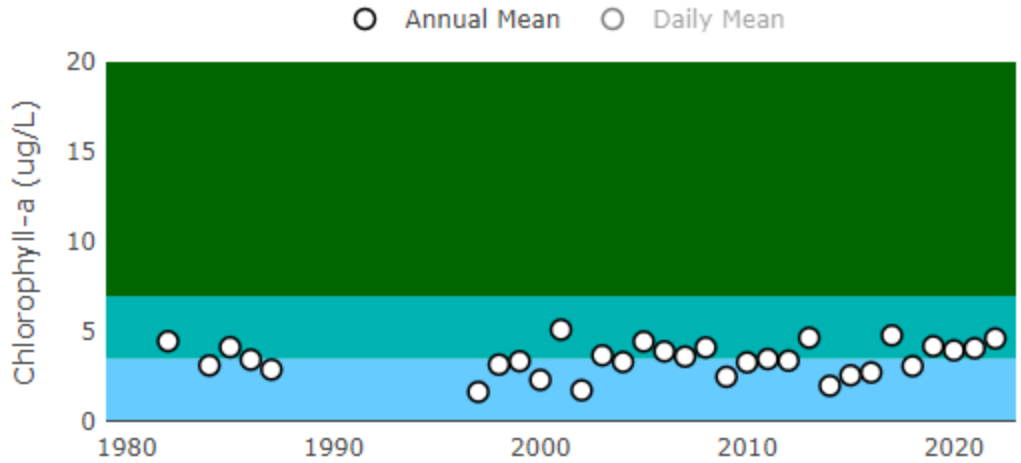
Summer Secchi

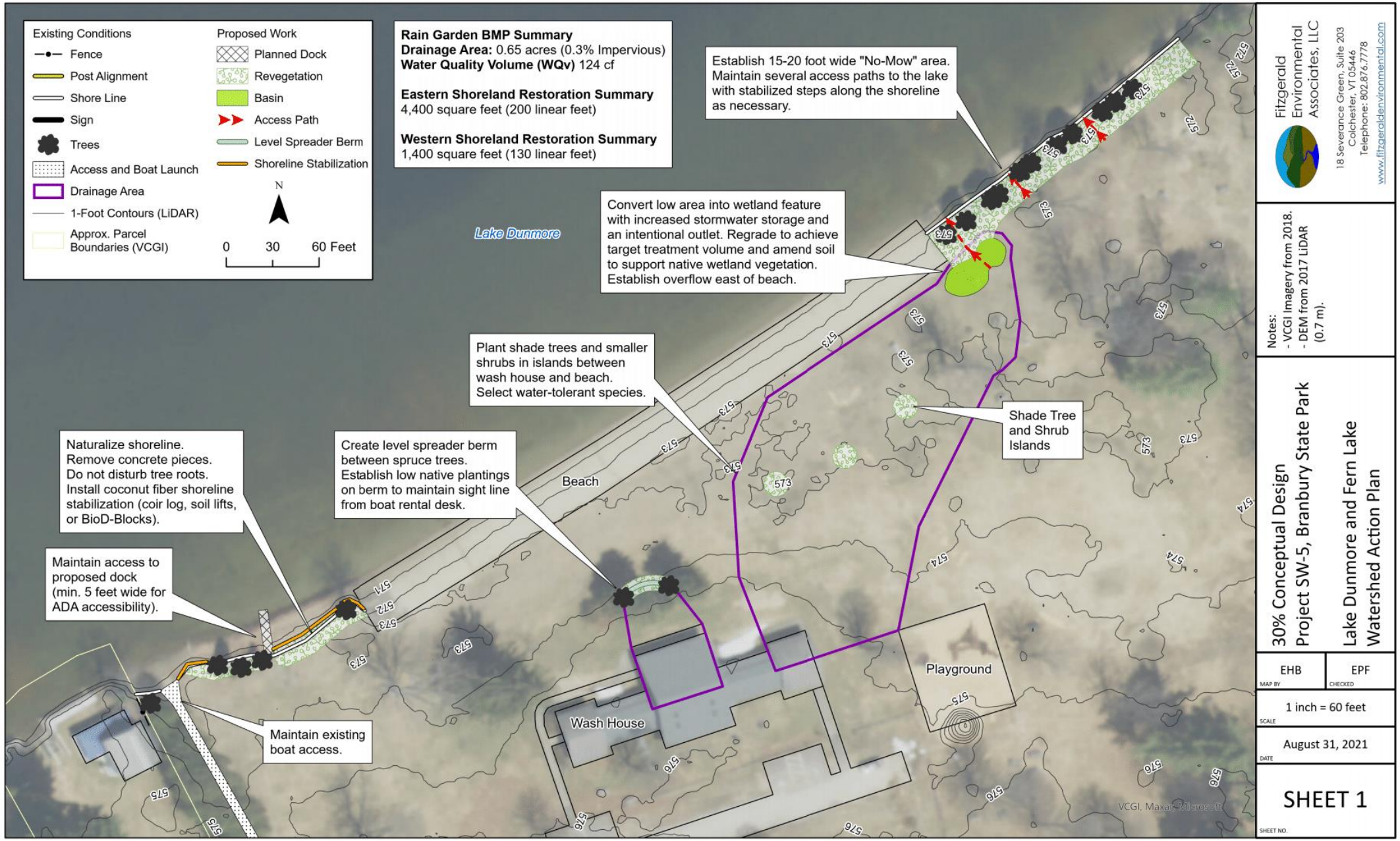
Trend: Highly Significantly Decreasing (p-value = 0.0047)



Summer Chlorophyll-a

Trend: Stable (p-value = 0.1923)





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18 Severance Green, Suite 203
Colchester, VT 05446
Telephone: 802.876.7778
www.fitzgeraldenvironmental.com

Notes:
- VCGI Imagery from 2018.
- DEM from 2017 LiDAR (0.7 m).

30% Conceptual Design
Project SW-5, Branbury State Park
Lake Dunmore and Fern Lake Watershed Action Plan

MAP BY	CHECKED
EHB	EPF

SCALE: 1 inch = 60 feet

DATE: August 31, 2021

SHEET NO.: SHEET 1

Detail A: Shoreline Stabilization
Not to Scale

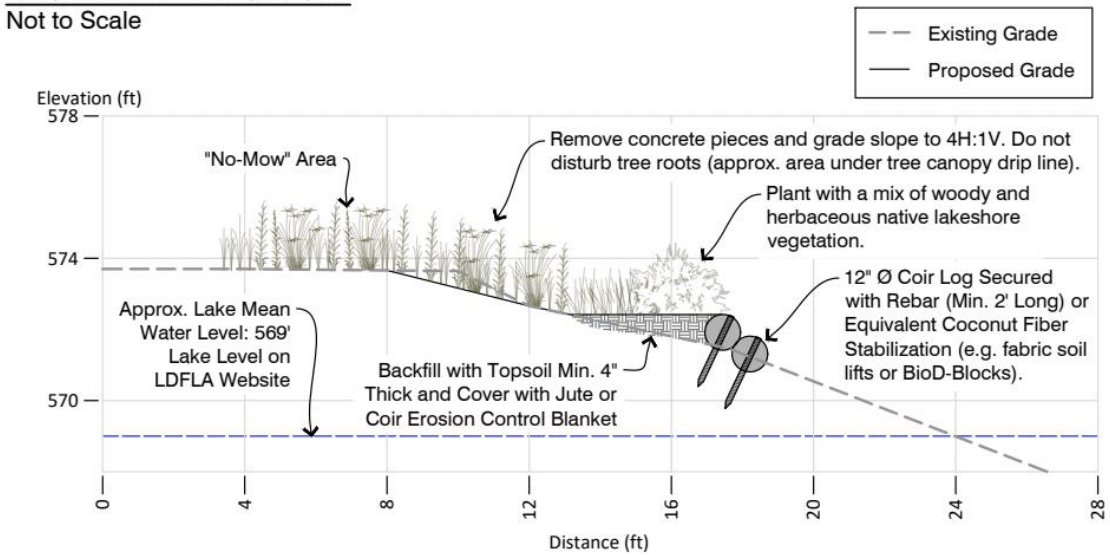


Photo 1: Proposed Shoreland Restoration West

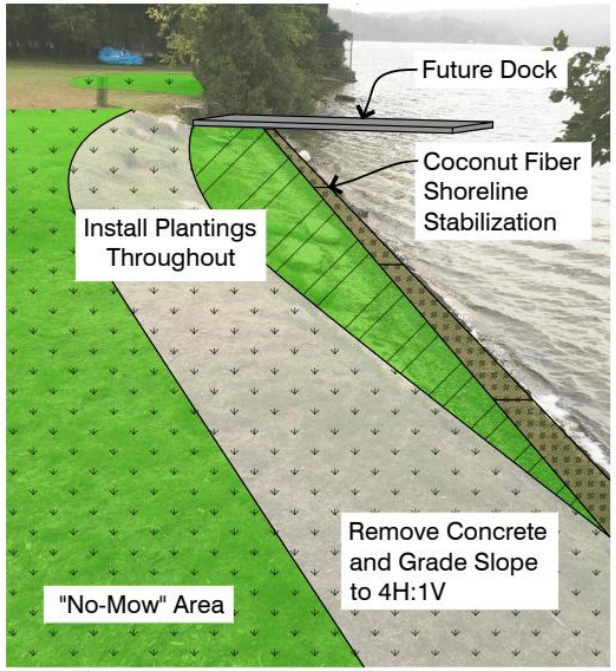
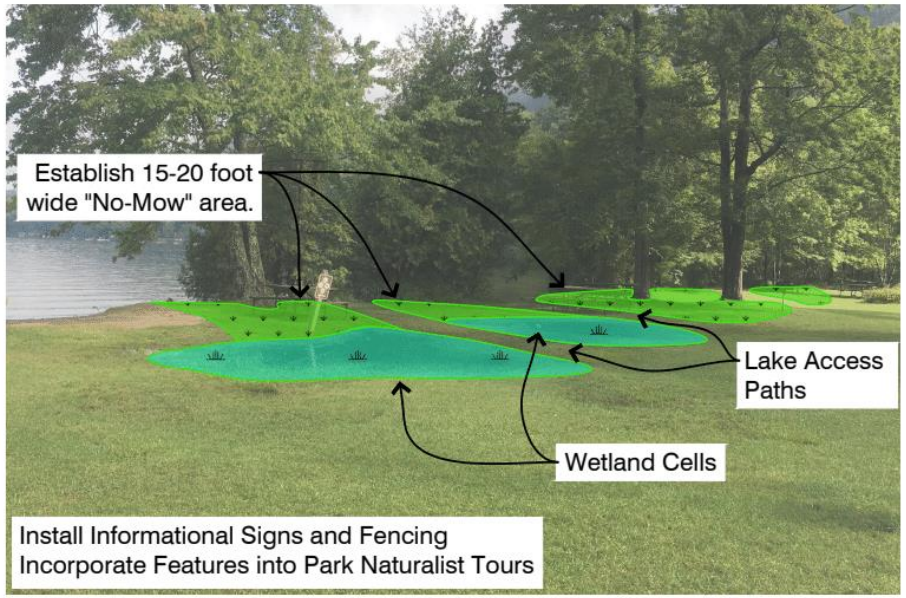


