Iowa Department of Natural Resources

Construction Documents for

Twin Lakes State Park

Calhoun County, Iowa

Shoreline Stabilization

Project No. 27-02-12-01

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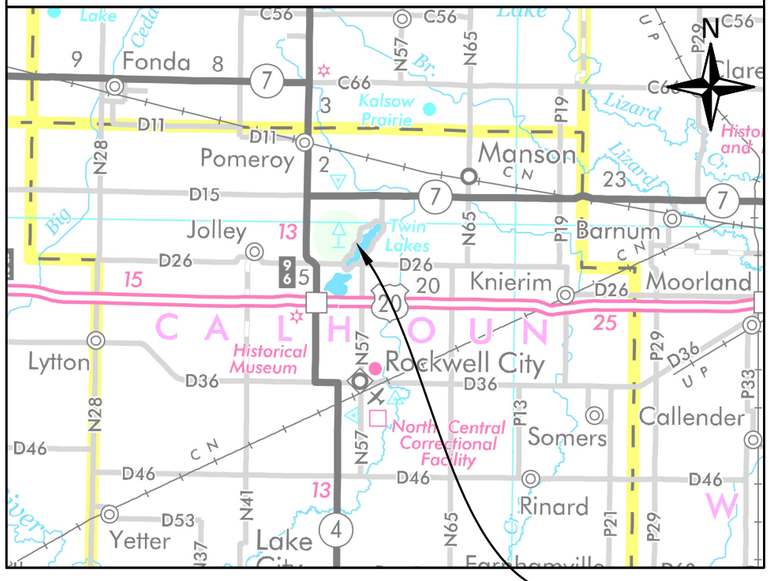
Directory	
Project Manager	
Organization	Iowa DNR
Contact	Morgan Nordyke
Phone	515-250-3711
Email	morgan.nordyke@dnr.iowa.gov
Address	6200 Park Ave. Ste 200
City, State, Zip	Des Moines, IA 50321
District Engineer	
Organization	Iowa DNR
Contact	Heath Delzell
Phone	515-979-0104
Email	heath.delzell@dnr.iowa.gov
Address	6200 Park Avenue, Ste 200
City, State, Zip	Des Moines, IA 50321

Project Description

This project includes clearing and grubbing trees, shrubs, and brush and placing 400 tons of field stone along 550' of shoreline.

Project Location Map



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C.01	Quantities & General Information
D.01	Demo & Proposed Plan

LICENSED PROFESSIONAL ENGINEER
HEATH B. DELZELL
21074
IOWA

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Heath B. Delzell — Date
License Number: 21074
My license renewal date is December 31, 2027
Pages or sheets covered by this seal:
All

