Landshore Enterprises, LLC

Streambank & Shoreline protection/stabilization/reclamation
Environmental Engineering, Erosion Control, Construction Management
d/b/a Erosion Restoration, LLC

Technical Engineering Memorandum

Venetian Isles Community Development District

2501A Burns Road, Palm Beach Gardens, Florida 33410

Submitted via email:
October 6, 2023

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Table of Contents

Introduction – Venetian Isles Community Development District:

Venetian Isles Community Development District (the "District") is a local unit of special-purpose government of the State of Florida established in accordance with the Uniform Community Development District Act of 1980, Chapter 190, Florida Statutes. District lands consist of approximately 127.52 gross acres within Miami-Dade County and were developed as a residential community which contains 358 single-family residential dwelling units and 216 townhome units.
Source: https://venetianislescdd.org/

The District is one of Miami-Dade County's Community Development Districts and owns the seven (7) lakes.

Figure 1: Lake 1 and Lake 2 aerials from Miami-Dade County Property Appraiser Records

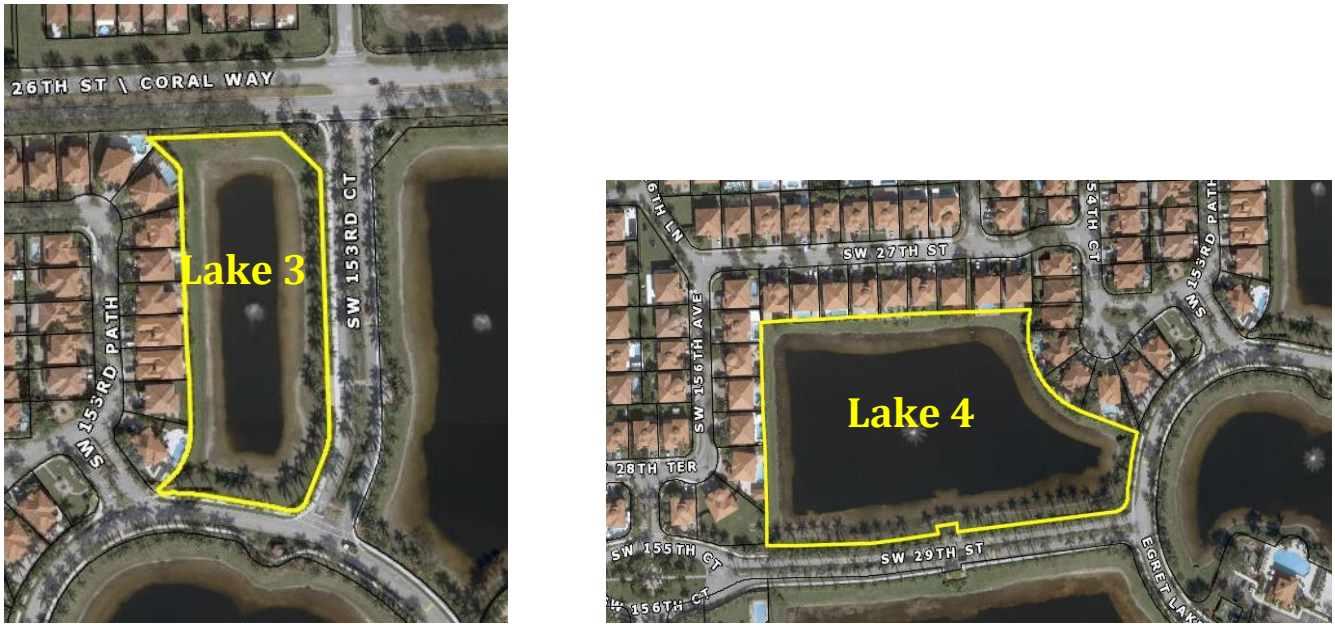


Figure 2: Lake 3 and Lake 4 aerials from Miami-Dade County Property Appraiser Records

Figure 3: Lake 5 aerial from Miami-Dade County Property Appraiser Records

Figure 4: Lake 6 aerial from Miami-Dade County Property Appraiser Records

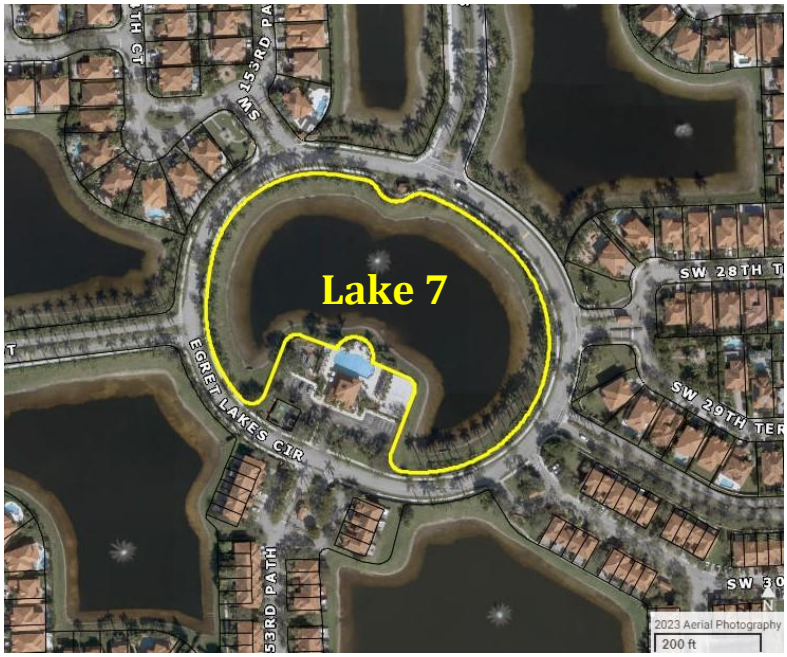


Figure 5: Lake 7 aerial from Miami-Dade County Property Appraiser Records

Introduction – Landshore Enterprises, LLC:

Landshore Enterprises, LLC (Landshore®), with offices in Fort Lauderdale, Florida and headquartered in Venice, Florida, is a turnkey national design-build environmental company specializing in shoreline erosion control, repair and restoration challenges. Landshore® uses non-structural, bioengineering and bio- technical methods to fulfill the demands of our clients.

Established over two decades ago, we have provided our services of excellence to golf courses, homeowner associations (managed properties), private residences, and governments in more than 10 states.

Landshore® is very conscientious about completing projects that reflect professionalism to the highest degree. We take a great deal of pride in each contracted service, no matter how large or small the project is. Our engineering expertise ensures that we will provide you with the best possible solution at the best possible price based on thorough research, investigation, and data interpretation from the job site.

Because of our engineering practices, our clients are assured that their shoreline erosion solution will endure for the longest amount of time possible. Additionally, the number of construction hours required for job completion are billed accurately and even the precise amount of quality materials for the best solution are deployed.

Our talented group of employees, research and investigate public records on the subject site, conduct surveys, perform various tests such as measuring soil density and analyze results. From all the compiled information and subsequent analysis, we gain an understanding of the historical and current nature of the erosion changes concerning water levels, the amount of erosion loss over time, the slope of the eroded shoreline, and the stability of the surrounding soil.

We have the expertise, resources, technology, and collaborative insight to create designs and solutions that far exceed our client's expectations. Due to our extensive experience in resolving various erosion problems around the nation, Landshore® is proud to guarantee complete satisfaction on ALL projects.

Objective:

Our firm was contracted by the District to perform engineering services with the purpose of producing engineered soil erosion control plan, quantity take-off, and preliminary opinion of probable construction costs. Our main goal is to compile a report with soil erosion challenges identification, calculated stability, and recommended solutions, if any, to restore the lake shorelines into compliance, wherever economically feasible.

Existing Conditions:

At the specific request of the District seeking possible solutions to address slope stability, public safety, and aesthetics issues of the shorelines, the subject site was assessed by our team of key professionals. It was found to exhibit signs of loss of valuable soil above the Mean High-Water Level, underwater shelf reposing itself where the shoreline has encroached closer to structures, change in embankment slopes, and unstable edge of embankment. Elements contributing to the embankment erosion are seepage, sheet flow, fluctuation of water levels, and wave action.

General:

- The soil types are the following:
    - USDA Type 54-Marly Silt Loam, according to the US Department of Agriculture.
    - USDA Type 58-Cooper Town muck, according to the US Department of Agriculture.

      Refer to Exhibit 2 – Soil Types
- All the Vertical Datum are reference from National Geodetic Vertical Datum 1929 (NGVD29).
- According to our survey, all seven lakes have areas that are below the permitted top of bank elevation. Per originally permitted set of engineering drawings the top of the bank should be at elevation 9.50' NGVD29.
- Overall, to the naked eye, the embankment slopes look in good condition. However, the shorelines are eroding rapidly. The soil tends to repose itself to its natural stability, making the slopes steeper over time and not in accordance to its original design.
- The lakes were numbered based on the permitted set of drawings.

Lake 1: The shoreline length is approximately 774 linear feet.

Lake 2: The shoreline length is approximately 2,118 linear feet.

Lake 3: The shoreline length is approximately 1,248 linear feet.

Lake 4: The shoreline length is approximately 1,972 linear feet.

Lake 5: The shoreline length is approximately 2,338 linear feet.

Lake 6: The shoreline length is approximately 1,677 linear feet.

Lake 7: The shoreline length is approximately 1,872 linear feet.

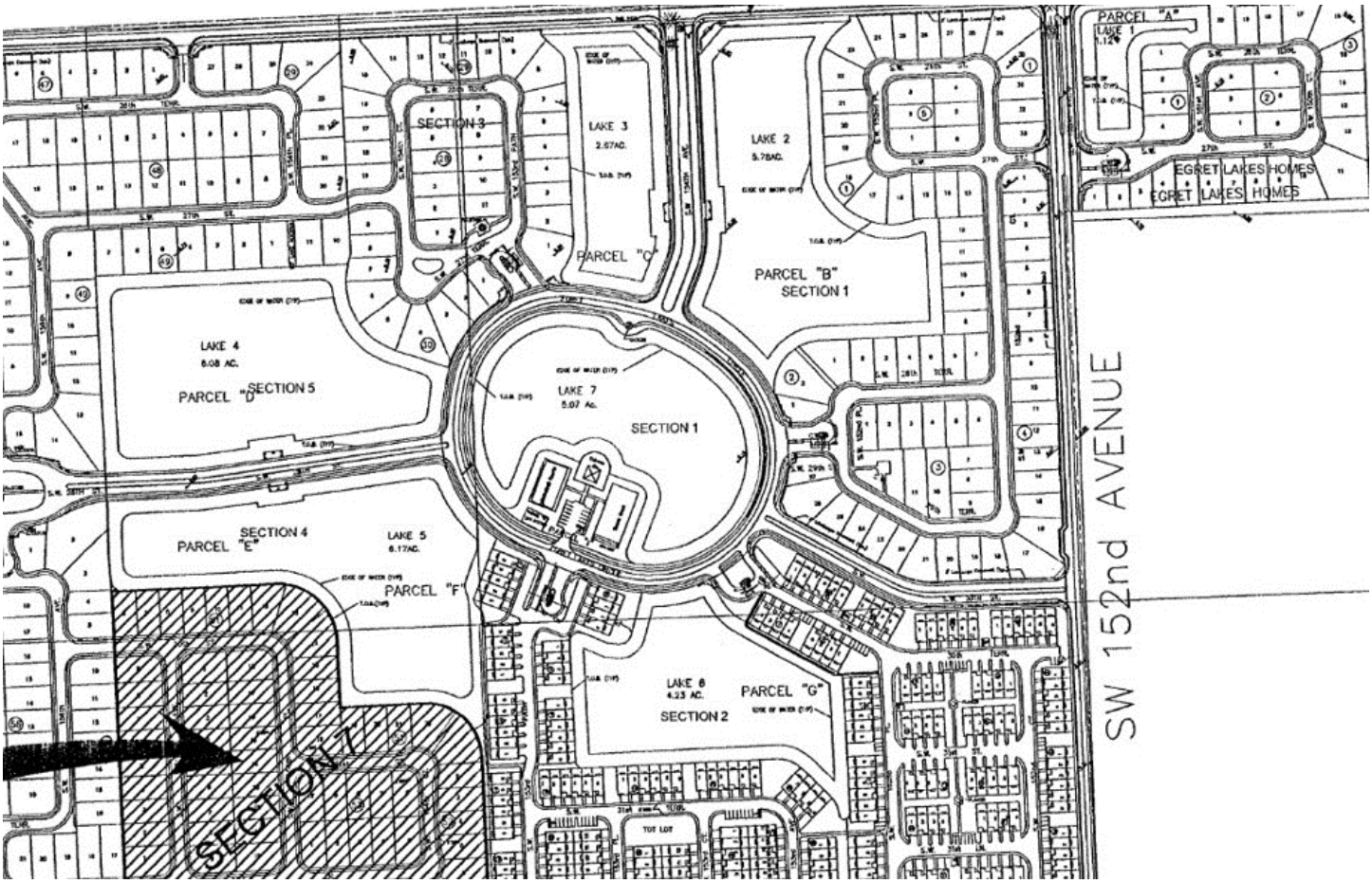


Figure 6: Drawing from permitted plans.

All lakes:

The following is the scale used to identify the conditions of the lakes and our recommendations:

- ✓ High – Immediate attention recommended.
- ✓ Medium – Often monitoring is recommended, due to potential weather inclement. 1 to 2 years attention.
- ✓ Low – Monitoring only. Attention is expected to be needed within 3 to 5 years.

Recommended priority of shoreline restoration:

High Priority:
Lake 4
Based on our analysis, we recommend this lake's shoreline be the first to be restored, specifically on the residential side. We found that the slope from the top to the water's edge is very steep. In addition, at the edge of the embankment, there are steep drops of +/- 2 feet. If no action is taken, the shoreline will keep eroding at an accelerated rate, creating a steeper slope from the top because the soil will repose itself.

Medium to High Priority:
Lake 5
Lake 6
Lake 2
Note: We recommend that the community acts on these lakes based on budgets.

Medium Priority:
Lake 1
Lake 7

Low Priority:
Lake 3

See below photos and a topographic drawing of the priority areas. The lakes below have been listed in order of recommended repairs.

Refer to Exhibit 1 – Cross sections with recommended erosion control elements and priority areas.

Lake 4 – Photos and cross section(s) of recommended solution(s)

Figure 7: Bank erosion with steep drop from the top of the embankment.

Figure 8: Bank erosion with uneven shoreline with a drop off at water's edge.

Figure 9: Aerial of recommended priority areas and recommended erosion control element.

Lake 5 – Photos and cross section(s) of recommended solution(s)

Figure 10: Uneven, soft soil.

Figure 11: Steep slope with a drop off at the water's edge.

Figure 12: Aerial of recommended priority areas and erosion control elements.

Lake 6 – Photos and cross section(s) of recommended solution(s)

Figure 13: Cutouts along the embankment with a steep drop off.

Figure 14: Steep slope from the top of the embankment to the water's edge.

Figure 15: Aerial of recommended priority areas and erosion control elements.

Lake 2 – Photos and cross section(s) of recommended solution(s)

Figure 16: Loss of soil based on the concrete slab.

Figure 17: Bank erosion shows loss of land.

Figure 18: Aerial view of recommended priority areas and erosion control elements is shown.

Lake 1 – Photos and cross section(s) of recommended solution(s)

Figure 19: Observed soft organic material sedimentation.