Photo 2: Proposed Shoreland Restoration East



Preliminary Cost Opinion

Item	Quantity	Unit	Unit Price	Cost
Mobilization/Demobilization	1	LS	$ 1,000	$ 1,000
Coir Log	100	LF	$ 13	$ 1,300
Rebar	1	LS	$ 250	$ 250
Topsoil	5	CY	$ 60	$ 300
Plantings	1	LS	$ 5,000	$ 5,000
Slope Grading and Concrete Removal	1	LS	$ 3,000	$ 3,000
Construct Level Spreader Berm	1	LS	$ 2,000	$ 2,000
Constructed Wetland Filter & Stabilized Outlet	1	LS	$ 3,000	$ 3,000
Laborer	48	HR	$ 40	$ 1,920
Demarcation of No-Mow Area (Plants/Fencing)	1	LS	$ 1,500	$ 1,500
Education and Outreach Materials				$ 1,000
Final Design & Permitting				$ 5,500
Construction Oversight				$ 2,500
			Subtotal	$ 28,270
			Contingency (20%)	$ 5,650
			Total	**$ 33,920**

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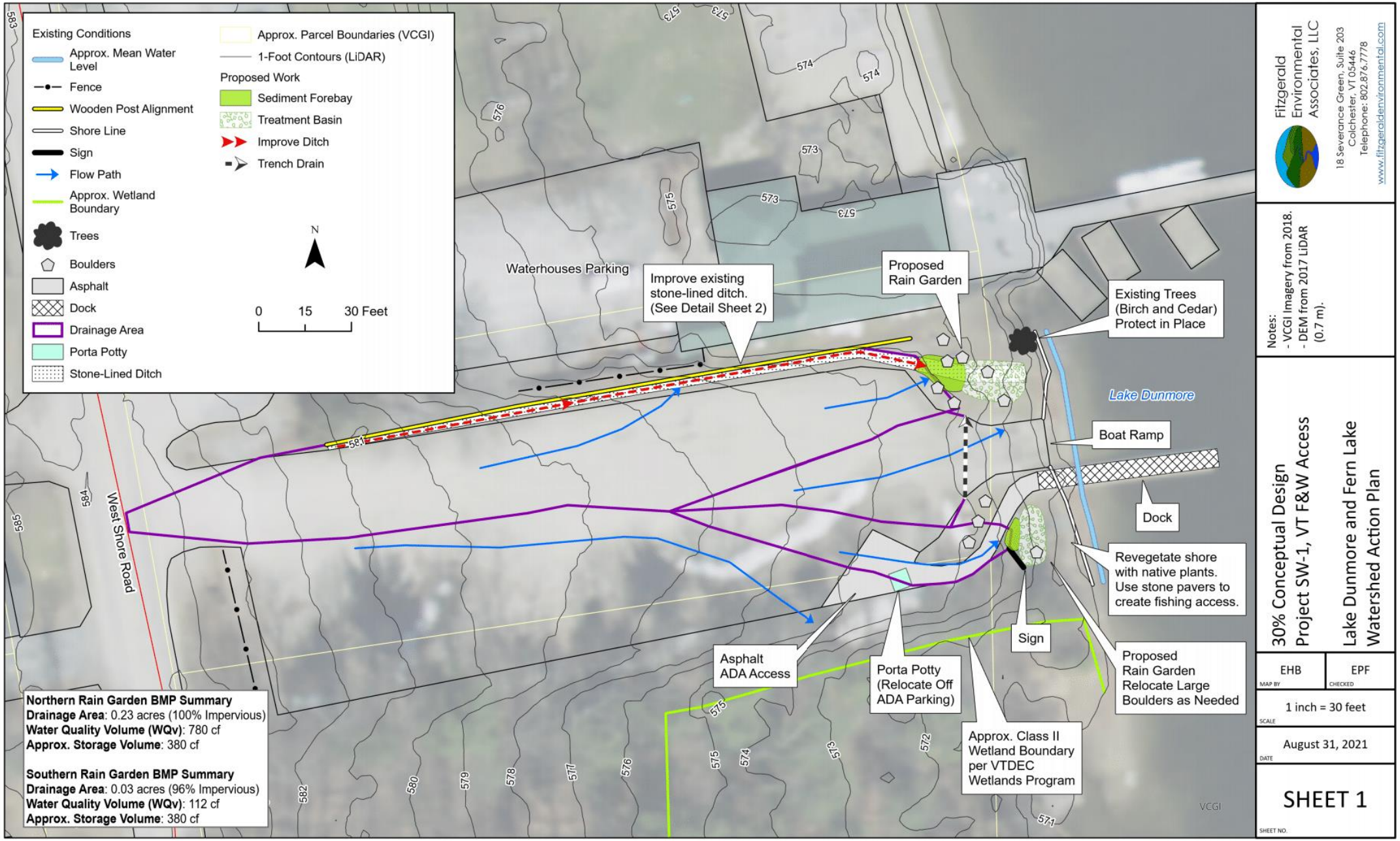
Lake Dunmore and Fern Lake Watershed Action Plan

DRAWN	CHECKED
EHB	EPF

SCALE: As Shown

DATE: August 31, 2021

SHEET NO.: SHEET 2



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30% Conceptual Design
Project SW-1, VT F&W Access
Lake Dunmore and Fern Lake Watershed Action Plan

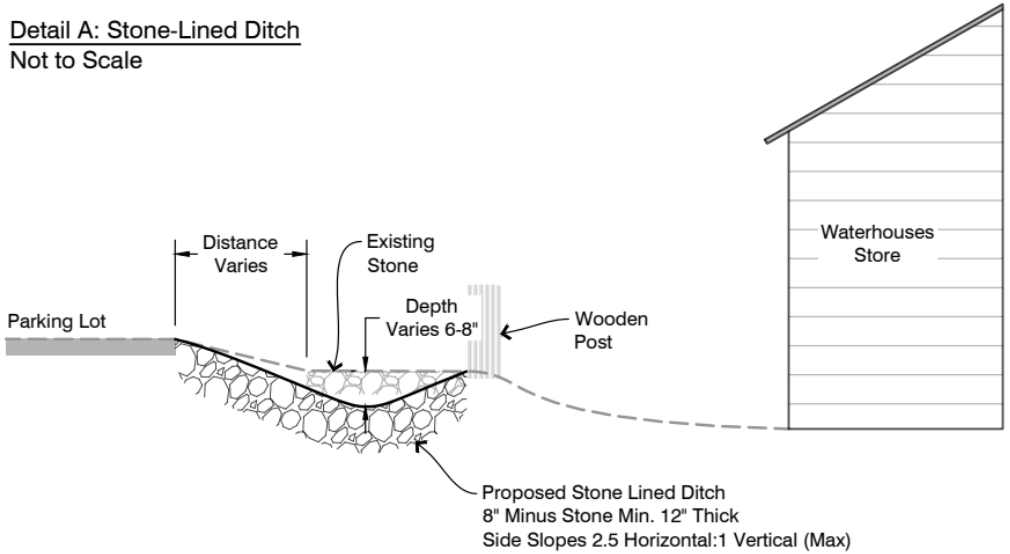
MAP BY	CHECKED
EHB	EPF

SCALE: 1 inch = 30 feet

DATE: August 31, 2021

SHEET NO.: SHEET 1

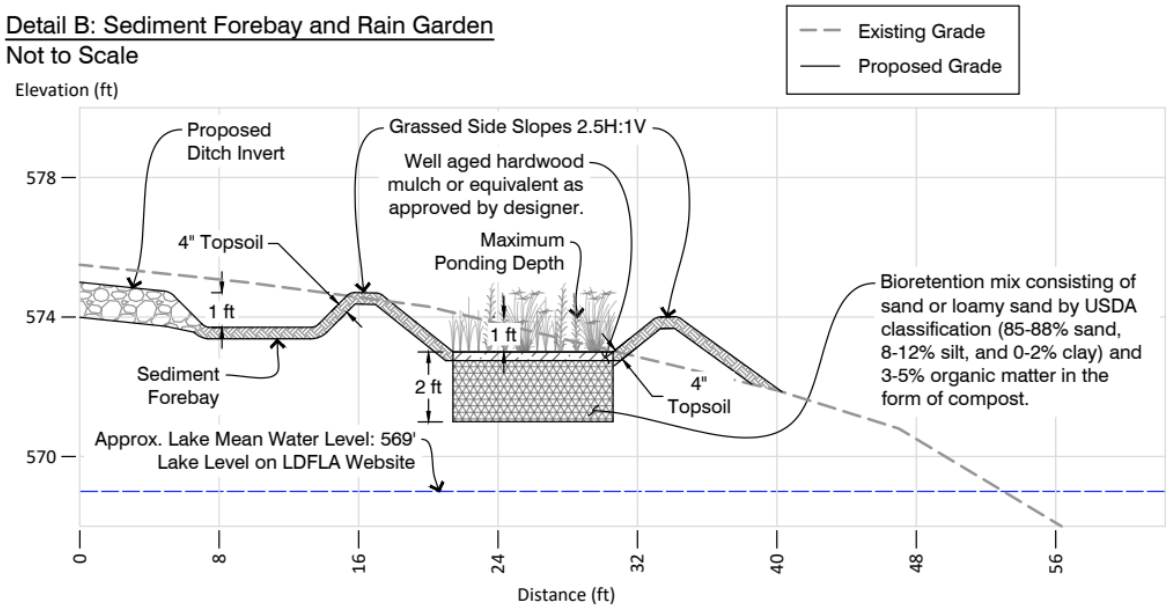
Detail A: Stone-Lined Ditch
Not to Scale



Preliminary Cost Opinion

Item	Quantity	Unit	Unit Price	Cost
Mobilization/Demobilization	1	LS	$ 750	$ 750
Stone Lined Ditch	195	LF	$ 25	$ 4,875
Trench Drain	1	LS	$ 4,000	$ 4,000
Common Excavation and Soil Amendment	45	CY	$ 30	$ 1,350
Trucking	30	CY	$ 20	$ 600
Topsoil/Compost	10	CY	$ 60	$ 600
Mulch	2	CY	$ 60	$ 120
Plantings	25	EA	$ 15	$ 375
Laborer	24	HR	$ 40	$ 960
Misc. Erosion Control/Restoration	1	LS	$ 1,500	$ 1,500
Final Design & Permitting				$ 5,500
Construction Oversight				$ 2,500
			Subtotal	$ 23,130
			Contingency (20%)	$ 4,630
			Total	**$ 27,760**

Detail B: Sediment Forebay and Rain Garden
Not to Scale



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30% Conceptual Design
Project SW-1, VF F&W Access
Lake Dunmore and Fern Lake
Watershed Action Plan

EHB	EPF
DRAWN	CHECKED

As Shown (SCALE)

August 31, 2021 (DATE)

SHEET 2 (SHEET NO.)