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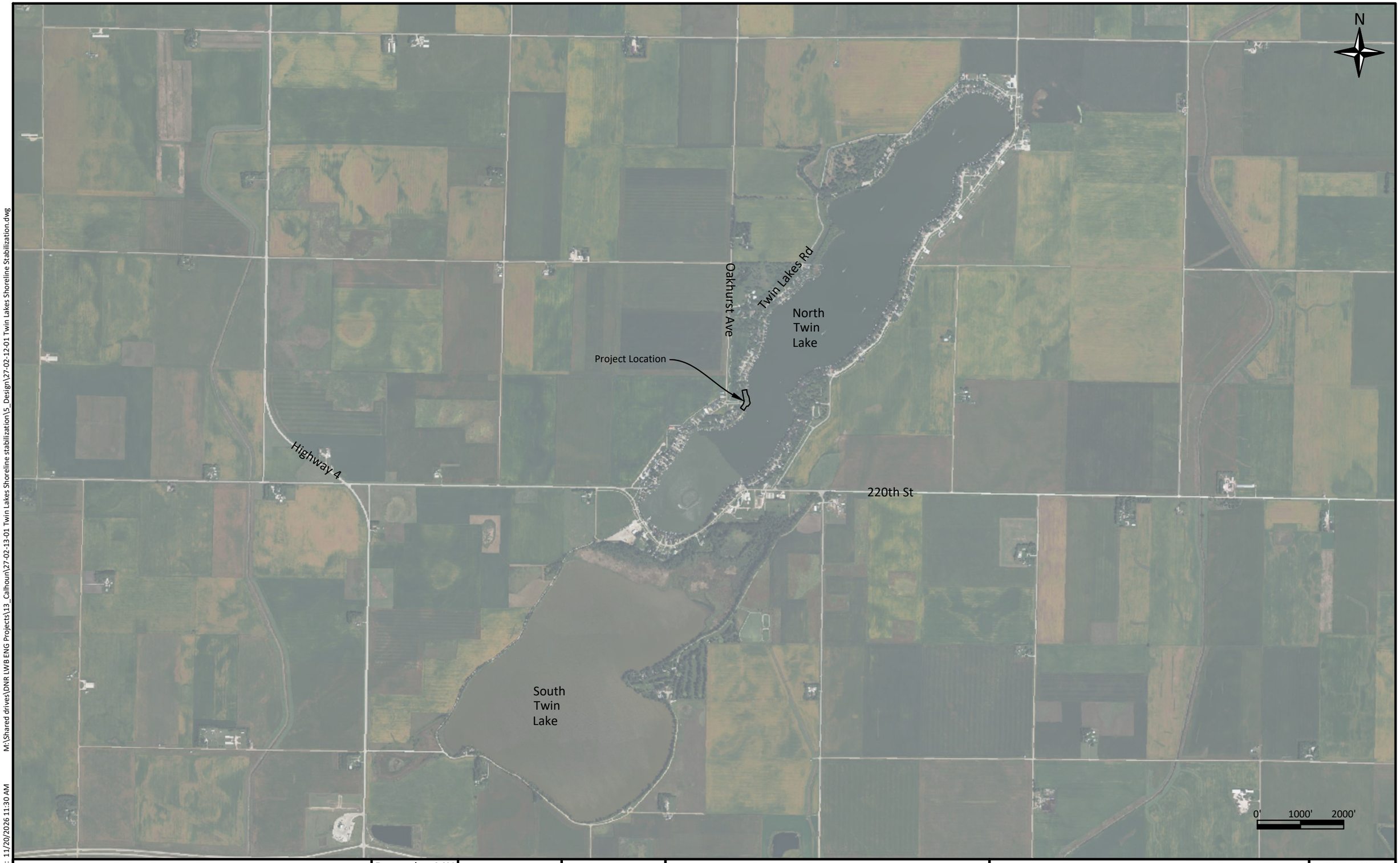

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Engineering Section - 6200 Park Ave., Suite 200 Des Moines, IA 50321-1270

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Bid Date: 12/10/2026

Project Number: 27-02-12-01

Shoreline Stabilization
Twin Lakes State Park, Calhoun County

Project Overview

Sheet No: A.02



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Twin Lakes State Park, Calhoun County

Existing Conditions

Sheet No: A.03

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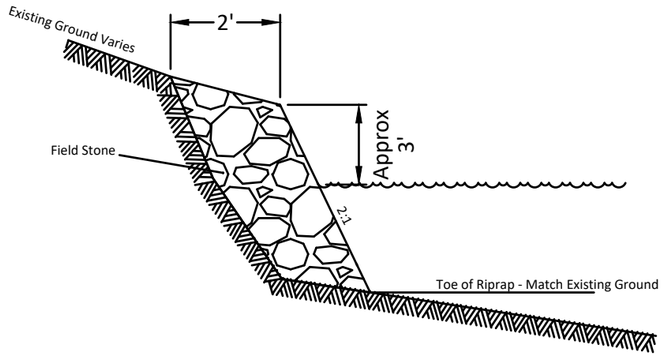
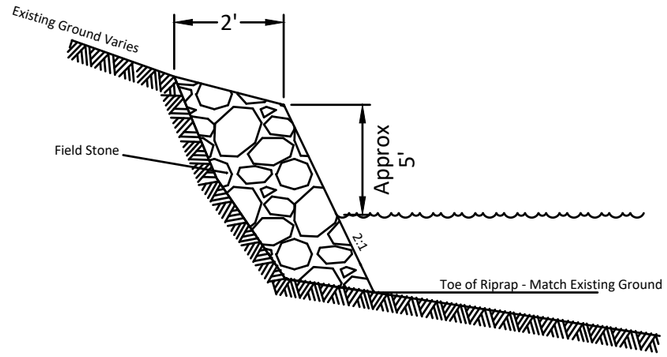