Figure 20: Bank erosion showing depression.

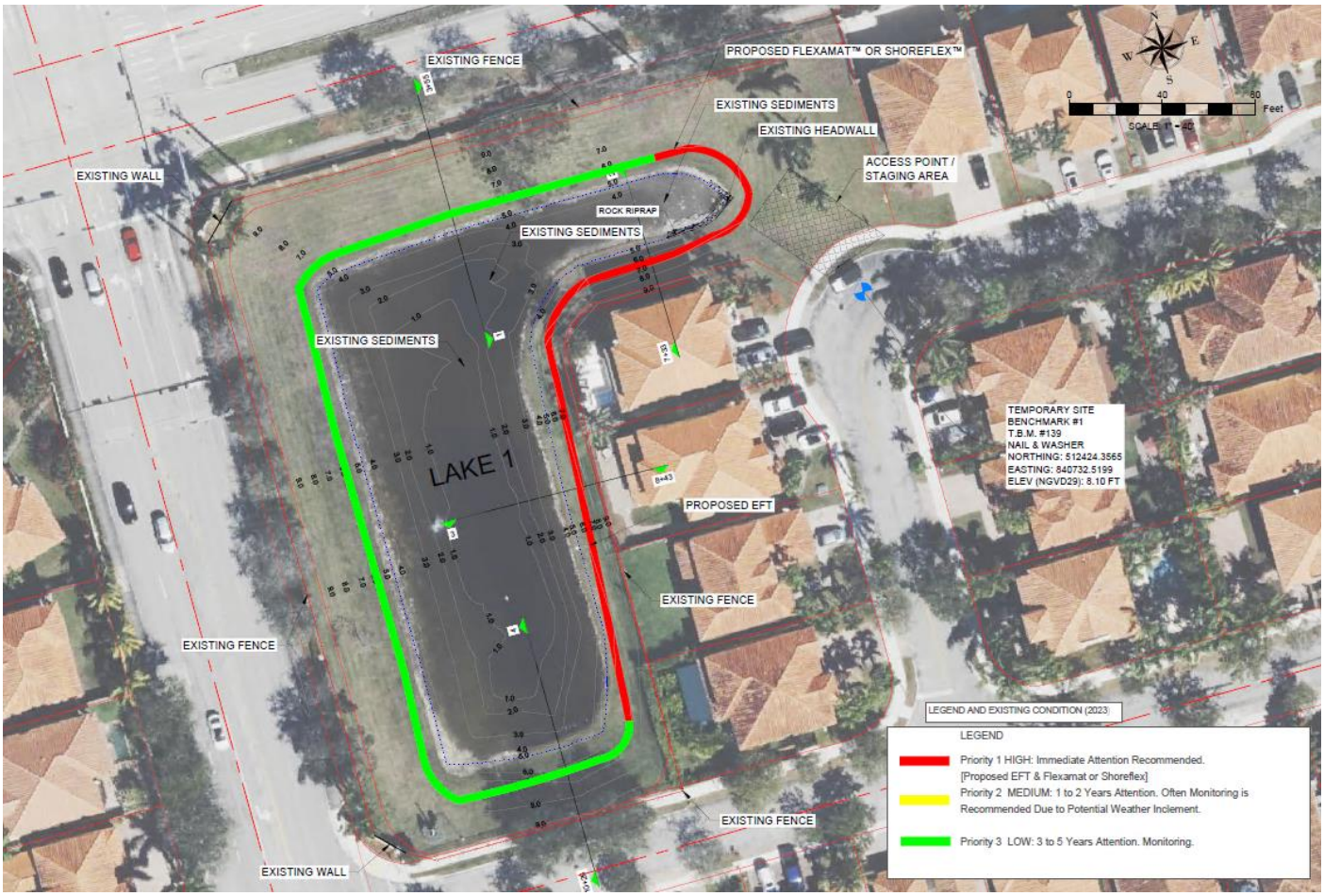


Figure 21: Aerial view of recommended priority areas and erosion control elements.

Lake 7 – Photos and cross section(s) of recommended solution(s)

Figure 22: Slope is good; however, loss of land is shown.

Figure 23: Good indication of soil reposing itself due to erosion.

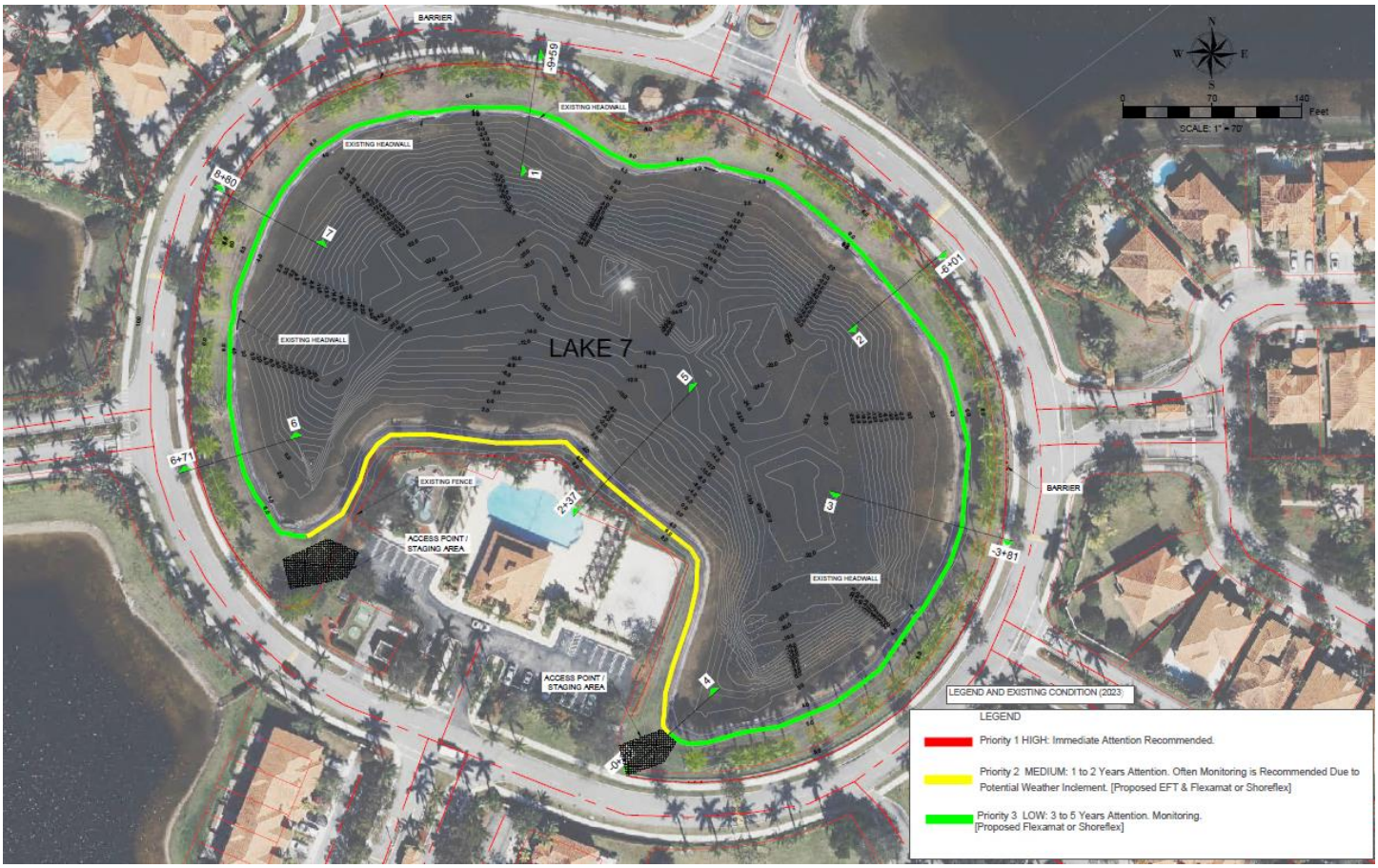


Figure 24: Aerial of recommended priority areas and erosion control elements.

Lake 3 – Photos and cross section(s) of recommended solution(s)

Figure 25: Slope is in good condition, however is not in accordance with original design.

Figure 26: Slope is in good condition.

Figure 27: Aerial of recommended priority areas and erosion control elements.

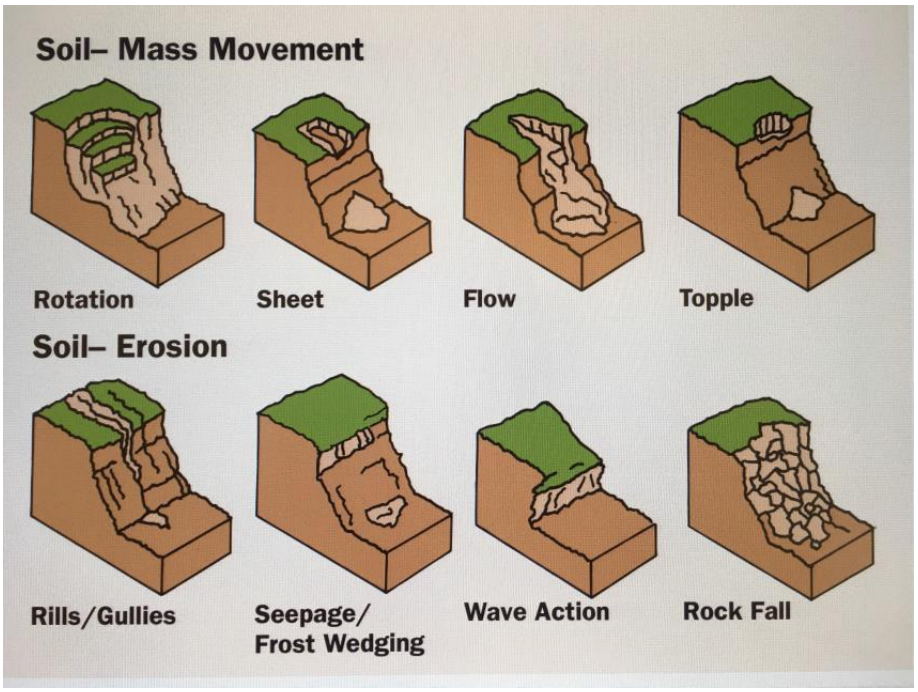


Figure 28: Types of soil erosion

Detachment and movement of soil or rock fragments by water, wind, or gravity. The following terms are used to describe different types of soil erosion:

Accelerated Erosion – Erosion much more rapid than normal, or geologic erosion, primarily as a result of the influence of the activities of man, or in some cases, of other animals or natural catastrophes that expose base surfaces, for example, fires.

Gully Erosion – The erosion process whereby water accumulates in narrow channels and, over short periods, removes the soil from this narrow area to considerable depths, ranging from 1 to 2 feet to as much as 75 to 100 feet.

Natural Erosion – Wearing away of the earth's surface by water, ice, or other natural agents under natural environmental conditions of climate, vegetation, etc.; undisturbed by man.

Normal Erosion – The gradual erosion of land used by man which does not greatly exceed natural erosion.

Rill Erosion – An erosion process in which numerous small channels only several inches deep are formed; occurs mainly on recently disturbed and exposed soils.

Sheet Erosion – The removal of a fairly uniform layer of soil from the land surface by runoff water.

Splash (Seepage) Erosion – The spattering of small soil particles caused by the impact of rain drops on wet soils. The loosened and spattered particles may or may not be subsequently removed by surface runoff.

Recommended Erosion Control Elements

Landshore® has expertise in design and installation of different remediation applications for slope stabilization and erosion control, including Articulating Concrete Block mat, bulkhead, Concrete Cloth™, Eco-Filter Tube®, Erosion Control Panel, Flexamat®, Flex MSE®, Geo Web®, gabions, Hydrotex™, reinforced concrete wall, rip-rap, sand cement wall, sheet piling, Turf Reinforcement Mat, littoral planting and others.

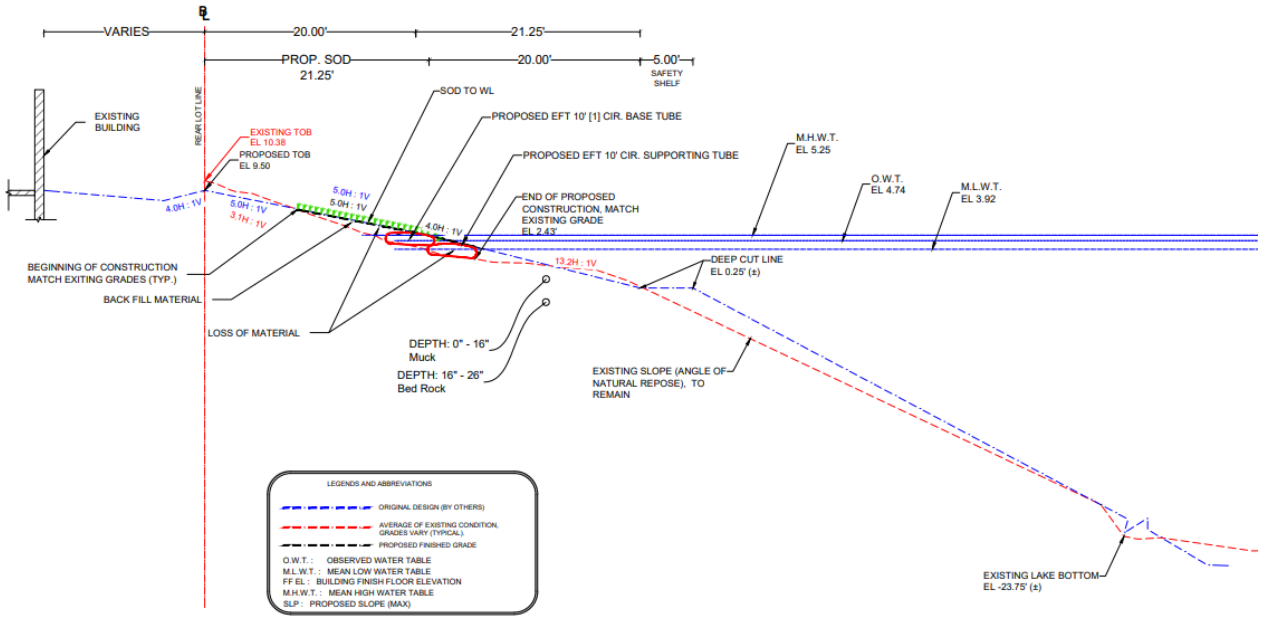
After performing a cursory review of several alternatives, it is our professional opinion, to the best of our knowledge and belief that present slope condition may be remedied by utilizing Eco-Filter Tube® and Concrete Block Mat (Flexamat® or ShoreFlex®), which installation is hereby recommended as most viable solutions and are described below.

Eco-Filter Tube (EFT®):

EFT® or approved by Engineer equal product construction uses a woven or non-woven geotextile fabric that is formed into the shape of a tube. The tube container is filled with sand by direct coupling to a hydraulic dredge. The EFT® is designed to retain the granular fill portion of the dredge slurry, while appropriately sized openings in the material allow the excess water in the slurry to permeate through the tube walls. The procedure can be implemented in both dry and underwater conditions. The tubes can be fabricated in various circumferences, which, when inflated, will form a roughly elliptical shape. The EFT® system consists of a spun bound polyester filter fabric that is sewn together to form a tube which is placed along the water's edge and filled with sand to form an erosion barrier that after consolidation has the characteristics of a permeable, gravity type retaining wall.