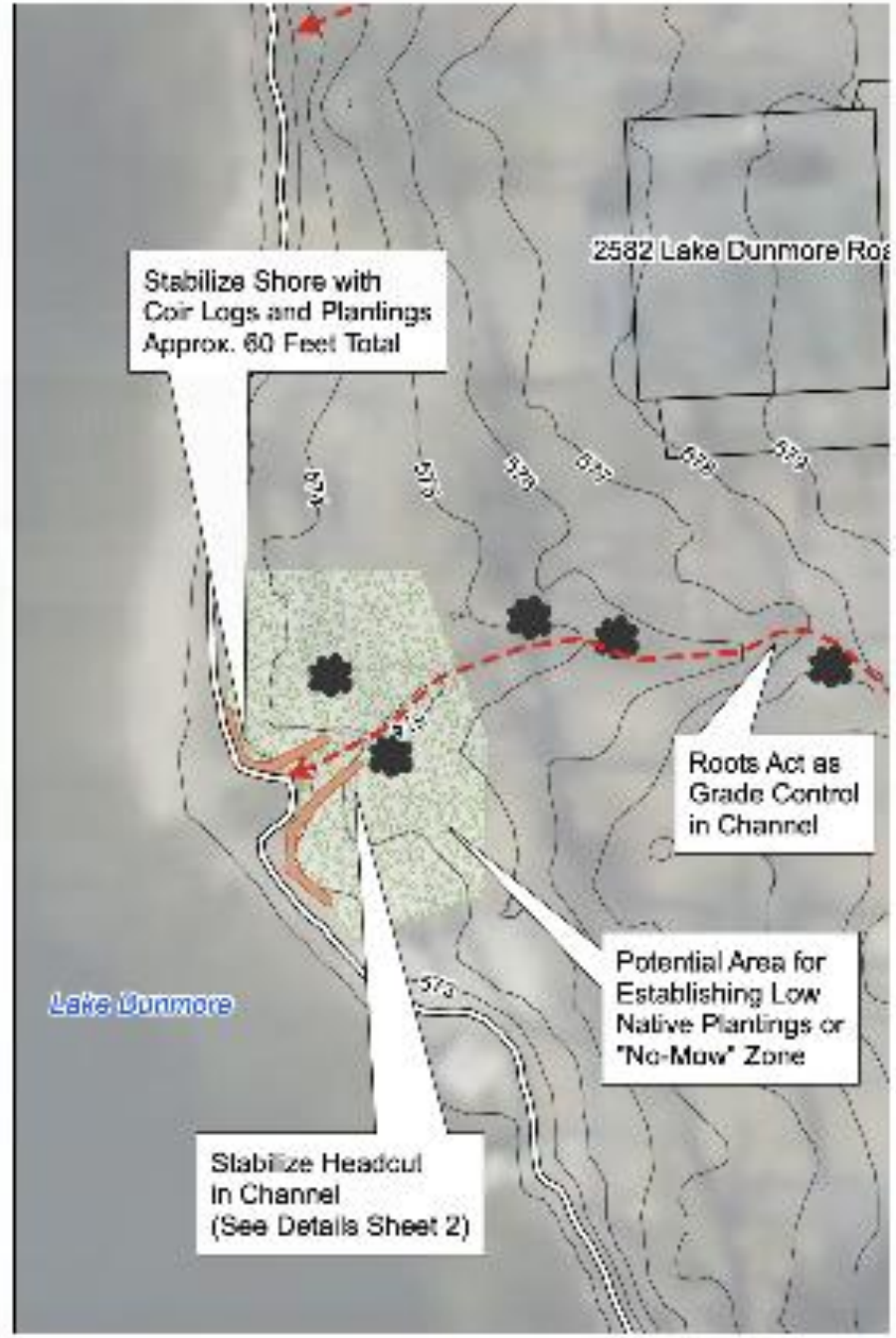
Concrete and steel trench drain

Keewaydin Boy's Camp Implemented TC-6

- Trespassers were using private land to access the lake, aggravating a storm water erosion problem.
- The landowner voluntarily fenced off the shoreline and filled the eroded section with stone.

Private Stream Buffer Project (TC-8)

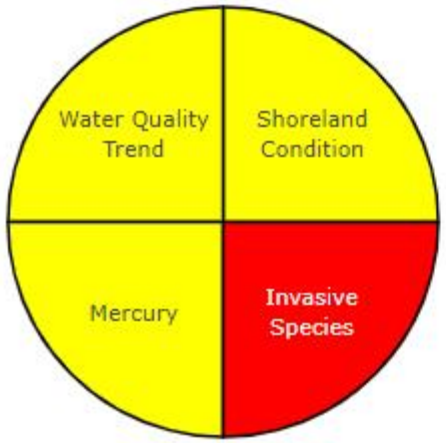
- To prevent erosion where perennial stream enters Lake Dunmore.
- Consultant has been hired to complete design and obtain permits.
- Expect implementation next summer



Lake Eden – Lamoille County

- In 2018 LCCD received grant funding from the VTANR Clean Water Fund Ecosystem Recreation Grant
- First LWAP funded in Vermont
- LWAP Initiated in Spring 2018 and completed in December 2019
- Completed by Fitzgerald Environmental and Lamoille NRCD
- Resulted in 5 30% designs
- Three of those have been implemented so far
- Several other small projects were identified via Lake Wise as part of the LWAP and implemented by the Lamoille NRCD utilizing clean water funds (VYCC work crew grant)

Scores | Water Quality Data | Lake Information



Watershed:	Moderately Disturbed
WQ Standards:	Stressed

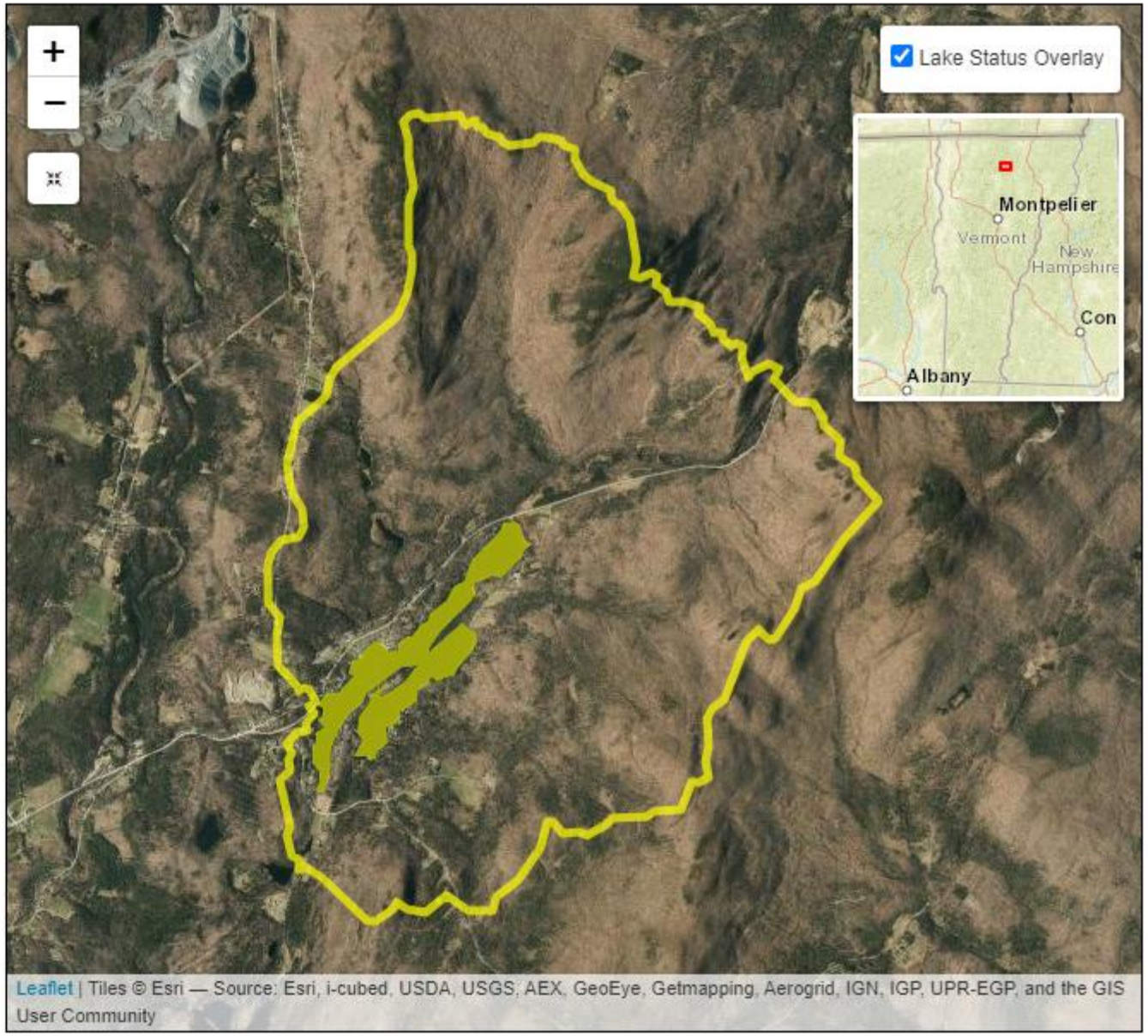
WQ Standards Details

- Stressed – Nutrients
- Stressed – Organic Enrichment - DO
- Stressed – Phosphorus

Color Scoring System

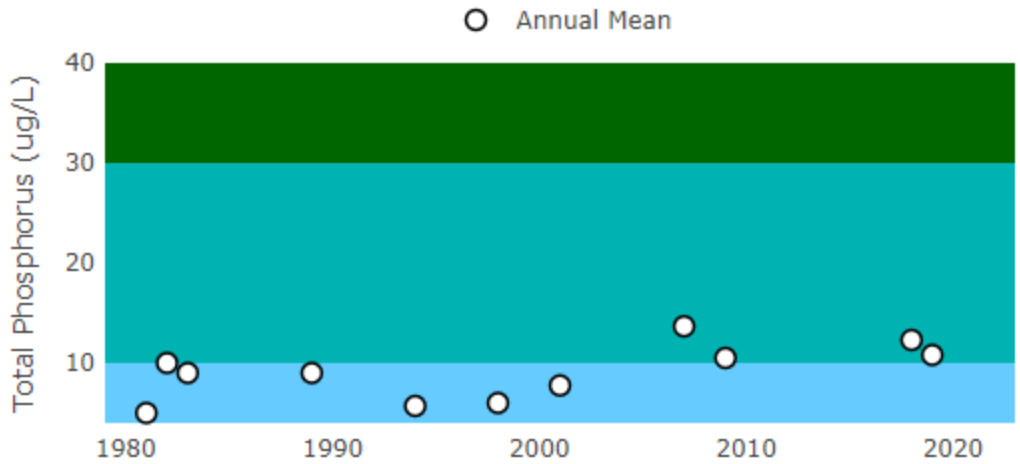
- Good Conditions
- Fair Conditions
- Poor Conditions
- Insufficient Data

[Learn How Lakes Are Scored]



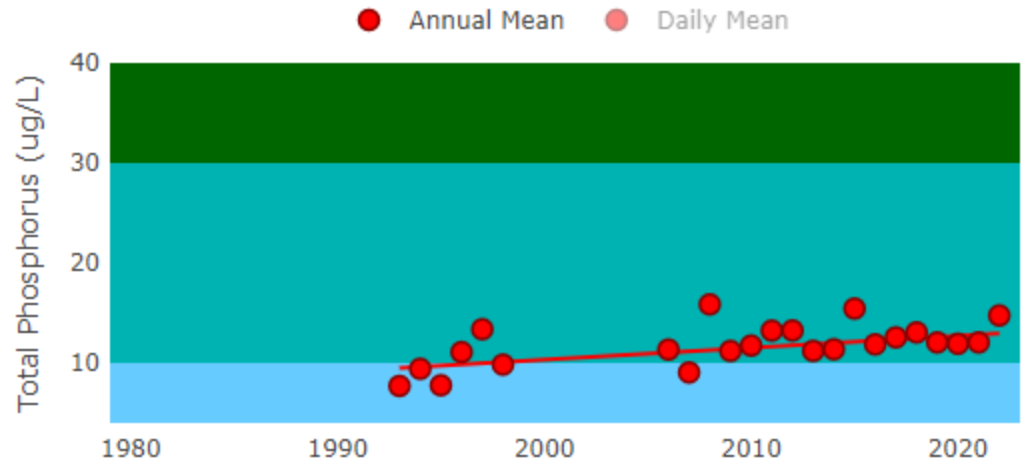
Spring Phosphorus

Trend: Stable (p-value = 0.0609)