Shoreline Armoring Detail

NOT TO SCALE

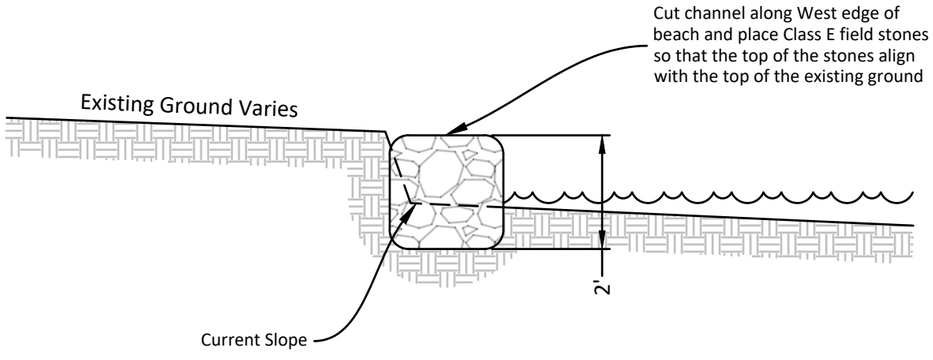
For stations 0+00 to 0+40 and 0+70 to 2+75



Shoreline Armoring Detail

NOT TO SCALE

For stations 2+75 to 5+49



Beach Armoring Detail

Not to Scale

For Sta 0+40 to 0+70

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Shoreline Stabilization
Twin Lakes State Park, Calhoun County

Details

Sheet No: B.01

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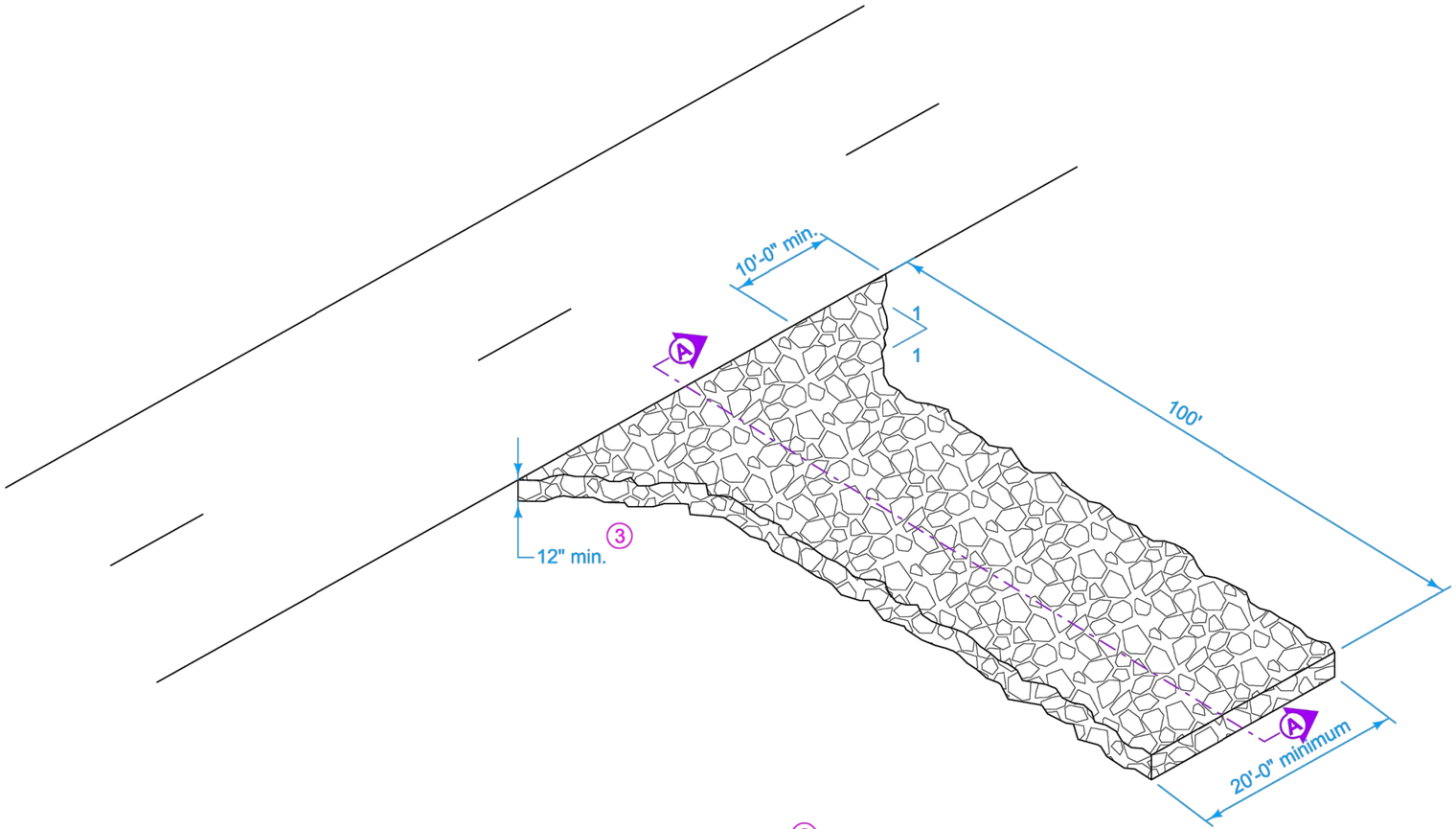
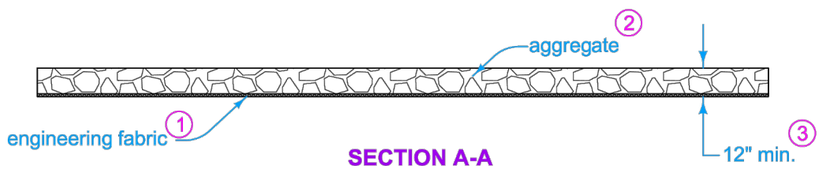
Obtain the Engineer's approval for location of stabilized entrances prior to constructing.