Some EFT® benefits include:

- ✓ Sand and geo-textile materials used in the tubes are essential to allow proper drainage and ensuring an environmentally friendly erosion control solution.
- ✓ The sand in the tubes functions as a filter for underwater seepage.
- ✓ The EFT® solution enhances the quality of the lake water as it keeps environmental threats from entering the body of water.
- ✓ EFT® installation bypasses the need to bring heavy equipment to the job site, preventing the possibility of damage from the large weight of the equipment.
- ✓ EFT® is one of the most economical embankment restoration solutions.



Scale: Not to Scale

Figure 29: EFT® Typical Section

Figure 30: Example of EFT® Landshore's Installation

Proper EFT® Design & Installation:

The main reasons for failure for geo-synthetic container application – are improper design or installation.

Landshore® developed software, patented technologies, trained professionals, laborers, and special survey crews who all work together as one team providing design, calculations, measurements, production and inspection to ensure stability and safety in compliance to local municipal codes, manufacturer's specifications and minimum engineering standards.

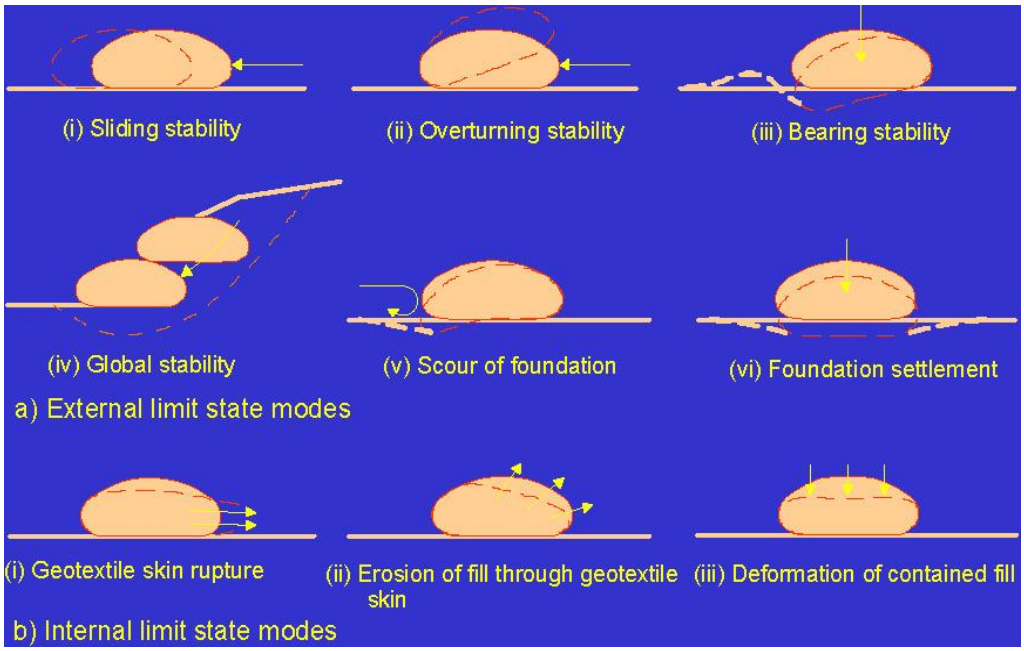


Figure 31: Geo-tube failure mechanisms

Concrete Block Mat:

Concrete Block Mats are designed to prevent soil erosion and promote vegetation establishment in a wide variety of applications.

Flexamat®: Flexamat® is a vegetated concrete block mat utilized for stabilizing slopes, channels, low water crossings, inlet/outlet protection, and shorelines. It consists of concrete blocks (6.5″ x 6.5″ with a 2.25″ profile) locked together and embedded into a high strength geogrid. There is 1.5″ spacing between the blocks that gives the mat flexibility and allows for optional vegetation growth. The mat is packaged in rolls, making transporting and installing Flexamat® efficient. *Source:* www.flexamat.com

ShoreFlex® is a permanent erosion prevention system that can be installed to shield channel side slopes and beds, pipe and culvert inlets/outlets, shoreline, and almost any place you may have hydraulic erosion protection needs. ShoreFlex® consists of a concrete block erosion control mat designed to be vegetated. ShoreFlex® comes in various customizable sizes and erosion control backing choices. Shoreflex® performs better than rock riprap and is easy to install and maintain. In addition, ShoreFlex® is environmentally friendly, grows green and can be mowed. *Source:* www.shoreflex.com

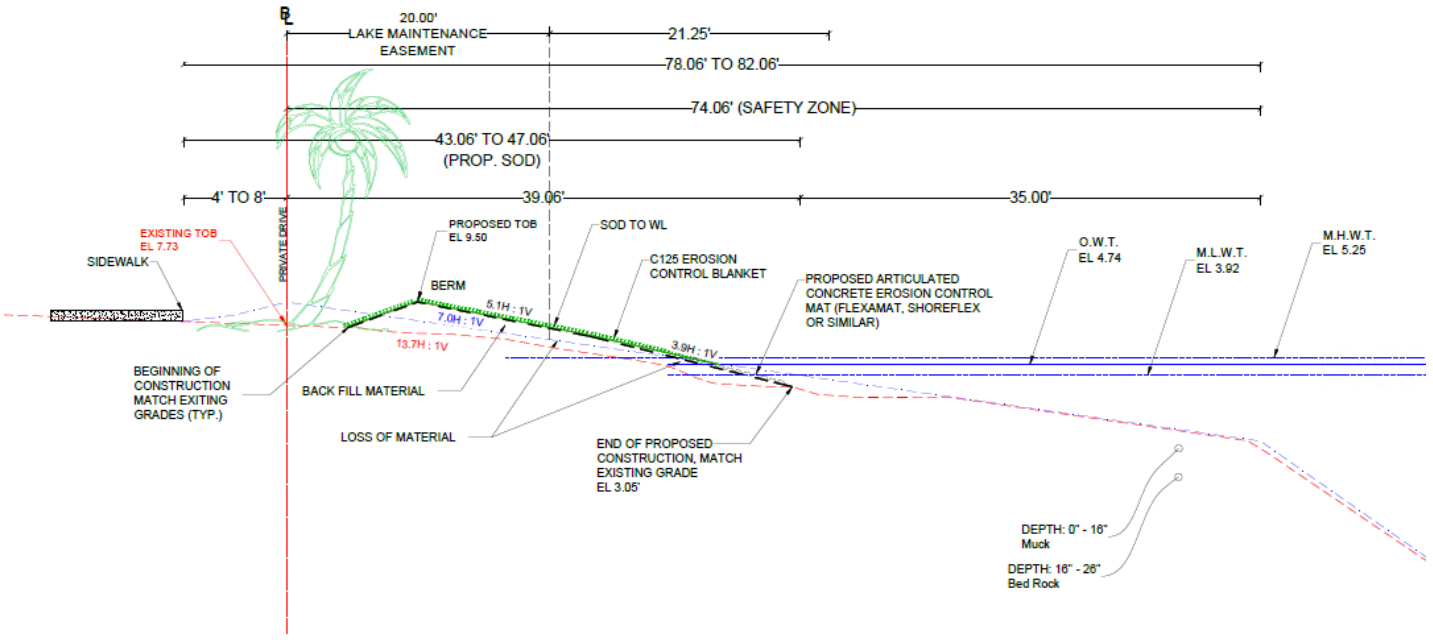


Figure 32: Concrete Block Mat Typical Section

Figure 33: During Landshore's installation of Flexamat®

Figure 34: After Landshore's installation of Flexamat®

Estimated Volumes and Estimated Opinion of Probable Costs

Geo-synthetic container material, concrete block mat system, imported fill, site excavation and grading amounts were measured and calculated using Computer Aided Design software, based on average end area method using drawings, sections, details and manufacturer specifications as references.

Lakes listed in order of recommended solutions.

High Priority:

Lake 4:

1,511 linear feet of shoreline repair
- 3,392 sf of concrete block mat
- 1,087 lf of one (1) layer of 10' circumference base eco-filter tube
- 1,414 lf of two (2) layers of 10' circumference supporting eco-filter tube
- 1,818 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
- 414 cy of imported fill material to fill in the eco-filter tubes

LAKE 4 - Preliminary Opinion of Probable Costs per linear feet: $220.00 to o$245.00. $370,195.00 (based on higher estimated per linear feet cost).

Medium to High Priority:

Lake 5:

2,352 linear feet of shoreline repair
- 7,184 sf of concrete block mat
- 1,454 lf of one (1) layer of 10' circumference base eco-filter tube
- 2,101 lf of two (2) layers of 10' circumference supporting eco-filter tube
- 2,214 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
- 600 cy of imported fill material to fill in the eco-filter tubes
- 1 Headwall to be repaired.

LAKE 5 - Preliminary Opinion of Probable Costs per linear feet: $210.00 to $235.00. $552,720.00 (based on higher estimated per linear feet cost).

Lake 6:

1,677 linear feet of shoreline repair
- 2,272 sf of concrete block mat
- 1,393 lf of one (1) of 10' circumference base eco-filter tube
- 1,435 lf of one (1) of 10' circumference supporting eco-filter tube
- 1,584 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
- 470 cy of imported fill material to fill in the eco-filter tubes

LAKE 6 - Preliminary Opinion of Probable Costs per linear feet: $210.00 to $235.00. $394,095.00 (based on higher estimated per linear feet cost).

Lake 2:

2,176 linear feet of shoreline repair
- 8,368 sf of concrete block mat
- 1,130 lf of one (1) of 10' circumference base eco-filter tube
- 1,164 lf of one (1) of 10' circumference supporting eco-filter tube
- 1,111 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
- 380 cy of imported fill material to fill in the eco-filter tubes

LAKE 2 - Preliminary Opinion of Probable Costs per linear feet: $250.00 to $275.00. $594,400.00 (based on higher estimated per linear feet cost).

Medium Priority:

Lake 1:

333 linear feet of shoreline repair
- 1,064 sf of concrete block mat
- 200 lf of one (1) layer of 10' circumference supporting eco-filter tube
- 206 lf of one (1) layer of 10' circumference base eco-filter tube
- 253 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
- 68 cy of imported fill material to fill in the eco-filter tubes

LAKE 1 - Preliminary Opinion of Probable Costs per linear feet: $250.00 to $275.00. $91,575.00 (based on higher estimated per linear feet cost.

Lake 7:

1,885 linear feet of shoreline repair
10,904 sf of concrete block mat
522 lf of one (1) of 10' circumference base eco-filter tube
538 lf of one (1) of 10' circumference supporting eco-filter tube
3,322 cy of imported fill material to meet the berm requirement of 9.50 NGVD29
176 cy of imported fill material to fill in the eco-filter tubes

LAKE 7 - Preliminary Opinion of Probable Costs per liner feet: $230.00 to $255.00. $480,675.00 (based on higher estimated per linear feet cost.

Lake 3:

1,270 linear feet of shoreline repair
10,160 sf of concrete block mat
1,568 cy of imported fill material to meet the berm requirement of 9.50 NGVD29

LAKE 3 - Preliminary Opinion of Probable Costs per linear feet: $250.00 to $275.00. $349,250.00 (based on higher estimated per linear feet cost.

SEVEN LAKES - Preliminary Opinion of Probable Costs: $2,832,910.00.

NOTE: Please note that these are based on estimated prices and inflation should be considered for budgetary purposes if the community would like to repair their shorelines over an extended period. Not included are the permit fees, any bonding fees, and additional engineering services.

Conclusion

Landshore® is devoted to thoroughly study each individual project from every perspective and strive to perform the best possible design that solves the erosion problem.

We suggest that the District consult with our Company for all future development and shoreline repair projects, in order to avoid predictable dangerous conditions and save money via preventative actions.

Landshore is a turn-key multi-discipline design-build environmental company which focuses on erosion issues using non-structural, bioengineering and bio-technical methods for shoreline restoration, erosion control and coast protection.

Established more than two decades ago we employ civil, structural, geo-technical, surveying, environmental and other professionals, providing viable customized solutions and highest level of service through innovation in engineering design, advancement and patenting of materials, scientific research and development of new construction technologies.

If you have any additional questions, or require further information, do not hesitate to contact us at (954) 327-3300 or via email at info@landshore.com.

We look forward to having the pleasure of continuing doing business with you.

Sincerely,
Nicolas Valles-Negrette
Senior Engineer
Qualified Stormwater Management Inspector Number 41451

Adaulfo Jose Pereira
Project Engineer

André van den Berg
President
Qualified Stormwater Management Inspector Number 37843

Landshore Enterprises, LLC

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for Venetian Isles Community Development District

Landshore Enterprises, LLC
Environmental Engineering, Erosion Control & Construction Management
d/b/a Erosion Restoration, LLC
"Your Shoreline Protection Specialists"
188 Triple Diamond Blvd., Ste. #A4
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TOPOGRAPHIC PLAN (LAKE1)

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2023-042	1	4
DRAWN BY:	DATE:	SCALE:
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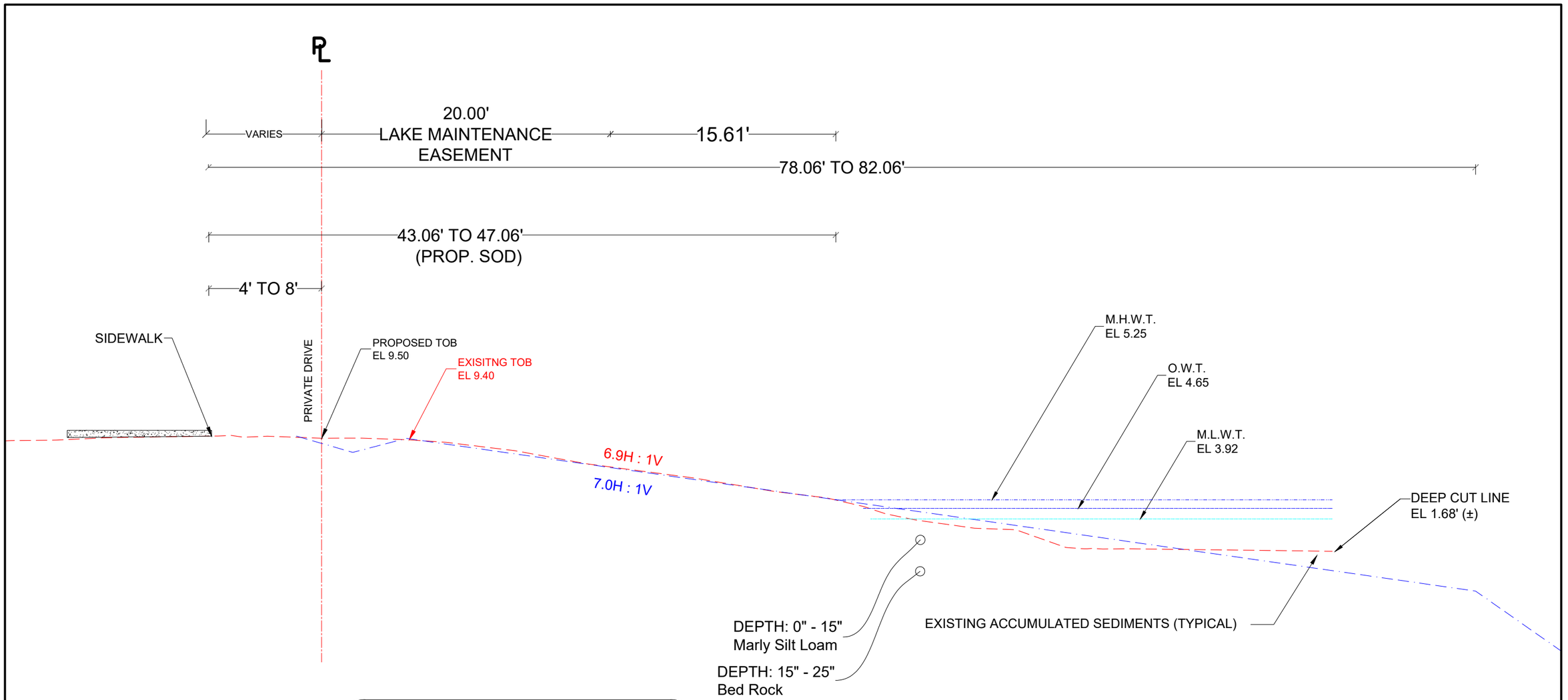