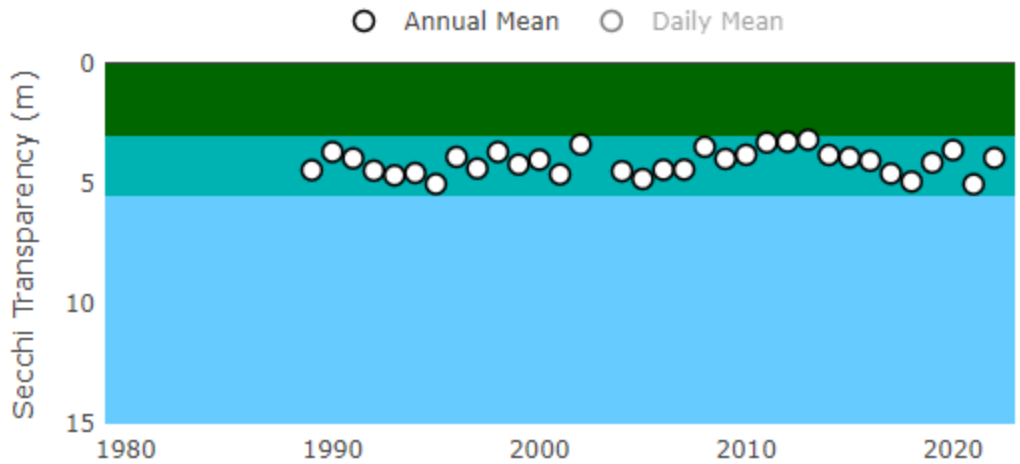
Summer Phosphorus

Trend: Highly Significantly Increasing (p-value = 0.0052)



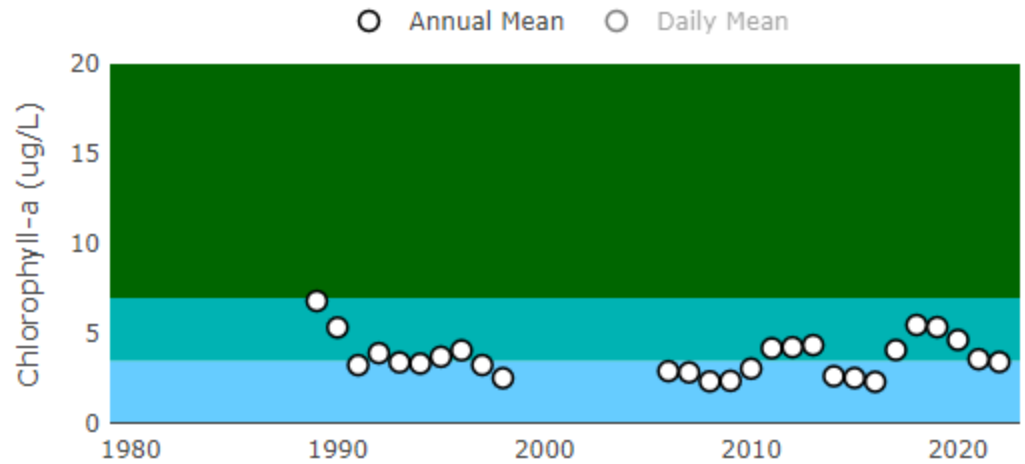
Summer Secchi

Trend: Stable (p-value = 0.2462)



Summer Chlorophyll-a

Trend: Stable (p-value = 0.9604)



- Vermont Fish and Wildlife Boat Launch
- Concentrated runoff from route 100 causing erosion in the parking area and driveway
- Sediment load was exacerbated by plowing
- Open top culvert and some rock installed in 2019 helped but not enough
- Suggested a sediment trap above the culvert inlet
- No mow area on the grass slope

Project: SW-4	Problem Area Summary
Lake Segment	Lamoille River
Location	VT F&W Boat Launch
Land Ownership	State of Vermont
BMP Type	Surface Infiltration
Drainage Area/Impervious	0.4 / 0.3 acres
% Impervious	75
Estimated Project Cost	$ 5,000
P Efficiency ($/lb removed)	$ 8,675
Project Priority	High

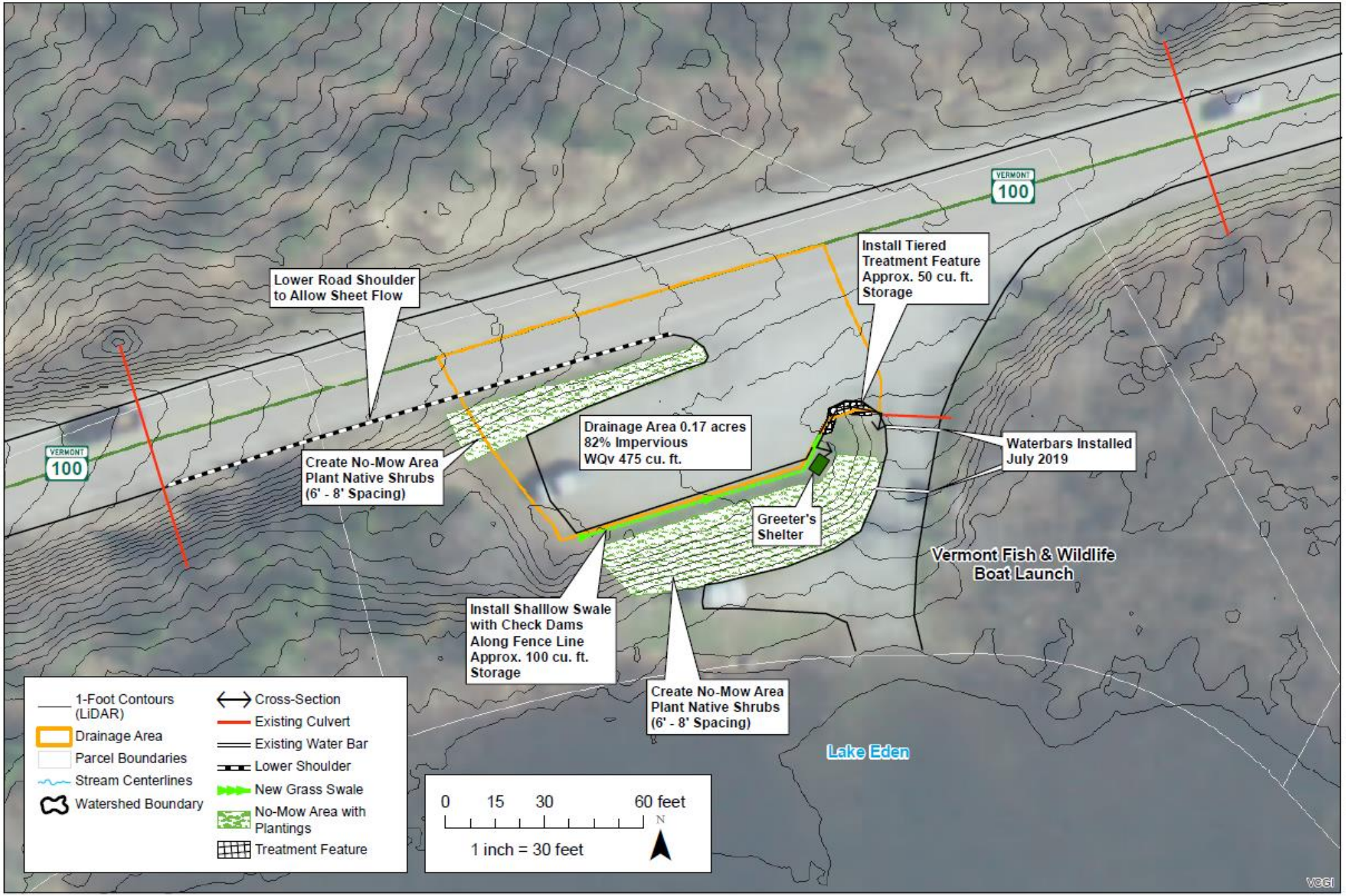
Site Description: Concentrated runoff off Route 100 is causing rill erosion near the cross-culvert inlet conveying water to the adjacent wetland, and directly to the lake. The recent addition of water bars has helped intercept flow from Route 100, but opportunities remain to improve infiltration and sediment retention on-site. The sediment load at the site may be exacerbated by accumulation of gravel in the winter from plowing. See concept design in Appendix E for updated scope and cost opinion.

Photo 1: Cross-culvert inlet in June 2019.

Photo 2: Cross-culvert inlet in August 2019.

BMP Description: Improve the Route 100 eastern road shoulder to remove a small berm and allow sheet flow over the vegetated slope. This will reduce the volume of runoff reaching the fishing access property. Consider installing a small sediment trap above the culvert inlet, treating runoff from the upper tier of parking lot. Implement "no mow" areas on the grass slope and install native plantings in this area.

BMP Volume (cf)	P Load (lbs)	P Reduction (lbs)	Sed Reduction	%WQv/CPv	Gully/Erosion	Maintenance
50	1.19*	0.58	Mod	Low	Small Gully	Mod



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Notes
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- Contours generated from 2017 0.7-meter LiDAR digital elevation model.
- Parcels from the Vermont Center for Geographic Information (VCGI)

Lake Eden
Watershed Action Plan
30% Conceptual Design
VT F&W Boat Launch
Eden, VT

EHB	EPF
Map By	Checked By

1" = 30'
Scale

December 18, 2019
Date

SW-14
SHEET 1
SHEET NO.

- Eden Recreation Area owned by the town
- Two areas for improvement
  - Stream running through the park needs a buffer
  - Lakeshore lacks buffer
- Plant buffer along east side of stream, create infiltration steps for access
- Grass lined swales or infiltration basins

Project: SW-8	Problem Area Summary
Lake Segment	Lamoille River
Location	Eden Recreation Area
Land Ownership	Town of Eden
BMP Type	Surface Infiltration
Drainage Area/Impervious	0.4 / 0.15 acres
% Impervious	38
Estimated Project Cost	$ 10,700
P Efficiency ($/lb removed)	$ 22,061
Project Priority	Moderate

Site Description: The stream passing through the park is straightened and lined with rip-rap for approximately 400 feet, with no buffer on the west side adjacent to the gravel picnic area access. The lakeshore is also lacking a native buffer, with mowed lawn extending from the east side of the swimming area to the tributary outlet. Gravel roads and parking areas could be mitigated with enhanced infiltration on the property. See concept design in Appendix E for updated scope and cost opinion.

Photo 1: Tributary is straightened, armored, and lacks an adequate buffer.

Photo 2: Mowed lawn along the lakeshore with potential space for an infiltration feature.

BMP Description: Plant a buffer along the east side of the stream. Install infiltration steps to provide an access to the stream. Consider moving the picnic area road to the west side of the pavilions. The tributary channel could be naturalized with a flood bench, natural substrate, and wood habitat features. Implement "no mow" areas along the hill on the east side of the property, around trees, and near lakeshore if possible. Install grass-lined swales or infiltration basins to enhance infiltration on the property.

BMP Volume (cf)	P Load (lbs)	P Reduction (lbs)	Sed Reduction	%WQv/CPv	Gully/Erosion	Maintenance
600	0.51*	0.49	Low	High	None	Mod

Parking lot runoff is eroding a path under the boat rack adjacent to the lake. Proposed location of bioretention basin.

res
group A
npervious
8 cu. ft.

Detail A

Install 8" Deep Grass-Lined Pretreatment Swale with 6" Tall Stone Check Dams Spaced Every 20 Feet (Approx. 160 cu. ft. Pretreatment)

Grass Swale Outlet Feature

Bioretention Basin (Approx. 520 cu. ft. Treatment)

Town Beach

VCGI

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Lake Eden
Watershed Action Plan
30% Conceptual Design
Eden Recreation Area
Eden, VT

EHB	EPF
Map By	Checked By

1" = 60'
Scale

December 18, 2019
Date

SW-8
SHEET 1
SHEET NO.