1. Place engineering fabric prior to placing aggregate. Use fabric for Embankment Erosion Control complying with Section 4196 of the Standard Specifications.
2. Use aggregate meeting Gradation No. 13a of Section 4109 of the Standard Specificaitons.
3. Depth may need to be increased depending on the weight of contractor vehicles and equipment.





SECTION A-A

IOWA DOT

STANDARD ROAD PLAN

REVISION	
4	10-19-21

EC-303

SHEET 1 of 1

REVISIONS: Defined length to be 100', to be consistant with spec change.

APPROVED BY DESIGN METHODS ENGINEER

STABLIZED CONSTRUCTION ENTRANCE

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Shoreline Stabilization
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Stabilized Construction Entrance Detail

Sheet No: B.02

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Estimated Quantities

Item	Description	Quantity	Unit
1	Mobilization	1	LS
2	Clearing & Grubbing	1	LS
3	Stabilized Construction Entrance	50	LF
4	Class E Revetment - Field Stone	398	Ton
5	Class E Revetment - Beach Armoring	8	Ton
6	8" Corrugated HDPE Pipe	132	LF
7	8" Rodent Guard	2	EA
8	Boulders (3'x3'x3' Min)	50	EA
9	Site Restoration	1	LS

Estimate Reference Information

1. Mobilization - Per Iowa DOT Section 2533.
2. Clearing & Grubbing - This line item consists of clearing and grinding of trees indicated on the plans and clearing of the shoreline. Trees to be disposed of offsite. See shoreline clearing limits and the two specific trees to be removed on Sheet D.01. Tree removal must occur between October 1 and March 31. Local staff to remove various other trees onsite before site work begins.
3. Stabilized Construction Entrance - Construct 50'x20' stabilized construction entrance per Iowa DOT EC-303 detail on Sheet B.02.
4. Class E Revetment - Field Stone - Native field stone is required per local code and Twin Lakes Restoration Association. See detail on Sheet B.01.
5. Class E Revetment - Beach Armoring - Field Stone - Native field stone is required. See detail on Sheet B.01.
6. 8" Corrugated HDPE Pipe - Pipe shall be compliant with Iowa DOT Section 4149.03D.
7. 8" Rodent Guard - Place rodent guard on both ends of pipe. As manufactured by Agri Drain or approved equal.
8. Boulders (3'x3'x3') - Provide and place rock boulders at approximately 65" clear spacing along park perimeter to prevent vehicle traffic from driving into the park while maintaining lawn mower access. Rocks shall be 3'x3'x3' minimum weighing approximately 2 tons each.
9. Site Restoration - Site to be reestablished back to original conditions including seeding and mulching disturbed areas with Iowa DOT Urban Seeding Mix.