LEGENDS AND ABBREVIATIONS

- ORIGINAL DESIGN (BY OTHERS)
- APPROXIMATE AVERAGE OF EXISTING CONDITION, GRADES VARY (TYPICAL).
- PROPOSED FINISHED GRADE

O.W.T. : OBSERVED WATER TABLE
M.L.W.T. : MEAN LOW WATER TABLE
FF EL : BUILDING FINISH FLOOR ELEVATION
M.H.W.T. : MEAN HIGH WATER TABLE
SLP : PROPOSED SLOPE (MAX)

DATUM:
ALL ELEVATIONS ARE PROVIDED IN NGVD 1929

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LAKE SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 1)

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2023-042	2	4
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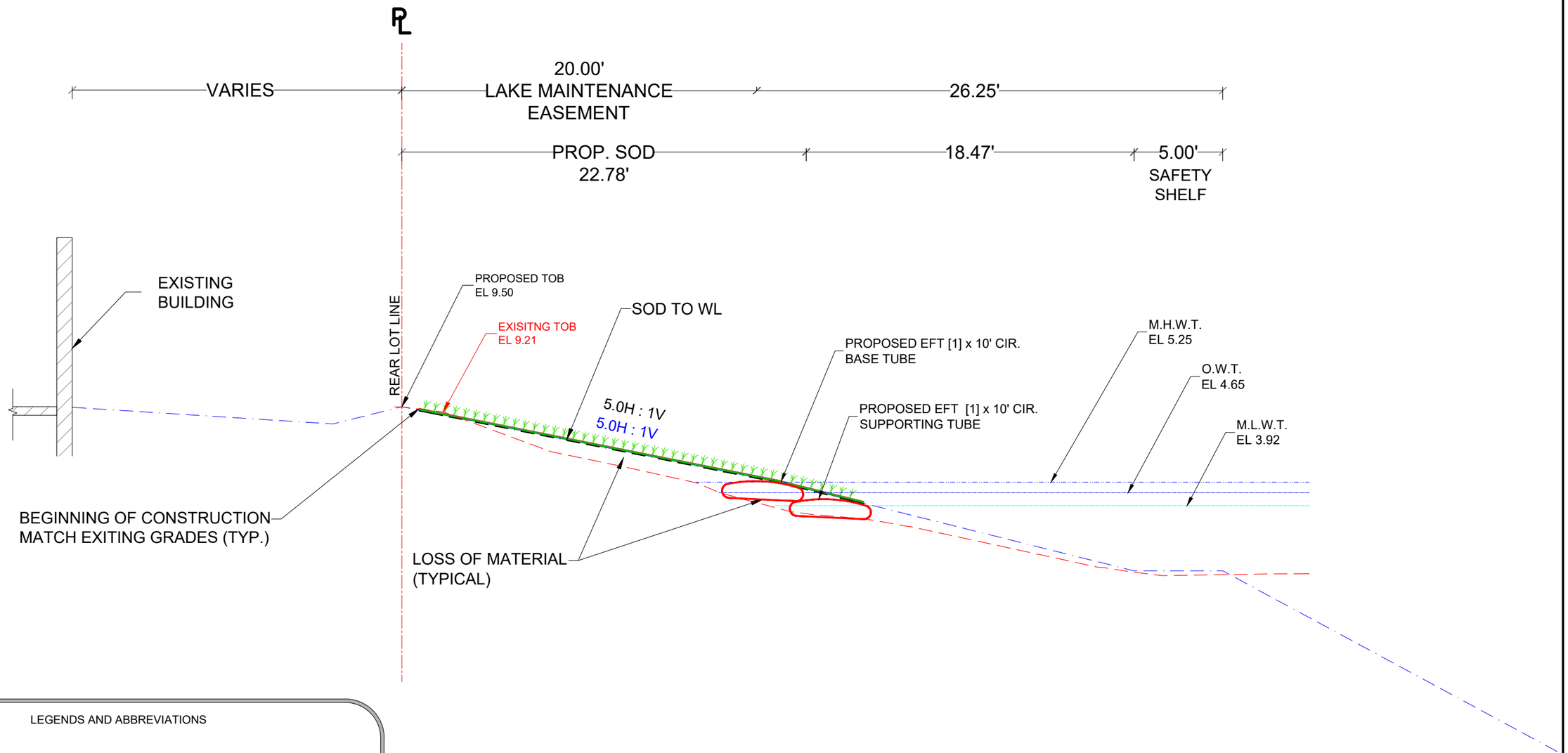

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LAKE SECTION ON BANKS
NEXT TO LOTS (LAKE 1)

PROJECT NO.	SHEET	OF
2023-042	3	4
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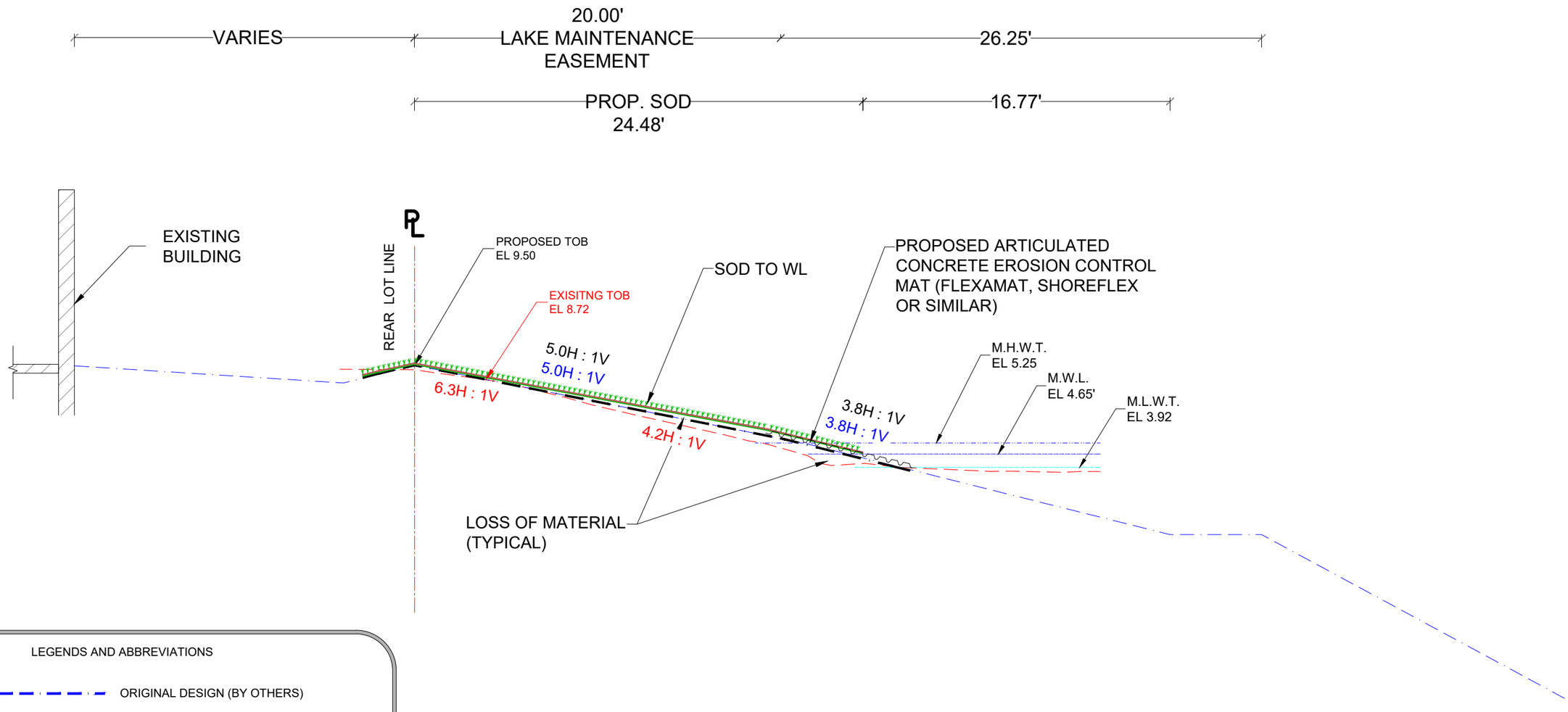
JP	10/02/2023	AS SHOWN



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d/b/a Erosion Restoration, LLC
"Your Shoreline Protection Specialists"
188 Triple Diamond Blvd., Ste. #A4
North Venice, FL 34275
Office: 941-303-5238
Fax: 941-218-6113
E-mail: info@landshore.com

Pieter M. Lombard, Professional Engineer, State of Florida, License No. 66596
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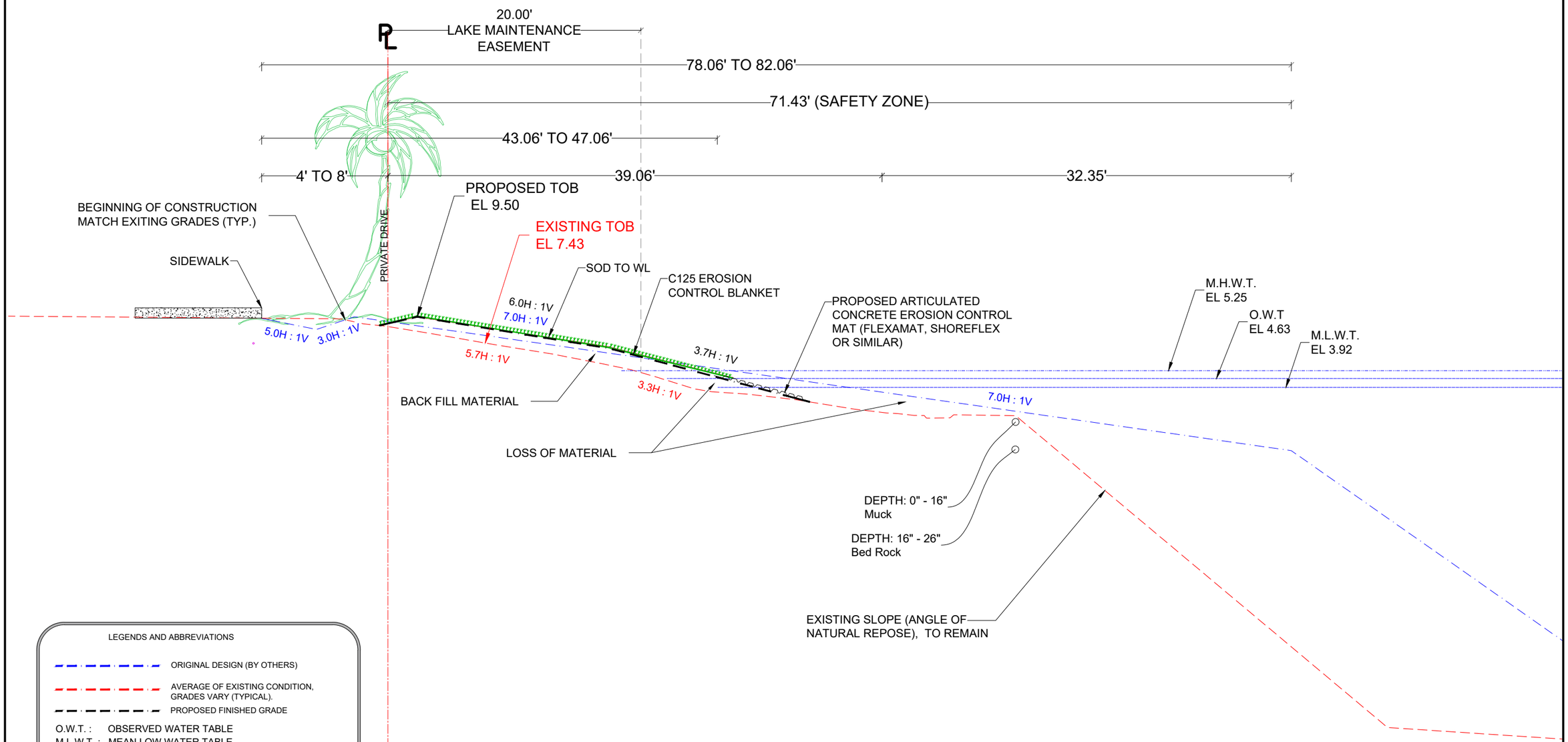
TOPOGRAPHIC PLAN (LAKE 2)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
JP	10/02/2023	1" = 80'



LEGENDS AND ABBREVIATIONS

- ORIGINAL DESIGN (BY OTHERS)
- AVERAGE OF EXISTING CONDITION, GRADES VARY (TYPICAL).
- PROPOSED FINISHED GRADE

O.W.T. : OBSERVED WATER TABLE
M.L.W.T. : MEAN LOW WATER TABLE
FF EL : BUILDING FINISH FLOOR ELEVATION
M.H.W.T. : MEAN HIGH WATER TABLE
SLP : PROPOSED SLOPE (MAX)

DATUM:
ALL ELEVATIONS ARE PROVIDED IN NGVD 1929

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for
Venetian Isles Community Development District