PARKING

- Private Residence on Griggs Road
- Incised channel coming from road runoff via stone lined ditch and culvert creating a gully
- Gully runs into tributary for the lake
- Need to stabilize the channel laterally and vertically

Project: SW-14	Problem Area Summary
Date Observed:	5/2/2019, 8/27/2019
Location:	Griggs Road Near #187
Latitude: Longitude:	44.71000 N -72.50593 W
Land Ownership:	Town Road & Private Property

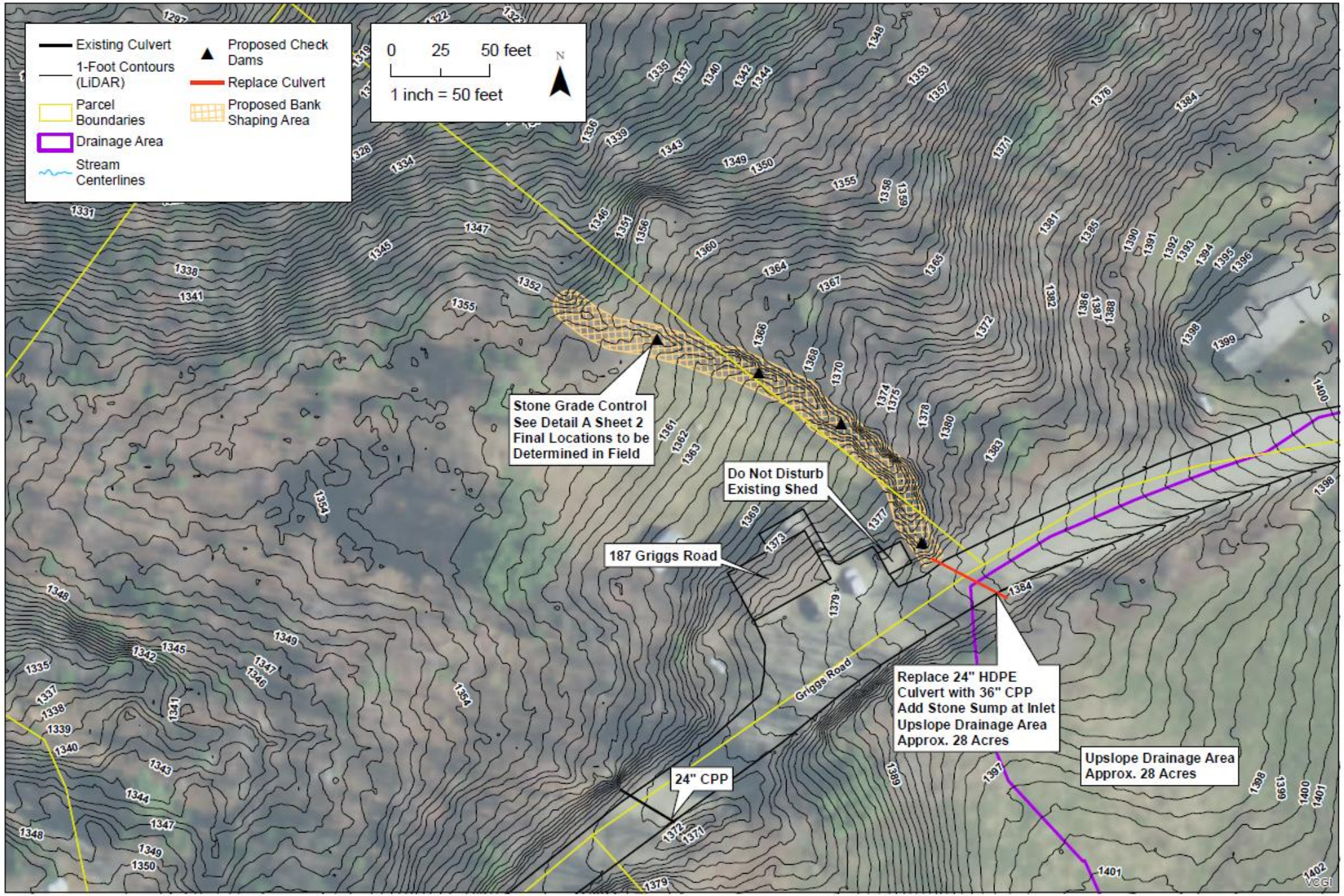
Site Description: This channel takes runoff from the stone-lined ditch on the east side of Griggs Road. Runoff from the roadway comes down the ditch, under the road via culvert, and wraps around the east side of the house. The channel west of Griggs Road is very incised.

Photo 1: Gully on the north side of Griggs Road.

BMP Description: Evaluate options for stabilizing the channel west of Griggs Road that leads to a tributary to the Lake. Work with the owner to understand property constraints for stabilizing the channel laterally and vertically.

WQ Benefits	Landowner Support and O&M	Cost and Constructability	Additional Benefits	Total Score (Priority)
9	2	3	2	**16 (High)**

Additional Project Benefits Description: Given the long stretch of ditch and moderately steep road this area appears to have chronic maintenance problems. Stabilizing the channel behind the house may reduce conflicts with private property.



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Lake Eden
Watershed Action Plan
30% Conceptual Design
Griggs Road
Eden, VT

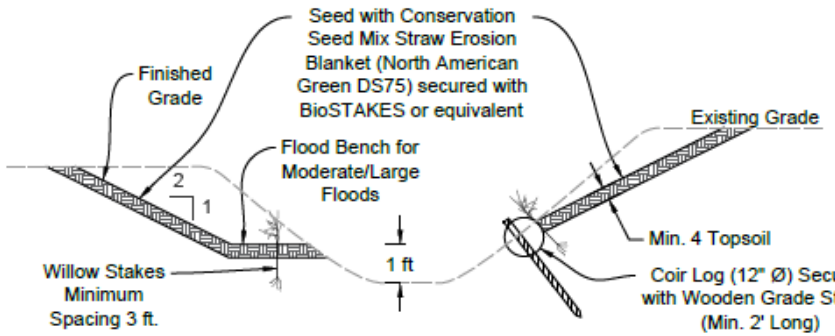
EHB	EPF
Map By	Checked By

1" = 50'
Scale

December 18, 2019
Date

SW-14
SHEET 1
SHEET NO.

Detail A: Bank Shaping Detail
1" = 4'

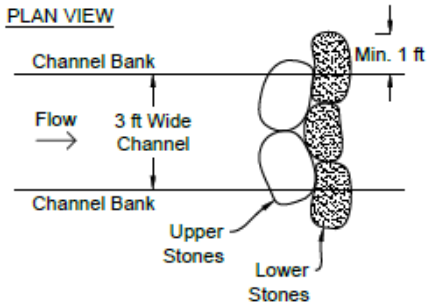


Excavate approximately 4" below finished grade and add stockpiled topsoil from slope cut. All excess cut material to be disposed of in upland areas (not wetlands).

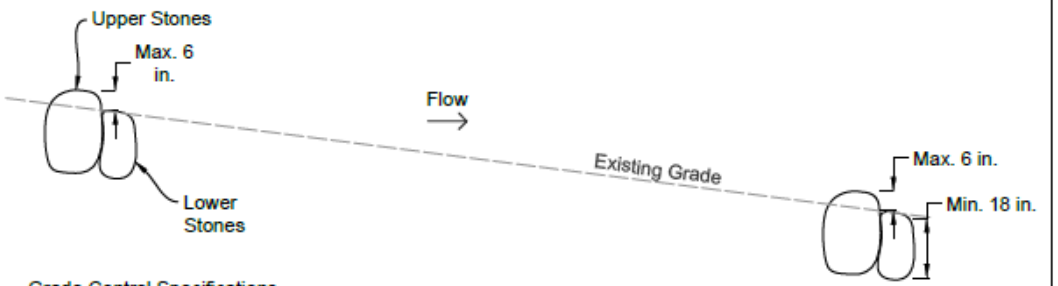
Preliminary Cost Opinion

Description	Quantity	Unit	Unit Price	Cost
Mobilization/Demobilization	1	LS	$ 1,000	$ 1,000
Common Excavation and Trucking	115	CY	$ 50	$ 5,750
Grade Control Installation	4	EA	$ 500	$ 2,000
Topsoil (4" on cut slopes)	40	CY	$ 50	$ 2,000
Erosion Control Fabric (DS75) for Side Slopes	350	SY	$ 1	$ 350
Box of Biostakes (1,000 each)	1	BOX	$ 250	$ 250
Conservation Seed for Side Slopes (1lbs/200sqft)	20	LBS	$ 3	$ 50
Native Wetland Seed for Bench (1lb/1250sqft)	1	LBS	$ 50	$ 50
Misc Erosion Control/Site Restoration	1	LS	$ 1,500	$ 1,500
Willow Stakes	1	LS	$ 500	$ 500
Coir Log (12" diameter)	250	LF	$ 13	$ 3,250
Hardwood Stakes	1	LS	$ 250	$ 250
Laborer	24	HR	$ 40	$ 960
36" CPP Culvert and Installation	1	LS	$ 6,000	$ 6,000
Inlet Sump	1	LS	$ 1,500	$ 1,500
Final Design				$ 2,000
Construction Oversight				$ 2,000
			Construction Subtotal:	$ 29,410
			Contingency (20%):	$ 5,880
			Total:	**$ 35,290**

Detail B: Stone Grade Control Typical Details
1" = 4'



PROFILE VIEW



Grade Control Specifications
1. Location of stone grade controls to be determined during field layout with the contractor.
2. Stones shall be 2 ft. diameter or larger.
3. Upper stones shall be elevated no more that 6" above the existing channel bottom.
4. Lower stones shall be tied back into channel banks at least 1 foot on both banks.
5. Ends of upper stones shall be lower in channel center to center the flow of water.

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Telephone: 802.876.7778
www.fitzgeraldenvironmental.com

Notes: Existing profile based on 2014 LiDAR Data (0.7-m DEM).