General Information

1. Verify actual locations and elevations with DNR Engineer.
2. All work shall conform to and be performed in accordance with all applicable codes and ordinances.
3. The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.
4. The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.
5. It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.
6. The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.
7. Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.
8. The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.
9. The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

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Quantities & General Information

Sheet No: C.01

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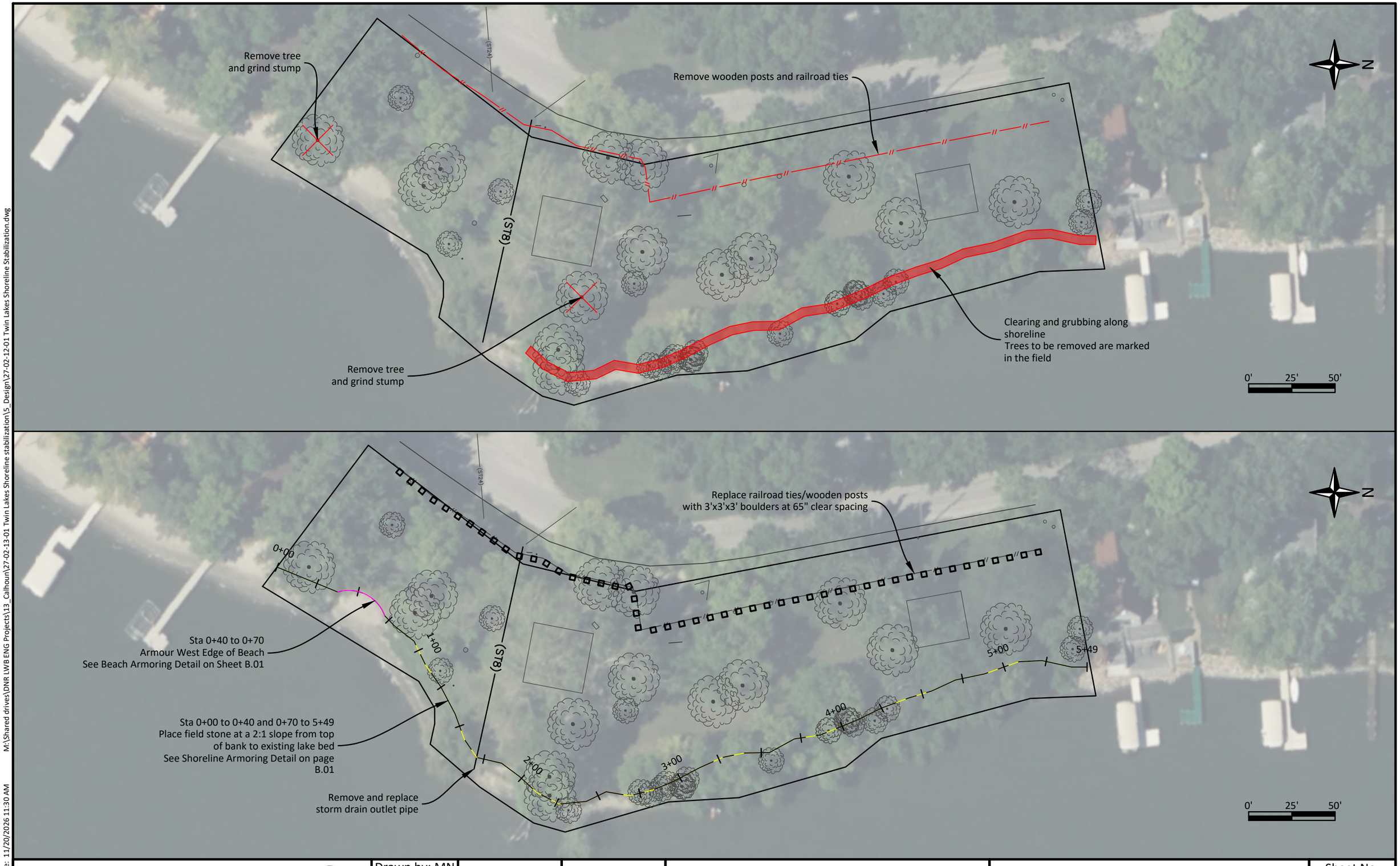

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