Landshore Enterprises, LLC
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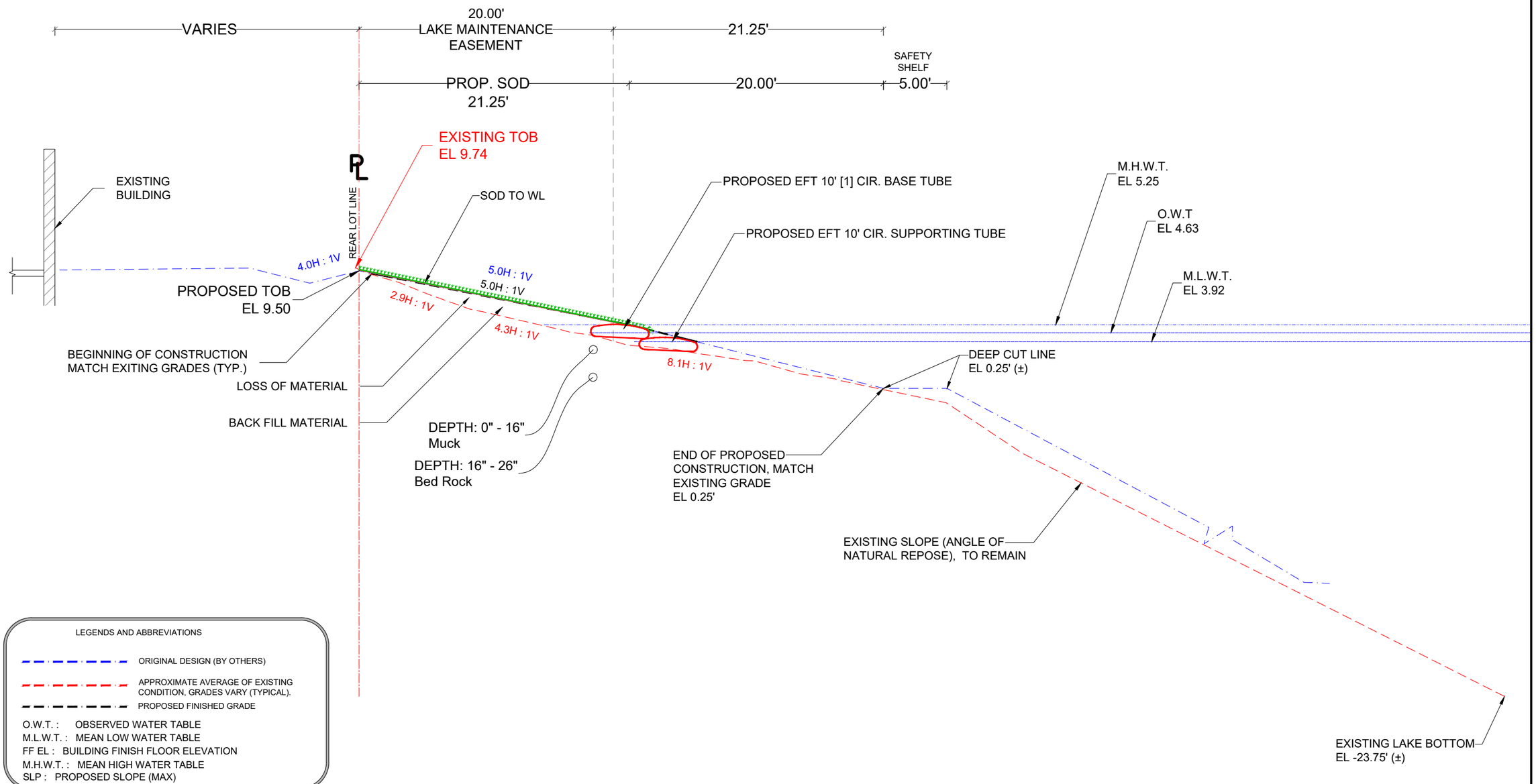
LAKE SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 2)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
JP	10/02/2023	AS SHOWN



LEGENDS AND ABBREVIATIONS

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- APPROXIMATE AVERAGE OF EXISTING CONDITION, GRADES VARY (TYPICAL).
- PROPOSED FINISHED GRADE

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LAKE SECTION ON BANKS
NEXT TO LOTS (LAKE 2)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/02/2023	AS SHOWN

LEGEND AND EXISTING CONDITION (2023)

LEGEND

Priority 1 HIGH: Immediate Attention Recommended.

Priority 2 MEDIUM: 1 to 2 Years Attention. Often Monitoring is Recommended Due to Potential Weather Inclement. [Proposed Flexamat or Shoreflex].

Priority 3 LOW: 3 to 5 Years Attention. Monitoring.

TEMPORARY SITE
BENCHMARK #1
T.B.M. #138
NAIL & WASHER
NORTHING: 511907.0828
EASTING: 839412.7522
ELEV (NGVD29): 8.01 FT

REVISIONS		
DATE	BY	DESCRIPTION

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Landshore Enterprises, LLC
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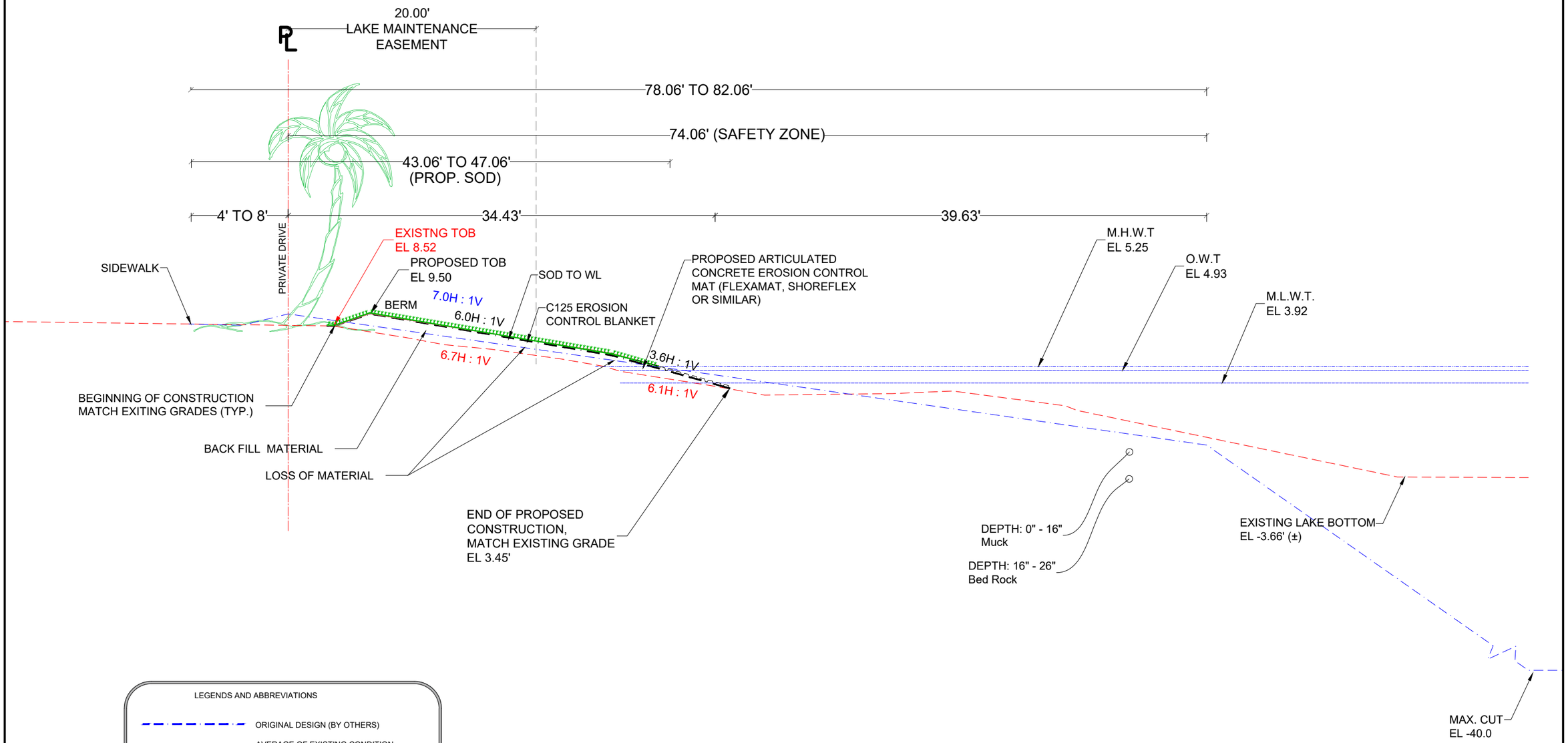
TOPOGRAPHIC PLAN (LAKE 3)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	1" = 60'



LEGENDS AND ABBREVIATIONS

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SLP : PROPOSED SLOPE (MAX)

DATUM:
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REVISIONS

DATE	BY	DESCRIPTION

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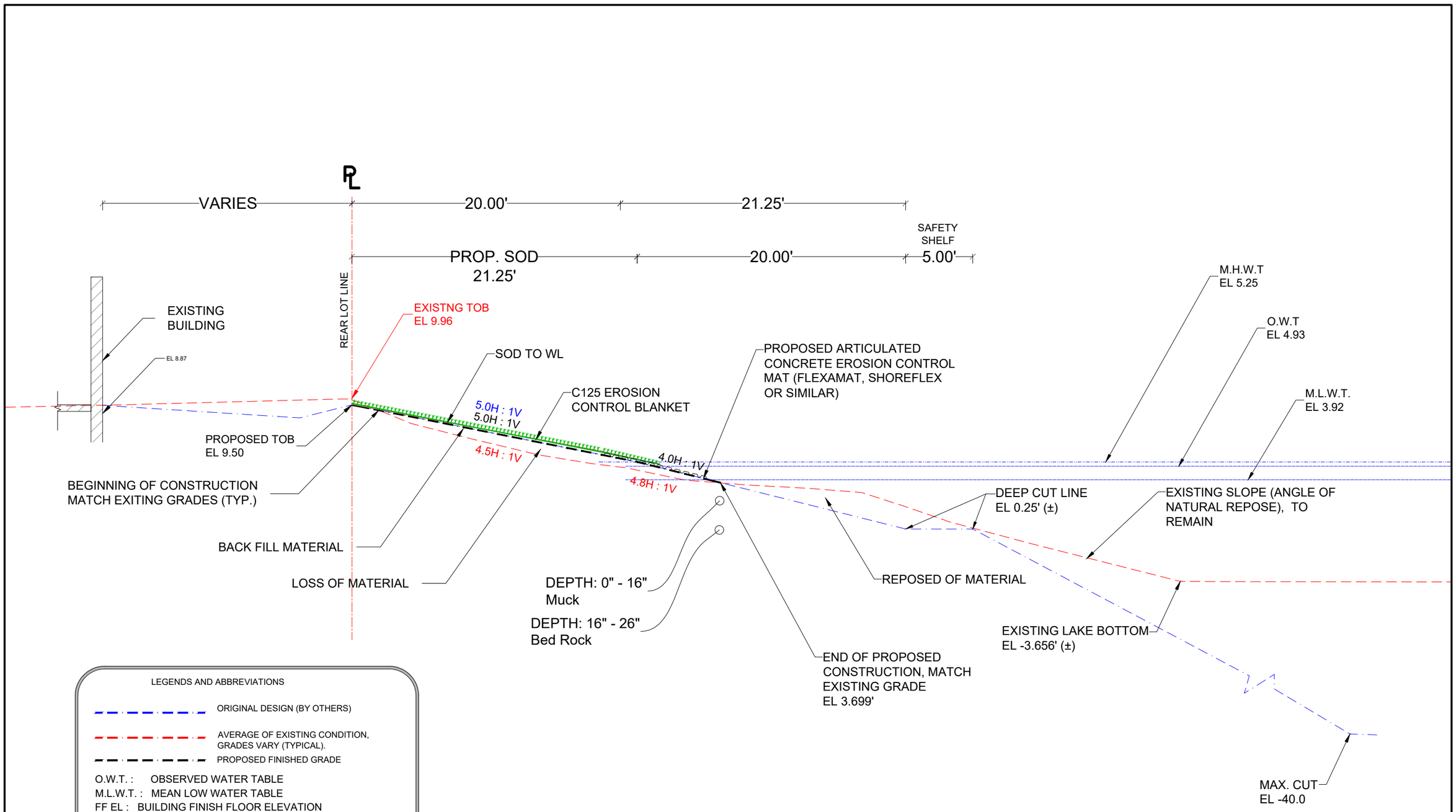
LAKE SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 3)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	AS SHOWN



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DATUM:
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REVISIONS		
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TYPICAL SECTION ON BANKS NEXT TO LOTS (LAKE 3)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	AS SHOWN

REVISIONS		
DATE	BY	DESCRIPTION

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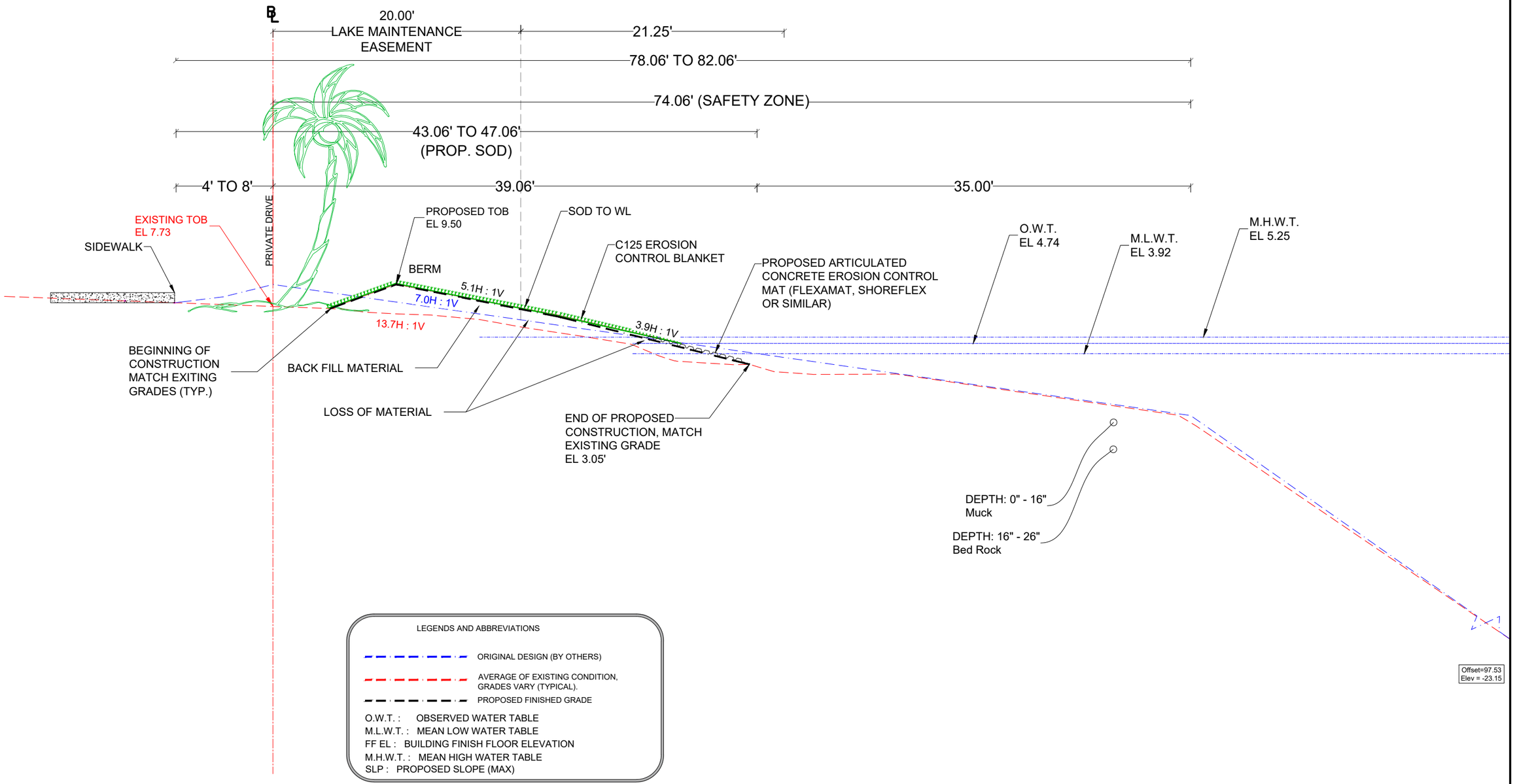
TOPOGRAPHIC PLAN (LAKE 4)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	1" = 70'