Lake Eden Watershed Action Plan
30% Conceptual Design
Griggs Road
Eden, Vermont

EHB	EPF
DRAWN	CHECKED

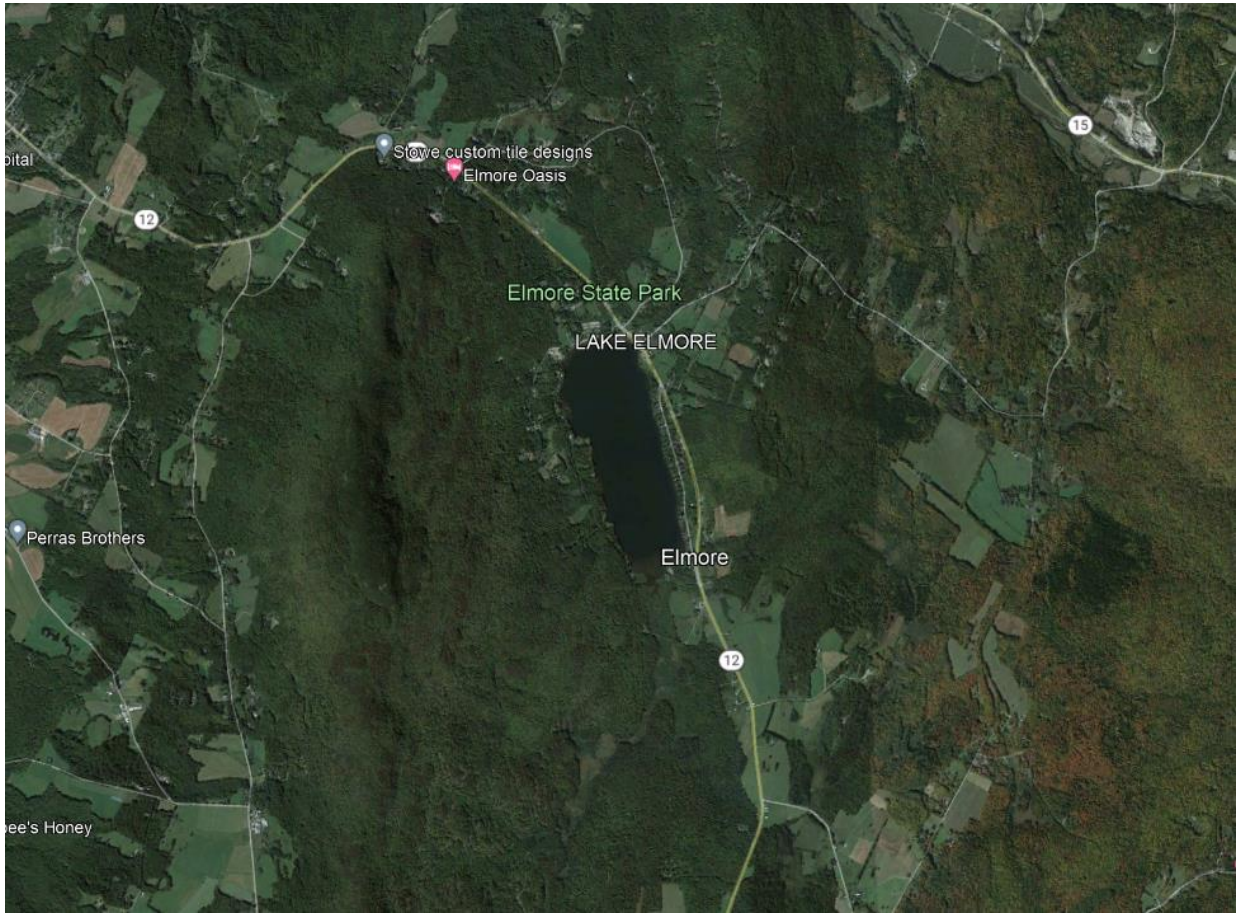
1" = 4'
SCALE

December 18, 2019
DATE

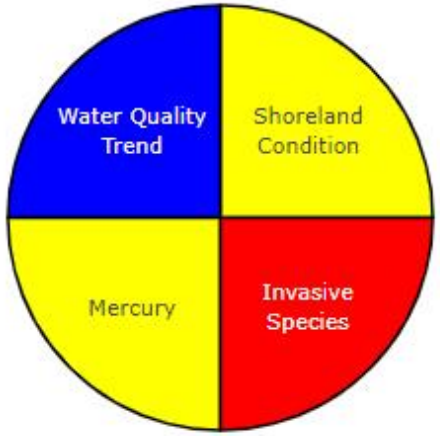
SW-14
SHEET 2
SHEET NO.

Lake Elmore – Lamoille County

- In 2019 LCCD received grant funding from the VTANR Clean Water Fund Ecosystem Recreation Grant
- LWAP Initiated in 2019 and completed in October 2020
- Completed by Fitzgerald Environmental and Lamoille NRCD
- Resulted in 5 30% designs
- One is in the process of being implemented, others are being designed
- Several other small projects were identified via Lake Wise as part of the LWAP and implemented by the Lamoille NRCD utilizing clean water funds (VYCC work crew grant)



Scores | Water Quality Data | Lake Information



Watershed:	Moderately Disturbed
WQ Standards:	Impaired

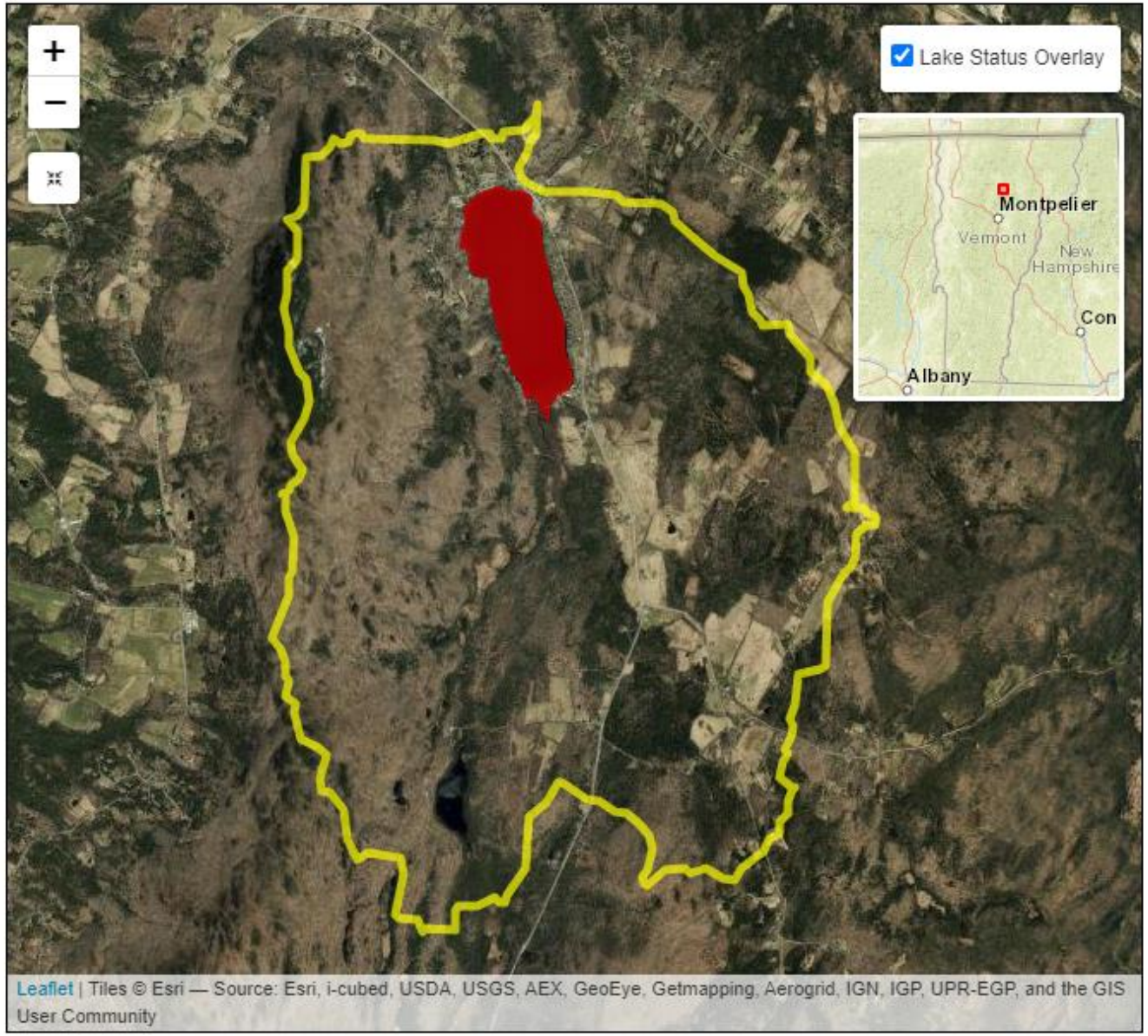
WQ Standards Details

Altered – Flow alteration

Color Scoring System

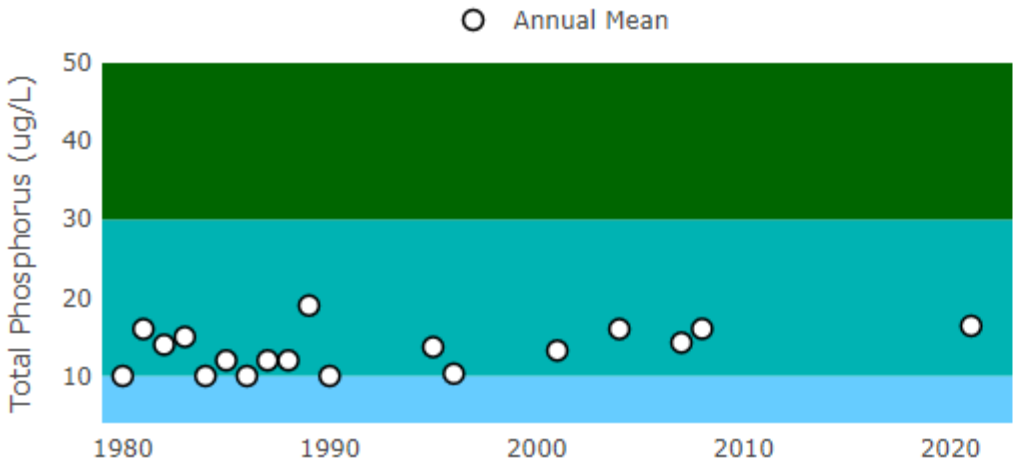
- Good Conditions
- Fair Conditions
- Poor Conditions
- Insufficient Data

Learn How Lakes Are Scored



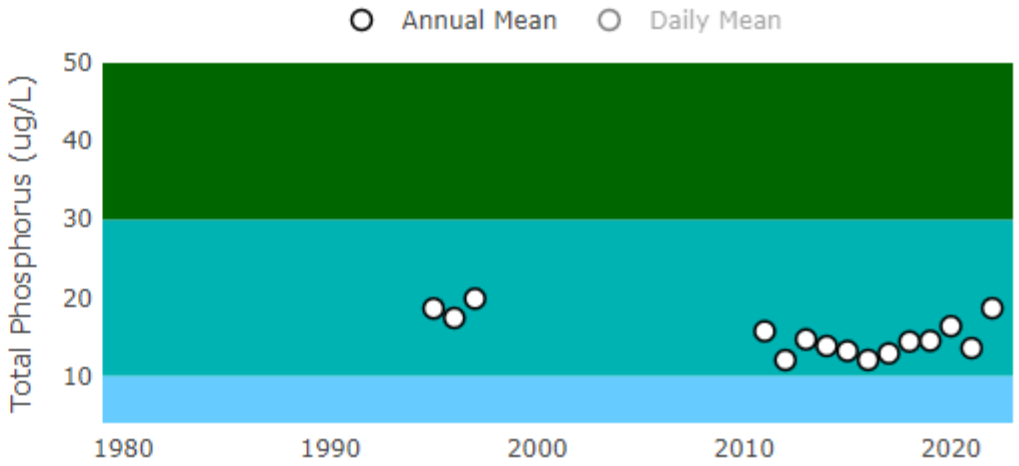
Spring Phosphorus

Trend: Stable (p-value = 0.0852)



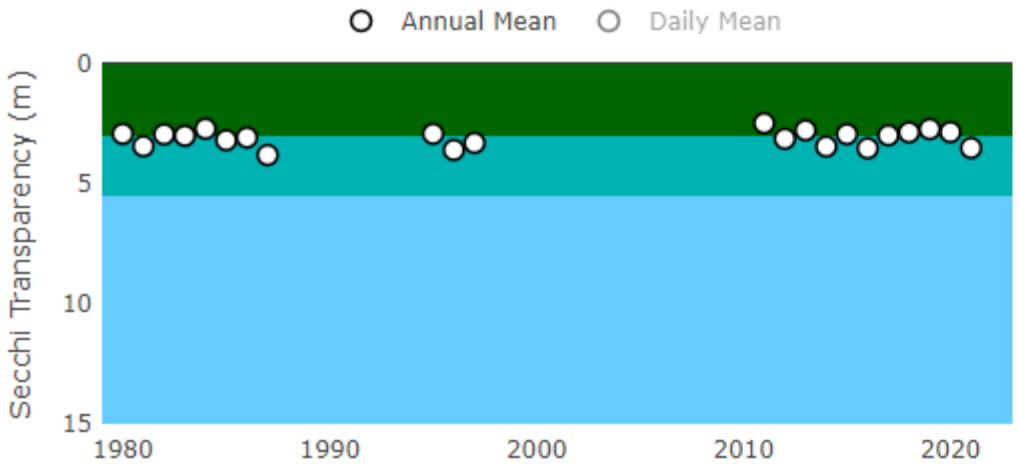
Summer Phosphorus

Trend: Stable (p-value = 0.2503)



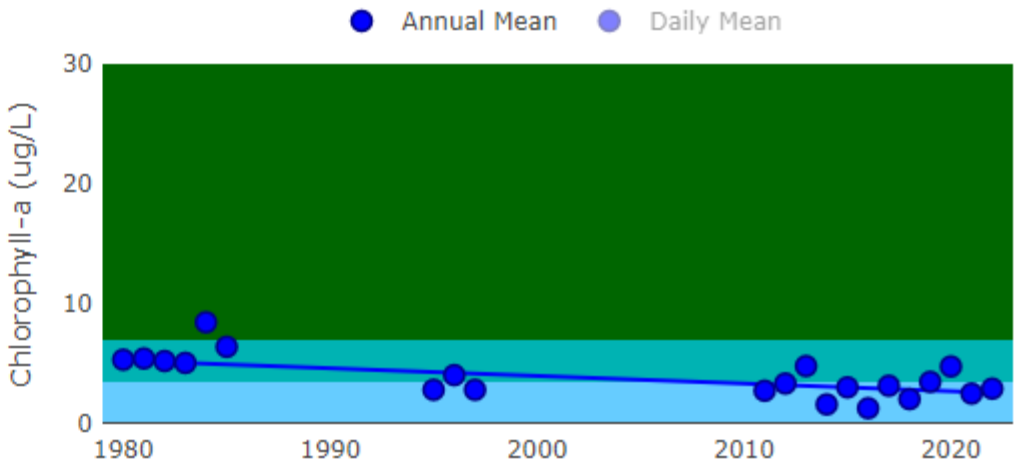
Summer Secchi

Trend: Stable (p-value = 0.8967)



Summer Chlorophyll-a

Trend: Significantly Decreasing (p-value = 0.0191)



- Gravel drive runs off into the lake
- Drainage includes the impervious surfaces along route 12
- No buffer
- Add basin along the edge of the gravel to treat stormwater runoff
- Public area

Project: SW-21	Problem Area Summary
Lake Segment	Lamoille River
Location	Elmore Town Hall and Elmore Store
Land Ownership	Town Property and Private Property
BMP Type	Stormwater Dispersal Swale with Infiltration
Drainage Area/Impervious	0.36 / 0.36 acres
% Impervious	100
Estimated Project Cost	$ 8,350
P Efficiency ($/lb removed)	$ 24,097
Project Priority	High

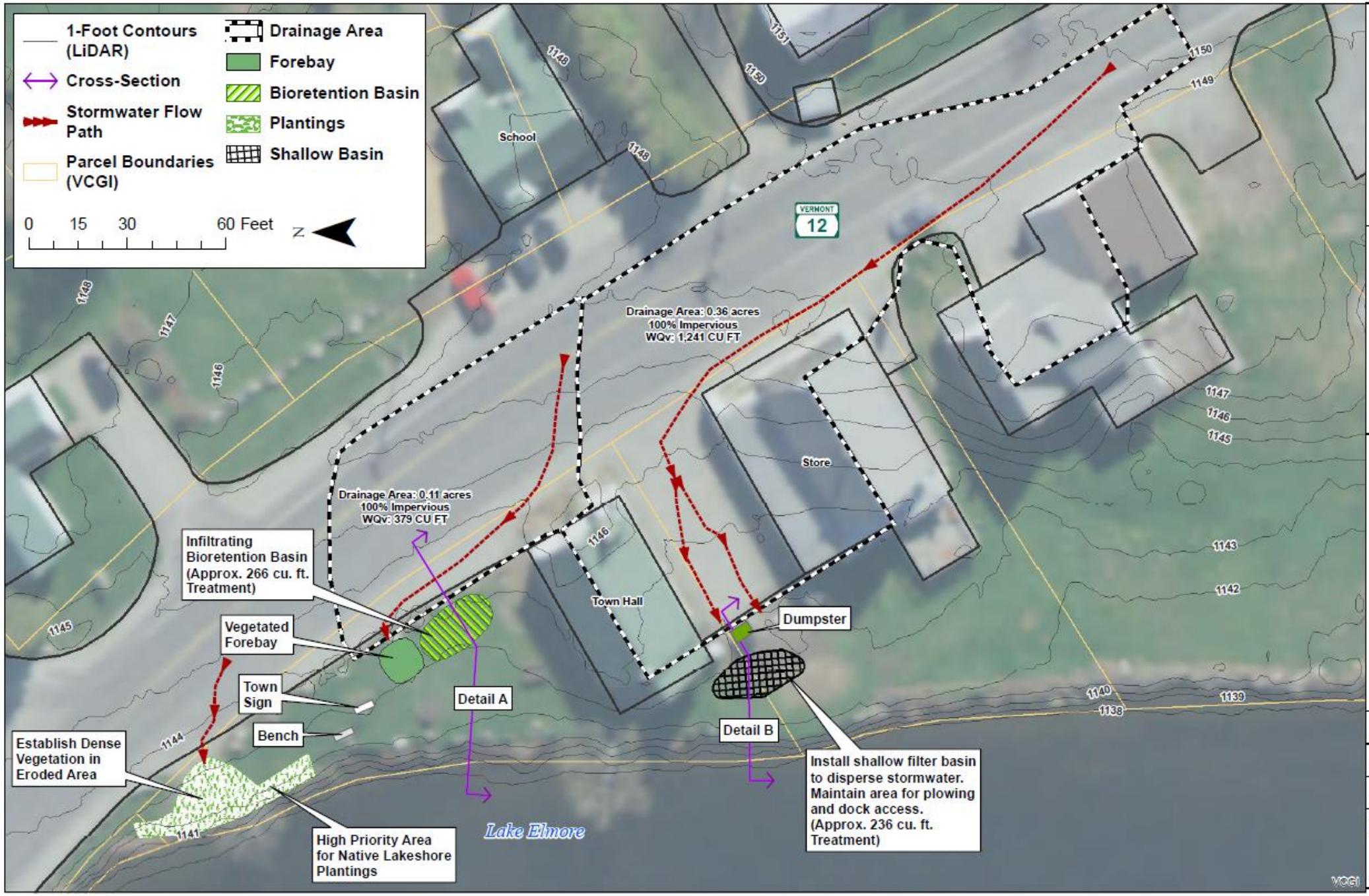
Site Description: Gravel parking area between the Town Offices and Store slopes toward the lake. Opportunity to treat runoff from a large area of impervious surfaces near the lake. See Concept design in Appendix F for updated scope and cost opinion.

Photo 1: Opportunity to add rain garden in green space along the edge of the parking area.

Photo 2: Drainage area captures impervious surfaces along Route 12 and adjacent rooftops.

BMP Description: Opportunity to add a small/medium sized basin along the edge of the parking area to slow and treat stormwater runoff.

BMP Volume (cf)	P Load (lbs)	P Reduction (lbs)	Sed Reduction	%WQv/CPv	Gully Erosion	Maintenance
236	0.94*	0.35	Low	Low	None	Mod



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Notes:
VCGI imagery is from 2018.

Lake Elmore Watershed Action Plan
Area Overview
Elmore Town Hall
Elmore, Vermont

EHB	
Map By	Checked By

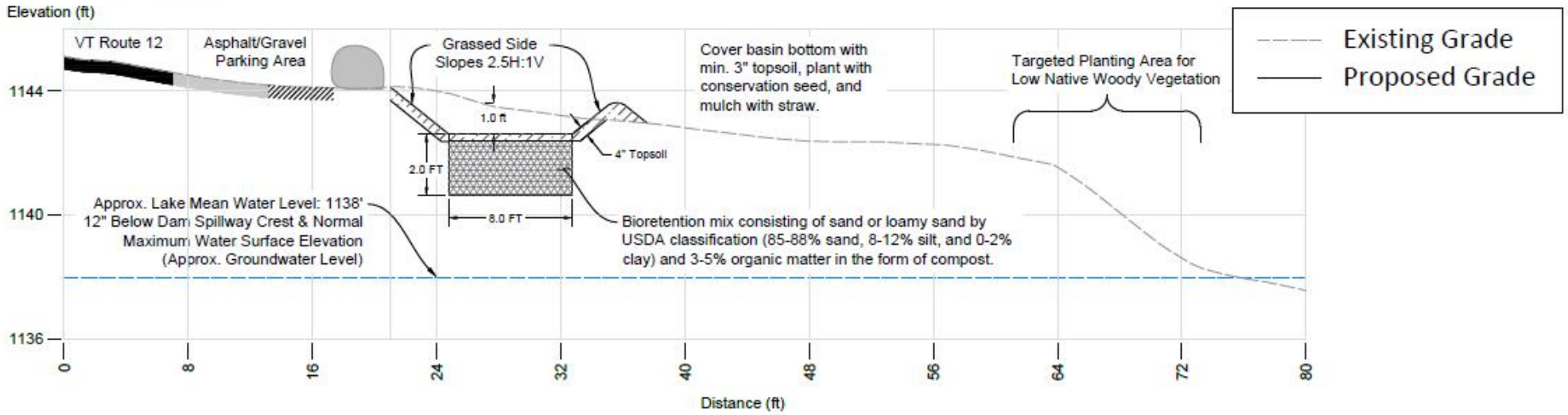
1 in = 30 ft
Scale

October 30, 2020
Date

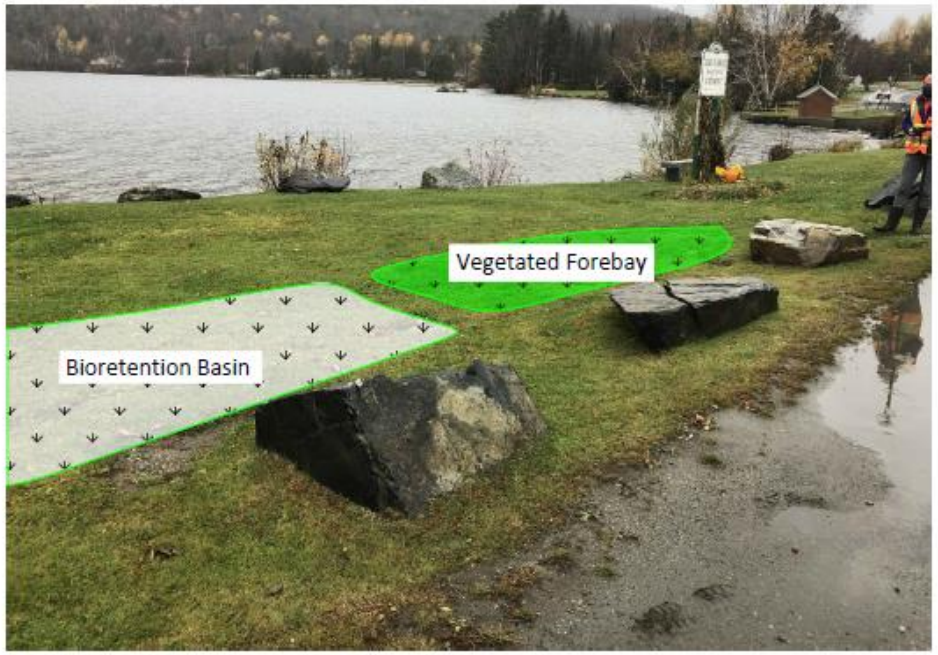
SW-10 & 21
SHEET 1
SHEET NO.