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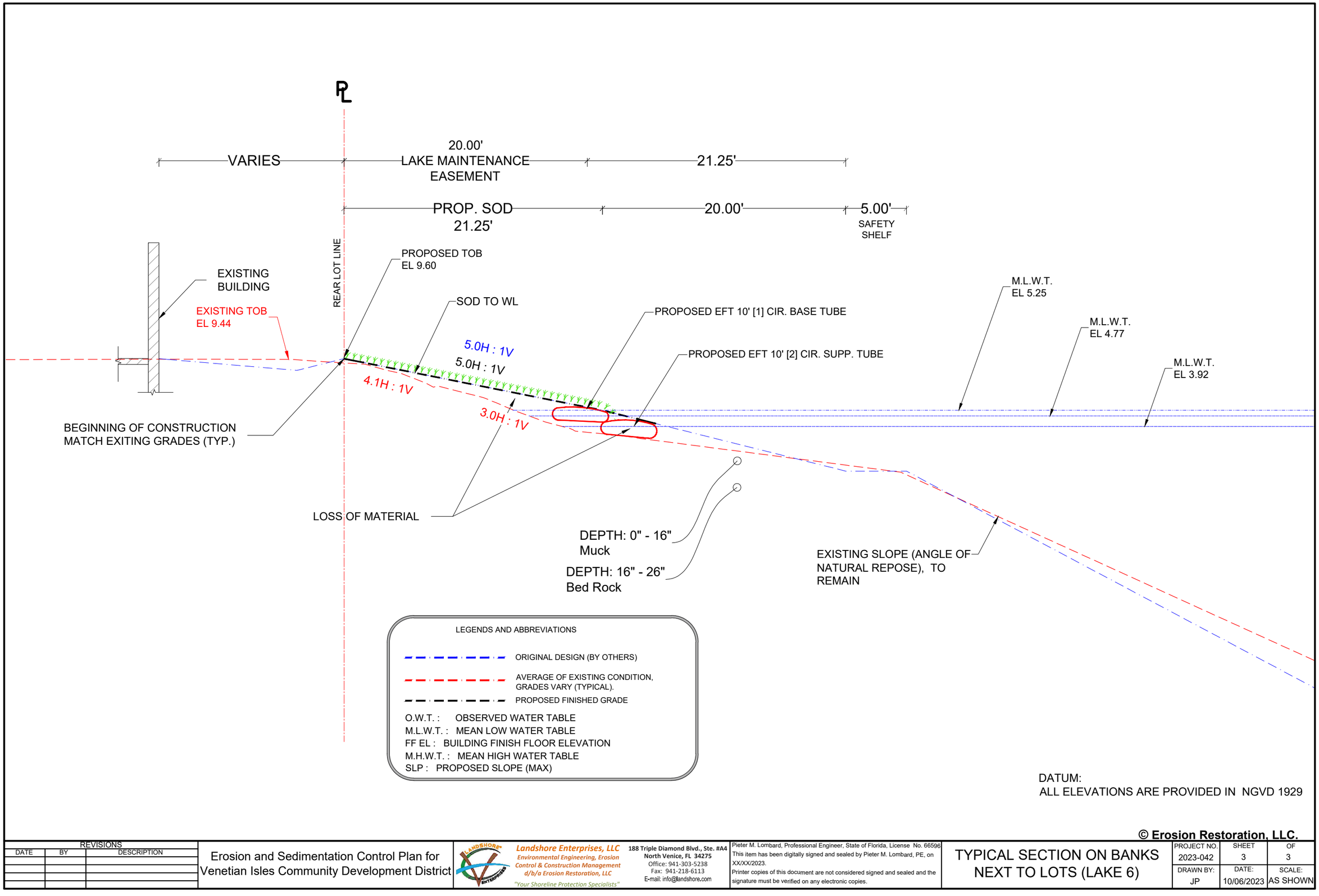
LAKE SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 4)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	AS SHOWN



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DATUM:
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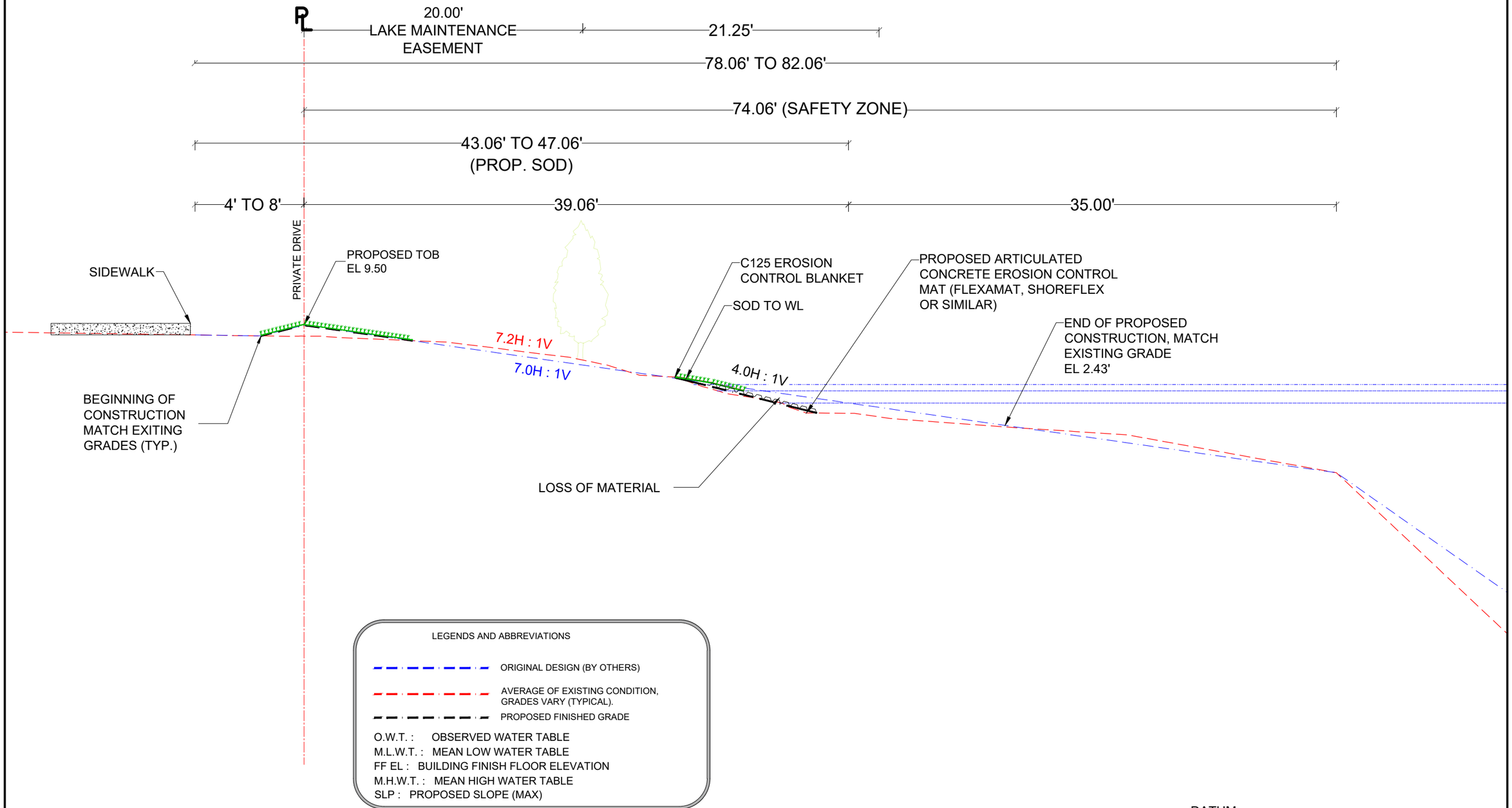
TYPICAL SECTION ON BANKS
NEXT TO LOTS (LAKE 6)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/06/2023	AS SHOWN



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DATUM:
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REVISIONS		
DATE	BY	DESCRIPTION

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Venetian Isles Community Development District

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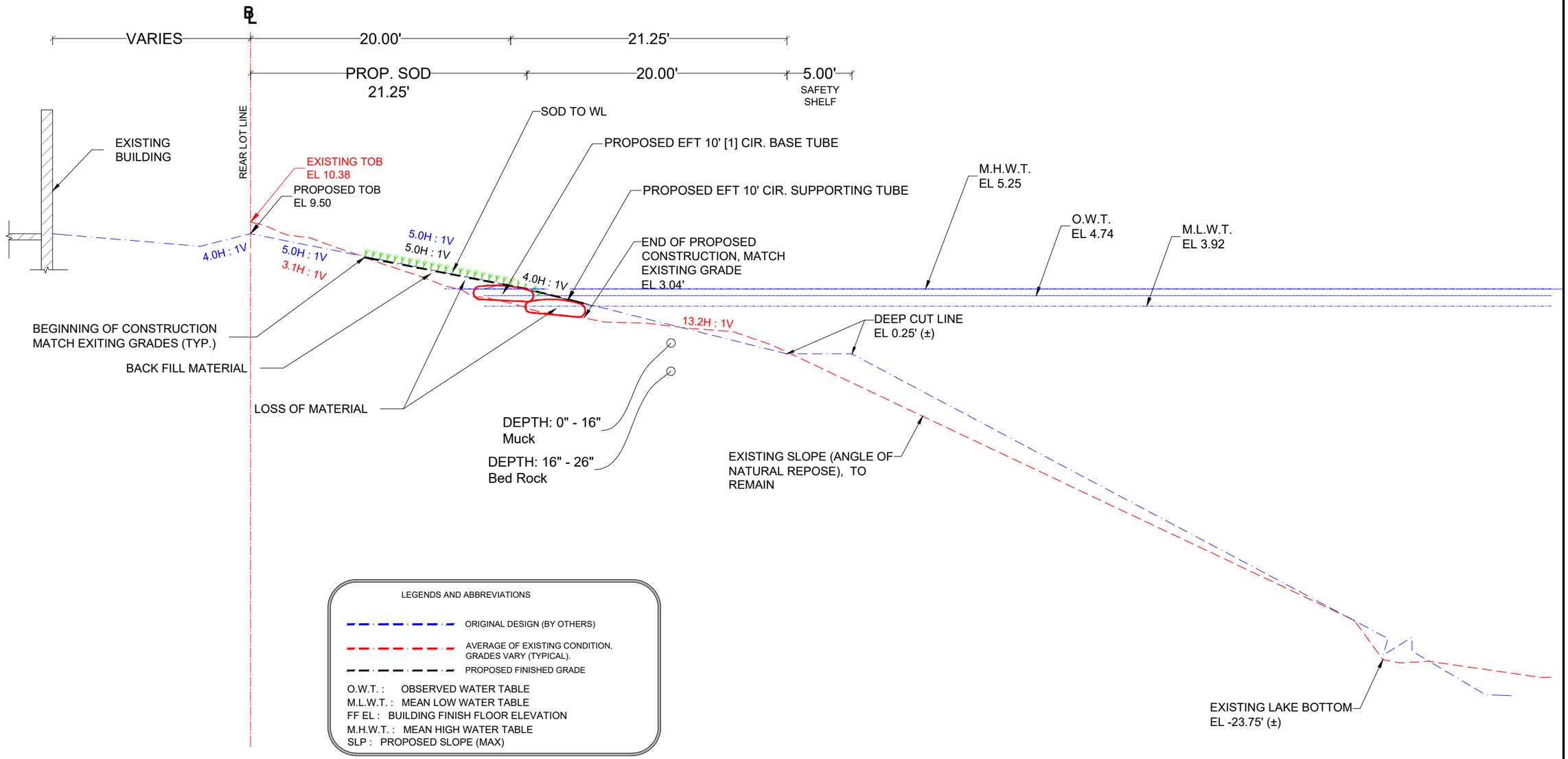
TYPICAL SECTION ON BANKS
NEXT TO PRIVATE ROADS (LAKE 6)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
JP	10/06/2023	AS SHOWN



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REVISIONS

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TYPICAL SECTION ON BANKS NEXT TO LOTS (LAKE 4)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/03/2023	AS SHOWN

TEMPORARY SITE
BENCHMARK
LANDSHORE #140
NAIL & WASHER
NORTHING:511498.715
EASTING: 839120.136
ELEV (NGVD29): 9.74 FT

N
W E
S

0 70 140 Feet

SCALE: 1" = 70'

EXISTING CONCRETE SLAB

EXISTING HEADWALL

EXISTING FENCE

ACCESS POINT / STAGING AREA

LAKE 5

24+84

4+98

19+96

13+31

1

2

3

4

SW 29th St

SW 30th St

SW 31st St

LEGEND AND EXISTING CONDITION (2023)

LEGEND

Priority 1 HIGH: Immediate Attention Recommended.[Proposed EFT]

Priority 2 MEDIUM: 1 to 2 Years Attention. Often Monitoring is Recommended Due to Potential Weather Inclement. [Proposed Flexamat or Shoreflex]

Priority 3 LOW: 3 to 5 Years Attention. Monitoring.

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control PLAN for Venetian Isles Community Development District

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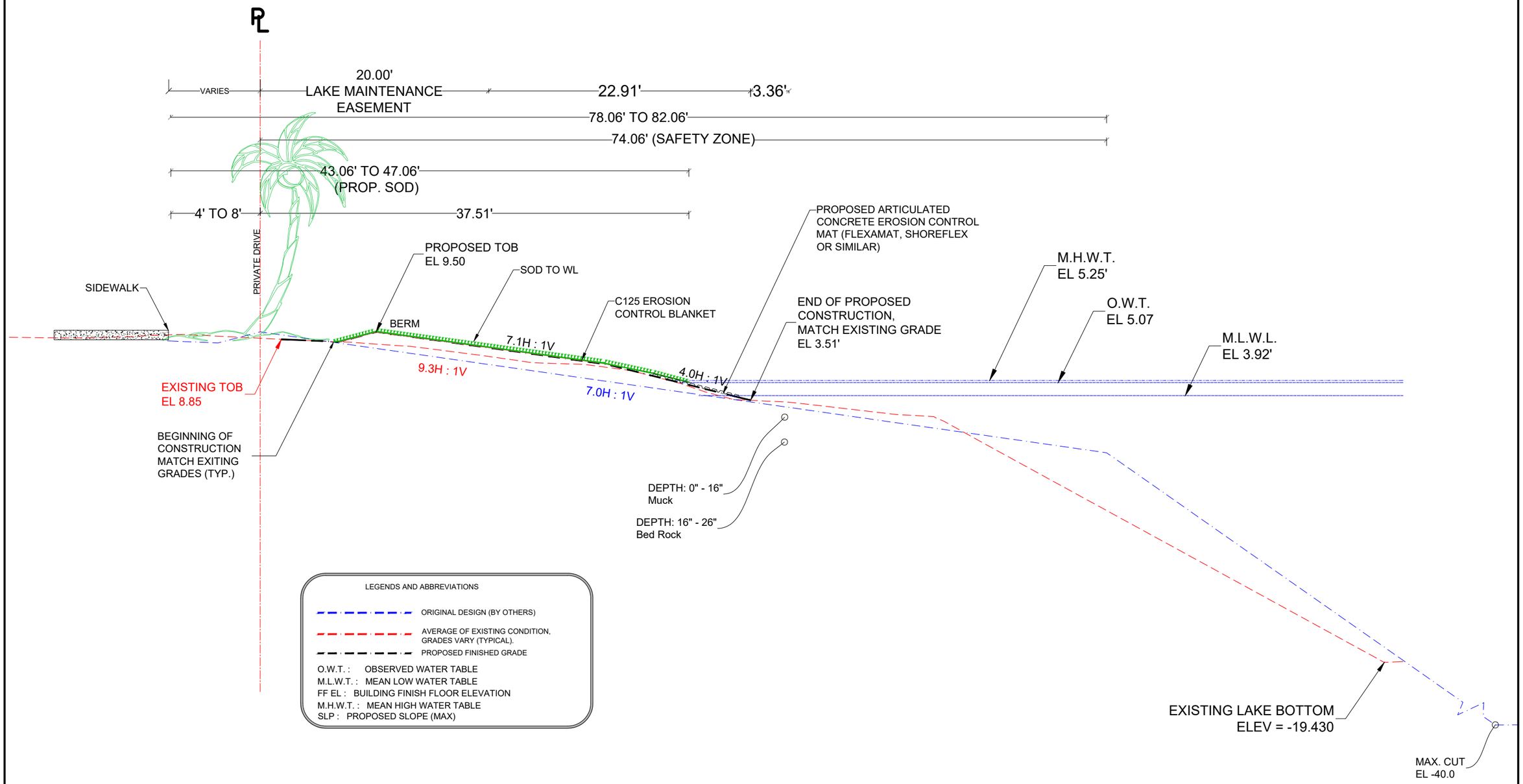
TOPOGRAPHIC PLAN (LAKE 5)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
JP	10/05/2023	1" = 70'



DATUM:
ALL ELEVATIONS ARE PROVIDED IN NGVD 1929.

REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control PLAN for Venetian Isles Community Development District

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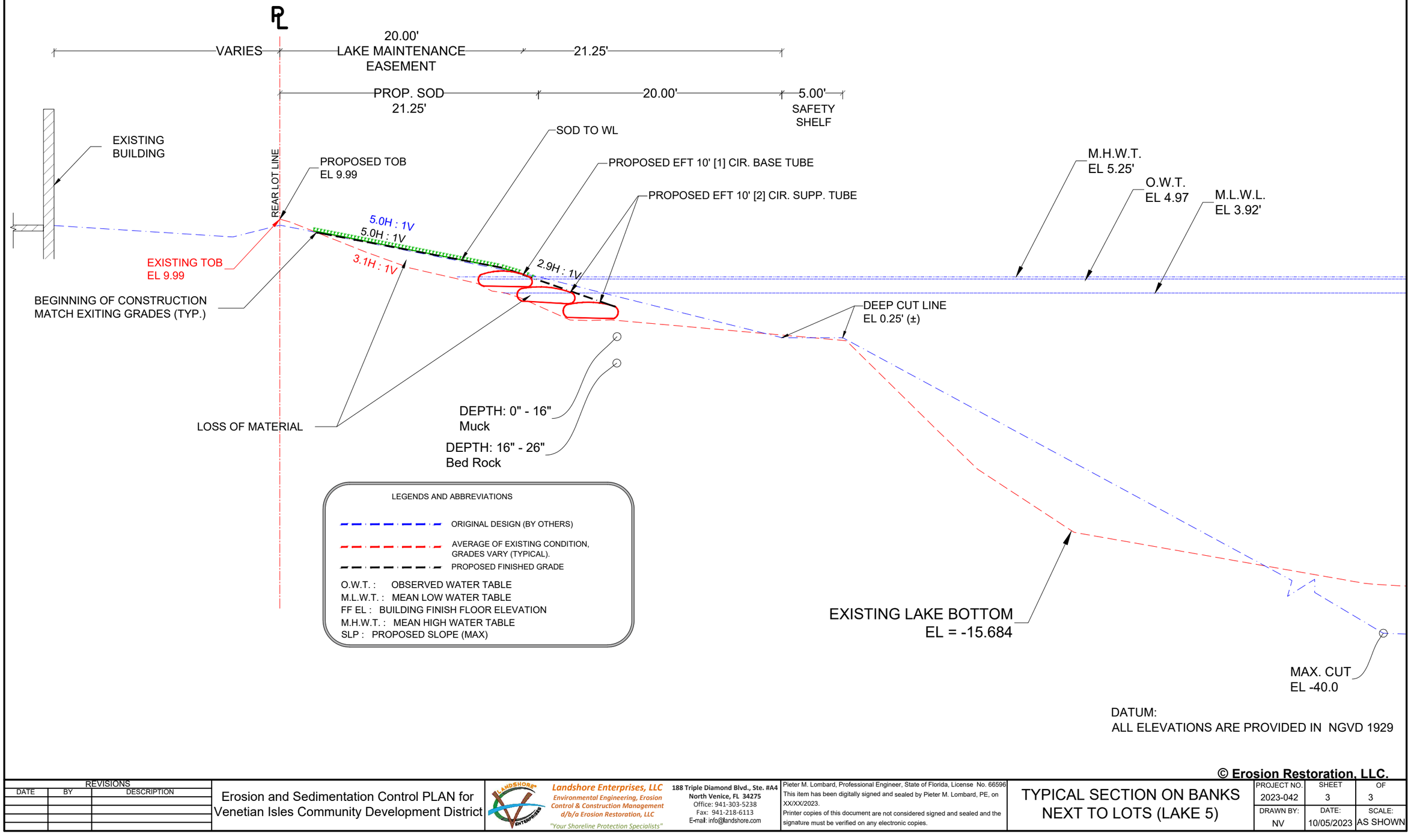
TYPICAL SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 5)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
NV	10/05/2023	AS SHOWN



REVISIONS		
DATE	BY	DESCRIPTION

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TYPICAL SECTION ON BANKS
NEXT TO LOTS (LAKE 5)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
NV	10/05/2023	AS SHOWN

REVISIONS		
DATE	BY	DESCRIPTION

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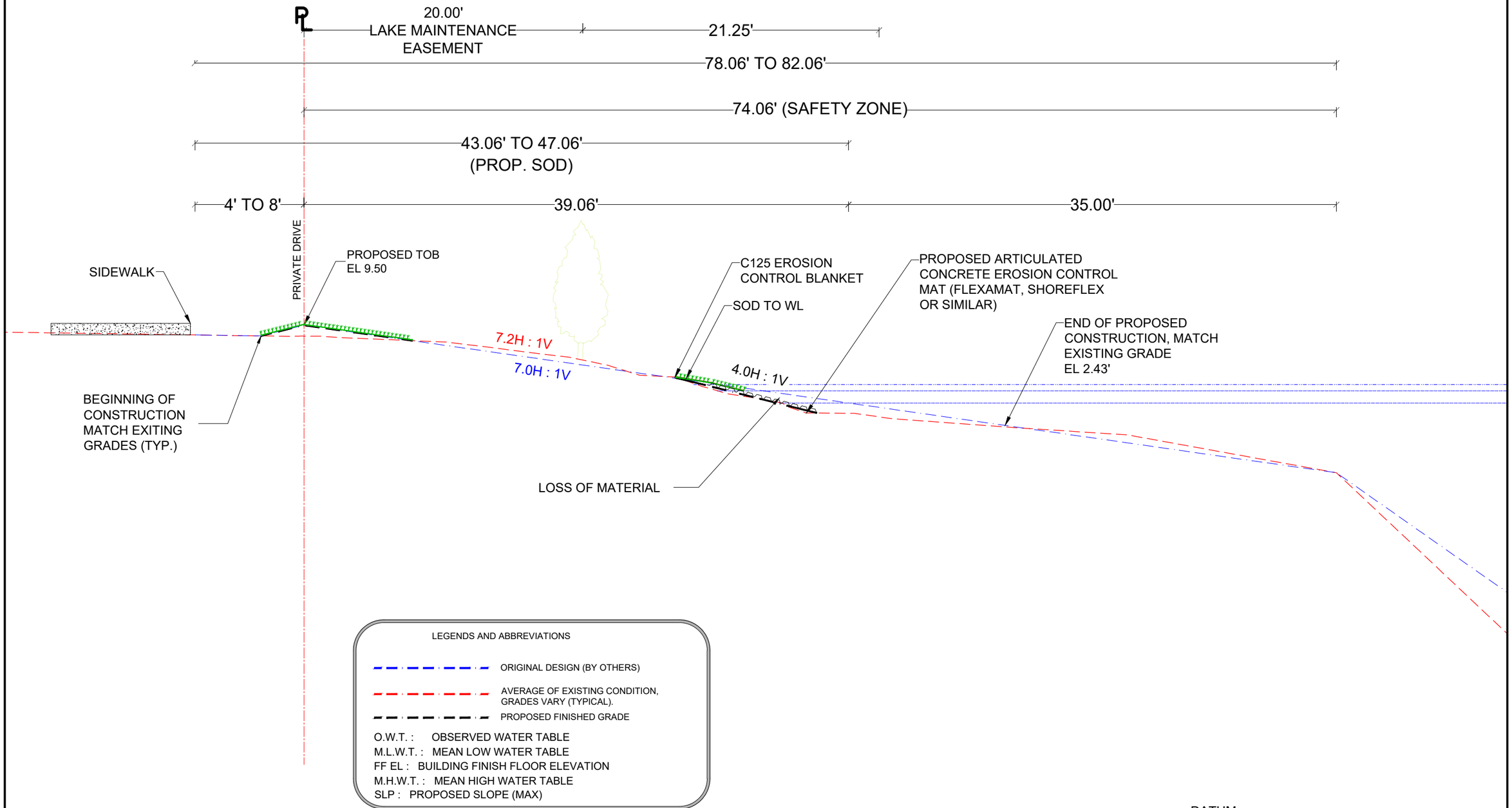
TOPOGRAPHIC PLAN (LAKE 6)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
NV	10/06/2023	1" = 60'



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REVISIONS		
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TYPICAL SECTION ON BANKS
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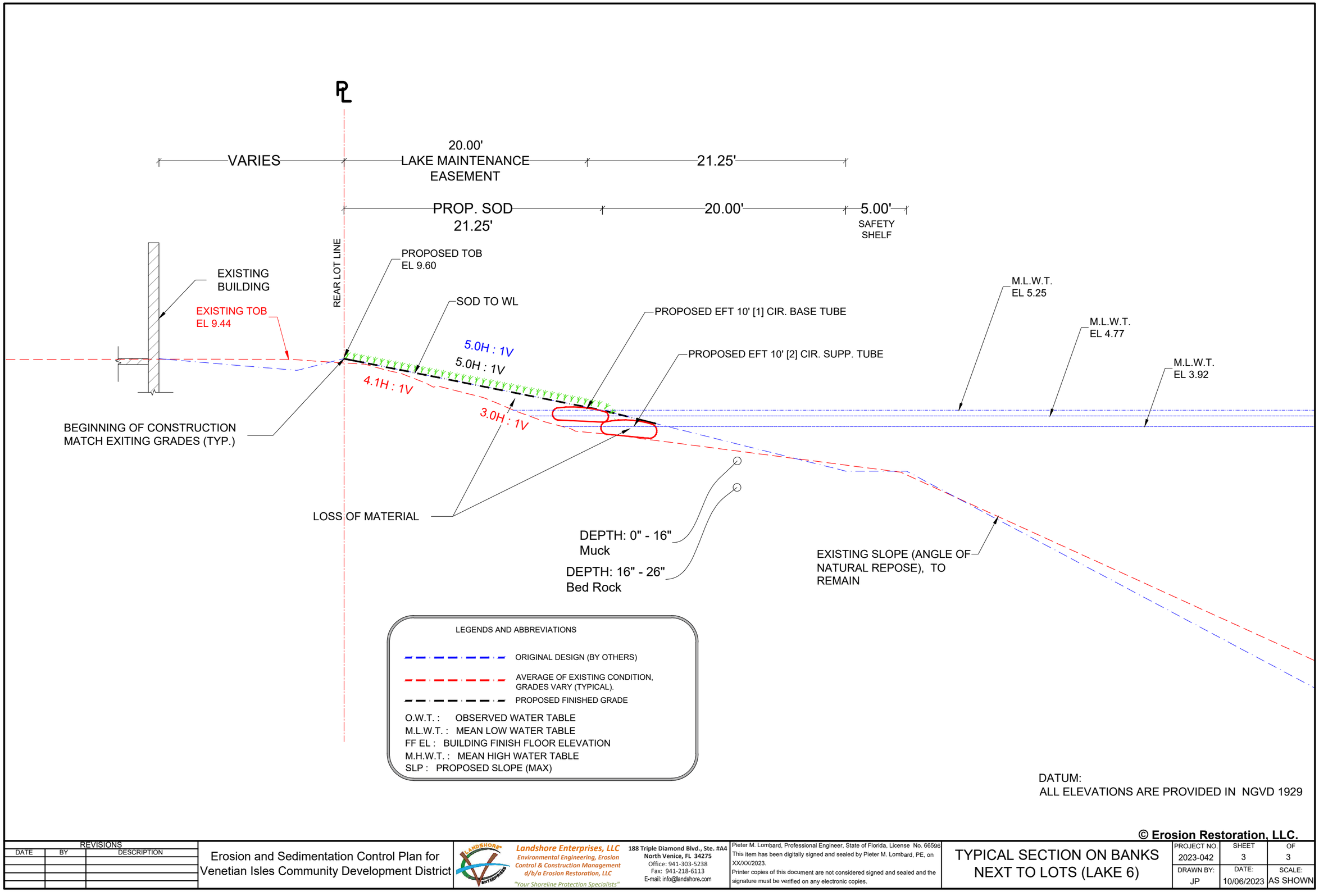
JP	10/06/2023	AS SHOWN