Detail A: Infiltrating Bioretention Feature Typical Detail - Town Hall (SW-10)

(1" = 4' V, 1" = 8' H)



Conceptual Layout - Town Hall (SW-10)



Preliminary Cost Opinion - Town Hall (SW-10)

Item	Quantity	Unit	Unit Price	Cost
Mobilization/Demobilization	1	LS	$ 500	$ 500
Common Excavation and Soil Amendment	25	CY	$ 25	$ 625
Trucking	10	CY	$ 20	$ 200
Topsoil/Compost	15	CY	$ 50	$ 750
Mulch	2	CY	$ 60	$ 120
Plantings	40	EA	$ 15	$ 600
Laborer	16	HR	$ 40	$ 640
Misc. Erosion Control	1	LS	$ 1,000	$ 1,000
Final Design & Permitting				$ 3,000
Construction Oversight				$ 1,000
			Subtotal	$ 8,435
			Contingency (20%)	$ 1,690
			Total	**$ 10,125**

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Notes: Existing profile based on 2014 LiDAR Data (0.7-m DEM).

Lake Elmore Watershed Action Plan
30% Conceptual Design
Elmore Town Hall and Store
Elmore, Vermont

EHB	EPF
DRAWN	CHECKED

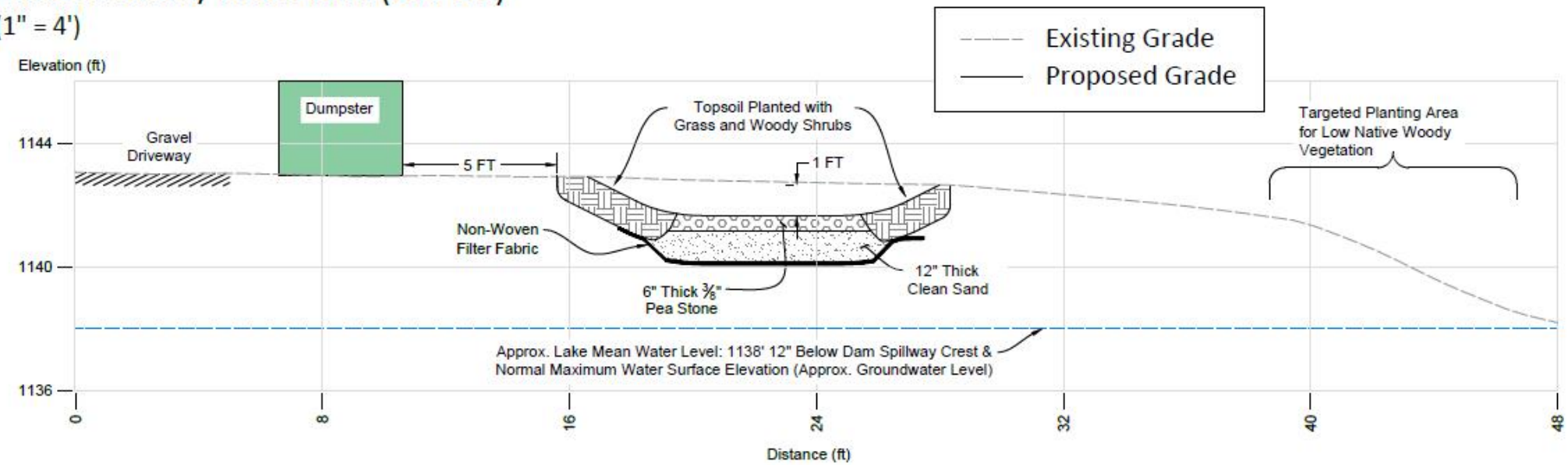
As Shown (SCALE)

October 30, 2020 (DATE)

SW-10
SHEET 2
SHEET NO.

Detail B: Stormwater Dispersal Swale - Elmore Store/Town Hall (SW-21)

(1" = 4')



Conceptual Layout - Elmore Store/Town Hall (SW-21)

Preliminary Cost Opinion - Elmore Store/Town Hall (SW-21)

Item	Quantity	Unit	Unit Price	Cost
Mobilization/Demobilization	1	LS	$ 500	$ 500
Common Excavation and Trucking	25	CY	$ 50	$ 1,250
Pea Stone	2	CY	$ 50	$ 100
Clean Sand	4	CY	$ 30	$ 120
Plantings	1	LS	$ 250	$ 250
Non-Woven Filter Fabric	1	LS	$ 100	$ 100
Laborer	16	HR	$ 40	$ 640
Final Design				$ 2,500
Construction Oversight				$ 1,500
			Subtotal	$ 6,960
			Contingency (20%)	$ 1,390
			Total	**$ 8,350**

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Notes: Existing profile based on 2014 LiDAR Data (0.7-m DEM).

Lake Elmore Watershed Action Plan
30% Conceptual Design
Elmore Town Hall and Store
Elmore, Vermont

EHB	EPF
DRAWN	CHECKED

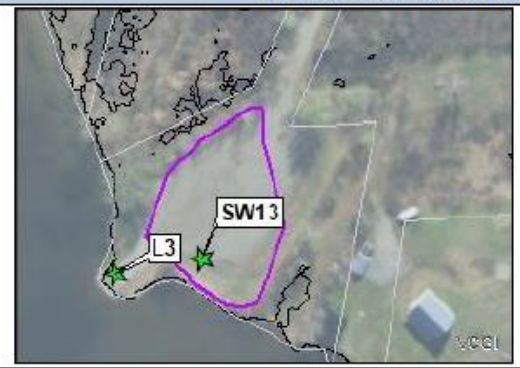
As Shown (SCALE)

October 30, 2020 (DATE)

SW-21 SHEET 3 (SHEET NO.)

- Grass mowed down to the shoreline
- Eroding due to wave action
- Stabilize with native plantings and no mow areas
- Enhance lakeshore natural communities with native vegetation, providing habitat and shade in the littoral zone

Project: L-3	Problem Area Summary
Date Observed:	6/8/2020
Location:	VT Fish & Wildlife Department Boat Launch
Latitude:	**44.535835 N**
Longitude:	**-72.531892 W**
Land Ownership:	State of Vermont



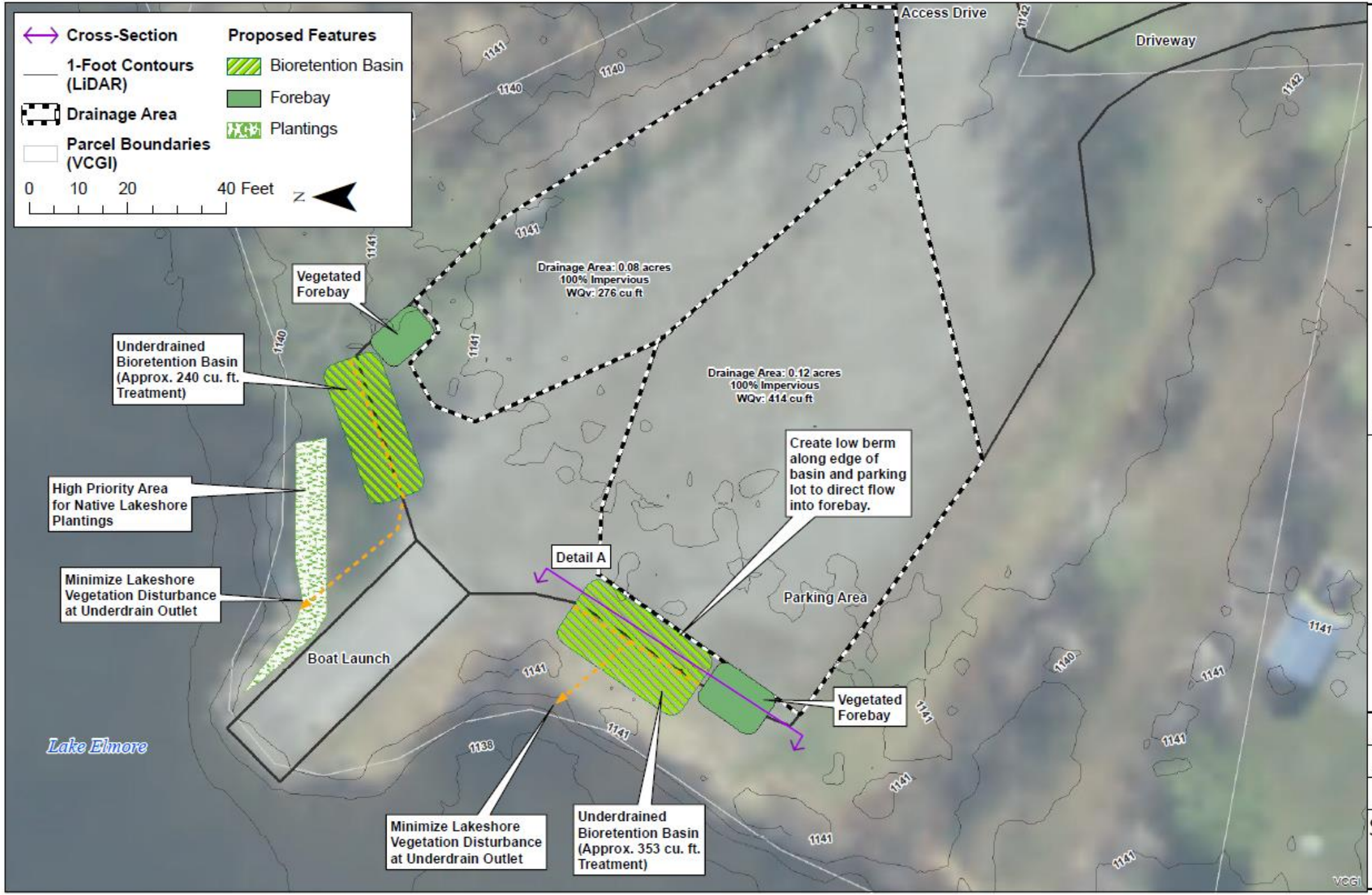
Site Description: Wave action is eroding the lakeshore in a mowed grass area at the boat launch. See Concept design in Appendix F for updated scope and cost opinion.

Photo 1: Lakeshore property with opportunities to establish native vegetation.

BMP Description: Stabilize lakeshore with native plantings and implement "no mow" areas along the lakeshore.

WQ Benefits	Landowner Support and O&M	Cost and Constructability	Additional Benefits	Total Score (Priority)
6	3	5	2	16 **(High)**

Additional Project Benefits Description: The project presents an opportunity to enhance lakeshore natural communities by establishing native vegetation and by providing shade along the lakeshore.



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Notes:
- VCGI imagery is from 2018.
- Contours generated from 0.7-meter LiDAR digital elevation model (2014).

Lake Elmore Watershed Action Plan
30% Concept Design
VT F&W Boat Launch
Elmore, Vermont

EHB	EPF
Map By	Checked By

1 in = 20 ft
Scale

October 30, 2020
Date

SW-13 & L-3
SHEET 1
SHEET NO.

Questions?

Alison Marchione
Lake Shoreland Coordinator
Vermont Department of Environmental Conservation
Alison.Marchione@vermont.gov