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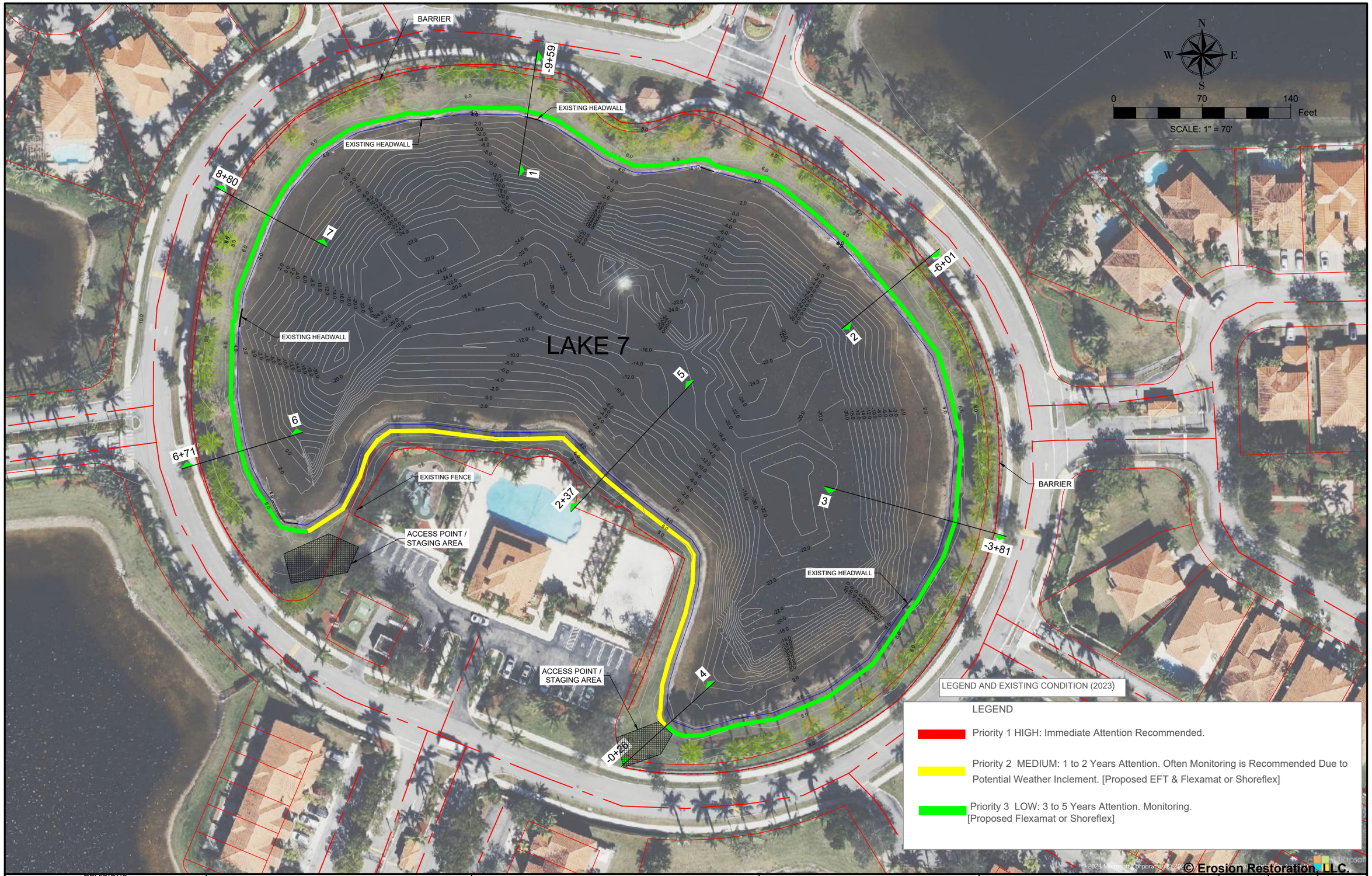
TYPICAL SECTION ON BANKS
NEXT TO LOTS (LAKE 6)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/06/2023	AS SHOWN



REVISIONS		
DATE	BY	DESCRIPTION

Erosion and Sedimentation Control Plan for Venetian Isles Community Development District

Landshore Enterprises, LLC
Environmental Engineering, Erosion Control & Construction Management d/b/a Erosion Restoration, LLC
"Your Shoreline Protection Specialists"
188 Triple Diamond Blvd., Ste. #A4
North Venice, FL 34275
Office: 941-303-5238
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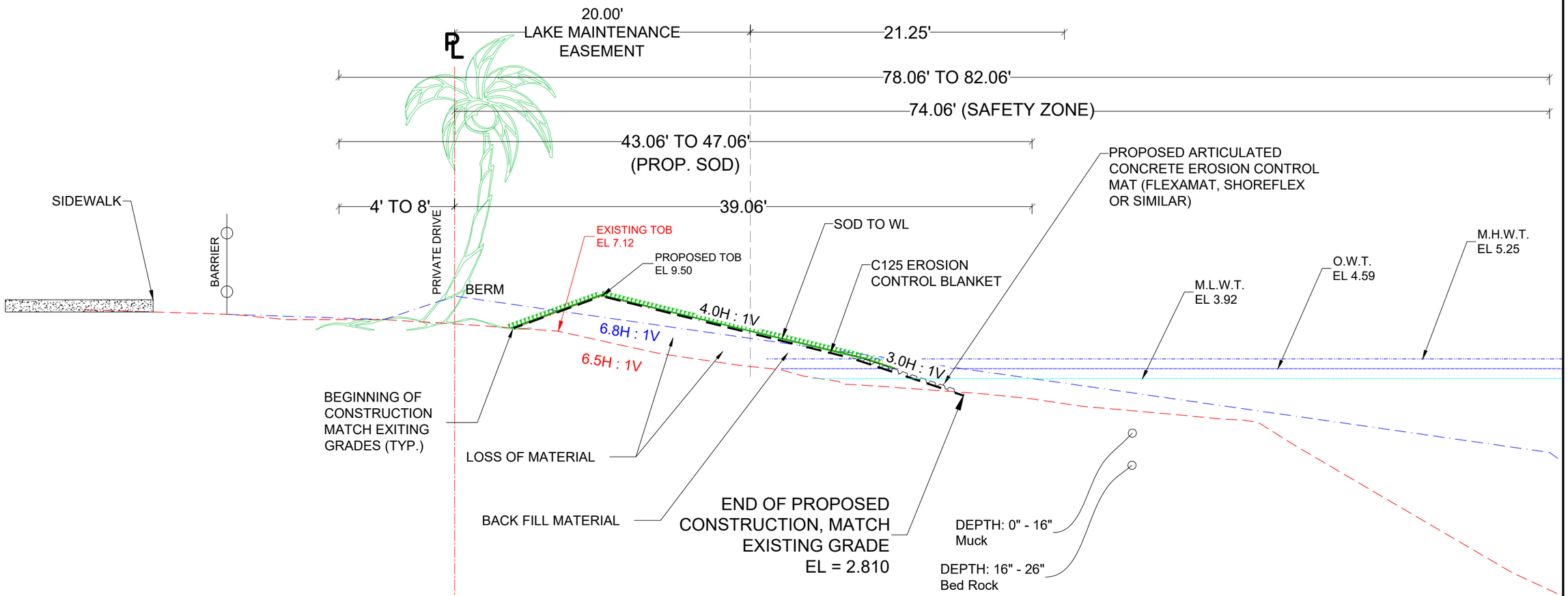
TOPOGRAPHIC PLAN (LAKE7)

PROJECT NO.	SHEET	OF
2023-042	1	3
DRAWN BY:	DATE:	SCALE:
JP	10/06/2023	1" = 70'



LEGENDS AND ABBREVIATIONS

- ORIGINAL DESIGN (BY OTHERS)
- AVERAGE OF EXISTING CONDITION, GRADES VARY (TYPICAL).
- PROPOSED FINISHED GRADE

O.W.T. : OBSERVED WATER TABLE
M.L.W.T. : MEAN LOW WATER TABLE
FF EL : BUILDING FINISH FLOOR ELEVATION
M.H.W.T. : MEAN HIGH WATER TABLE
SLP : PROPOSED SLOPE (MAX)

DATUM:
ALL ELEVATIONS ARE PROVIDED IN NGVD 1929

REVISIONS		
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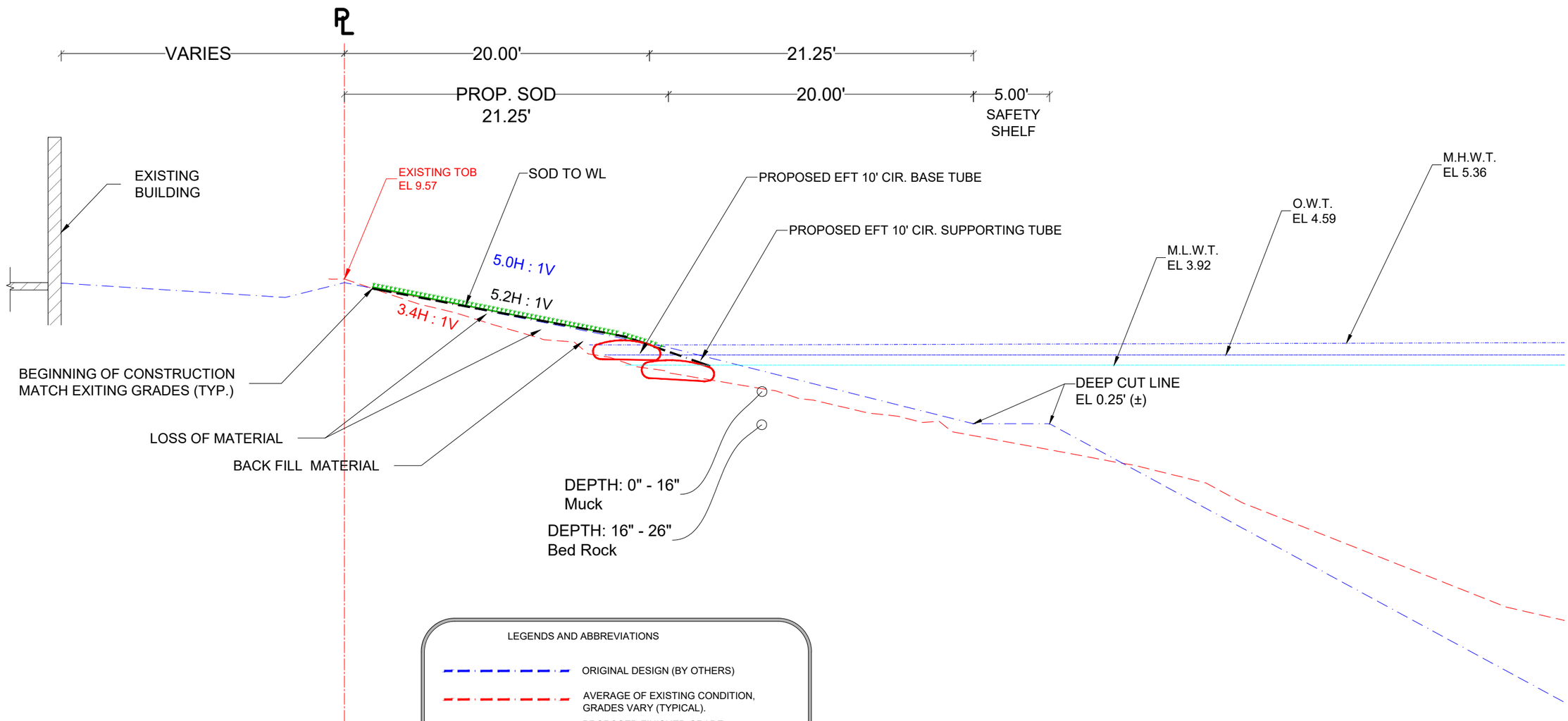
LAKE SECTION ON BANKS NEXT TO PRIVATE ROADS (LAKE 7)

PROJECT NO.	SHEET	OF
2023-042	2	3
DRAWN BY:	DATE:	SCALE:
NV	10/06/2023	AS SHOWN



LEGENDS AND ABBREVIATIONS

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DATUM:
ALL ELEVATIONS ARE PROVIDED IN NGVD 1929

REVISIONS		
DATE	BY	DESCRIPTION

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TYPICAL SECTION ON BANKS NEXT TO LOTS (LAKE 7)

PROJECT NO.	SHEET	OF
2023-042	3	3
DRAWN BY:	DATE:	SCALE:
JP	10/06/2023	AS SHOWN

Miami-Dade County Area, Florida

54—Biscayne marly silt loam, ponded-Urban land complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2z9vd
Elevation: 0 to 10 feet
Mean annual precipitation: 42 to 70 inches
Mean annual air temperature: 77 to 81 degrees F
Frost-free period: 365 days

Map Unit Composition

Biscayne and similar soils: 45 percent
Urban land: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Biscayne

Setting

Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Silty marl over limestone

Typical profile

Lma1 - 0 to 5 inches: marly silt loam
Lma2 - 5 to 15 inches: marly silt loam
2R - 15 to 25 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 3 to 24 inches to lithic bedrock
Drainage class: Poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Calcium carbonate, maximum content: 100 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Very low (about 2.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7w

Hydrologic Soil Group: C/D
Forage suitability group: Forage suitability group not assigned (G156AC999FL)
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: Yes

Description of Urban Land

Setting

Landform: Flats on islands
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Minor Components

Chekika

Percent of map unit: 4 percent
Landform: Rises on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Convex
Other vegetative classification: Shallow or moderately deep, sandy or loamy soils on rises and ridges of mesic uplands (G156AC521FL)
Hydric soil rating: No

Krome

Percent of map unit: 4 percent
Landform: Rises on marine terraces
Landform position (three-dimensional): Tread, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Shallow or moderately deep, sandy or loamy soils on rises and ridges of mesic uplands (G156AC521FL)
Hydric soil rating: No

Pennsuco, ponded

Percent of map unit: 3 percent
Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Concave

Other vegetative classification: Loamy and clayey soils on flats of hydric or mesic lowlands (G156AC341FL)
Hydric soil rating: Yes

Cooper town
Percent of map unit: 2 percent
Landform: Marshes on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, convex
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Shark valley
Percent of map unit: 2 percent
Landform: Depressions on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Concave, linear
Across-slope shape: Concave, convex
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Miami-Dade County Area, Florida
Survey Area Data: Version 15, Aug 28, 2023

Miami-Dade County Area, Florida

58—Cooper Town muck, ponded-Urban land complex, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2z9vj
Elevation: 0 to 20 feet
Mean annual precipitation: 42 to 70 inches
Mean annual air temperature: 77 to 81 degrees F
Frost-free period: 365 days
Farmland classification: Not prime farmland

Map Unit Composition

Cooper town and similar soils: 45 percent
Urban land: 40 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cooper Town

Setting

Landform: Marshes on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Convex, concave
Parent material: Herbaceous organic material over limestone

Typical profile

Oa - 0 to 16 inches: muck
2R - 16 to 26 inches: bedrock

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: 7 to 20 inches to lithic bedrock
Drainage class: Very poorly drained
Runoff class: Negligible
Capacity of the most limiting layer to transmit water (Ksat): High to very high (1.98 to 19.98 in/hr)
Depth to water table: About 0 to 1 inches
Frequency of flooding: None
Frequency of ponding: Frequent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 4.0
Available water supply, 0 to 60 inches: Moderate (about 6.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7w
Hydrologic Soil Group: A/D
Forage suitability group: Organic soils in depressions and on flood plains (G156AC645FL)
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Description of Urban Land

Setting

Landform: Flats on islands
Landform position (three-dimensional): Riser, talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: No parent material

Interpretive groups

Land capability classification (irrigated): None specified
Forage suitability group: Forage suitability group not assigned (G155XB999FL)
Other vegetative classification: Forage suitability group not assigned (G155XB999FL)
Hydric soil rating: Unranked

Minor Components

Shark valley

Percent of map unit: 5 percent
Landform: Depressions on marine terraces
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Dip, talf
Down-slope shape: Linear, concave
Across-slope shape: Convex, concave
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Jupiter

Percent of map unit: 3 percent
Landform: Flatwoods on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Cabbage Palm Flatwoods (R155XY005FL), Sandy soils on flats of mesic or hydric lowlands (G155XB141FL)
Hydric soil rating: Yes

Plantation

Percent of map unit: 3 percent
Landform: Depressions on marine terraces
Landform position (three-dimensional): Tread, dip
Down-slope shape: Linear, concave

Across-slope shape: Linear, concave
Other vegetative classification: Organic soils in depressions and on flood plains (G156AC645FL)
Hydric soil rating: Yes

Udorthents

Percent of map unit: 2 percent
Landform: Marine terraces
Landform position (three-dimensional): Tread, talf, rise
Down-slope shape: Convex
Across-slope shape: Linear
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: No

Biscayne

Percent of map unit: 2 percent
Landform: Marshes on marine terraces
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Concave
Other vegetative classification: Forage suitability group not assigned (G156AC999FL)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Miami-Dade County Area, Florida
Survey Area Data: Version 15, Aug 28, 2023