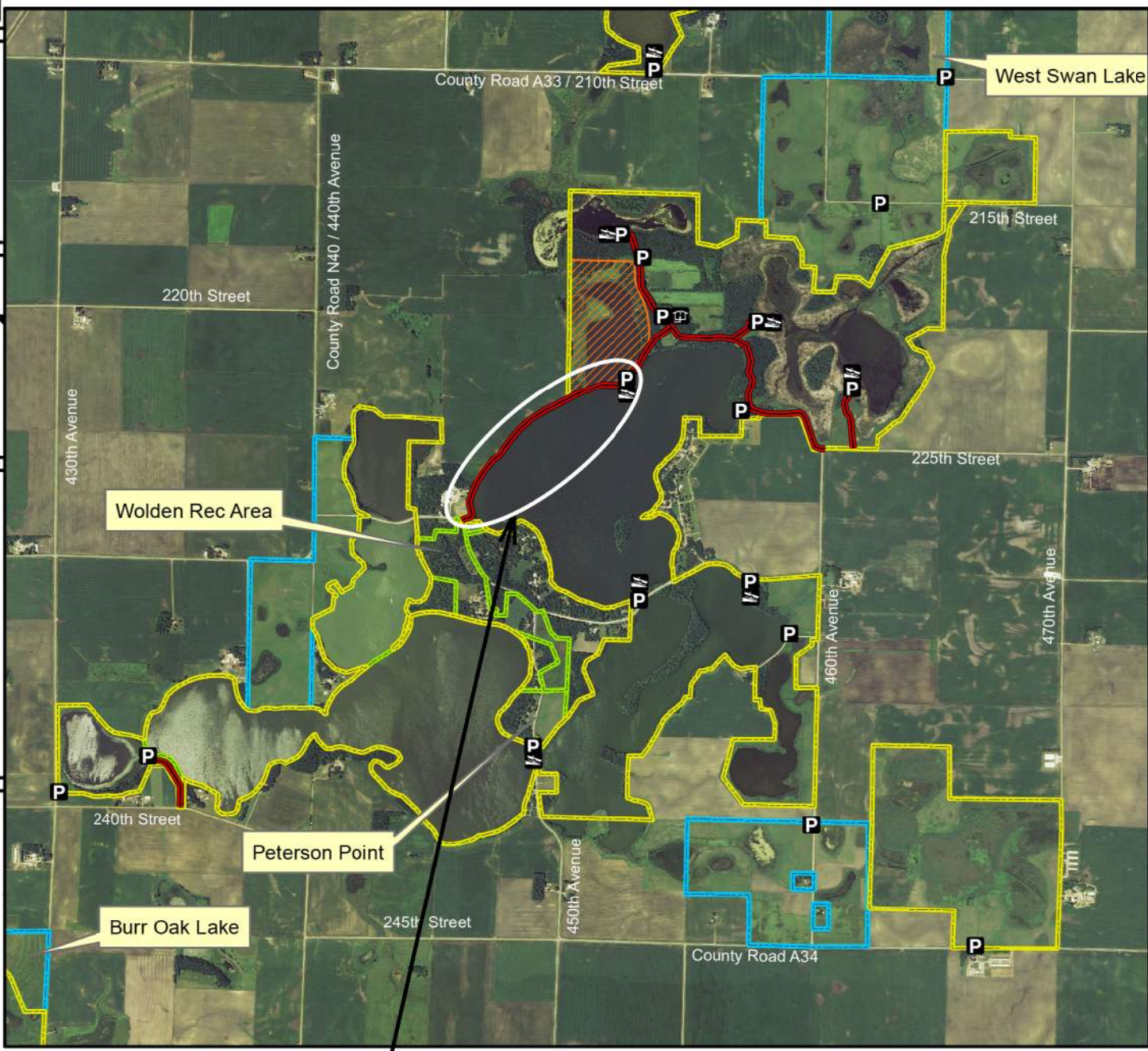
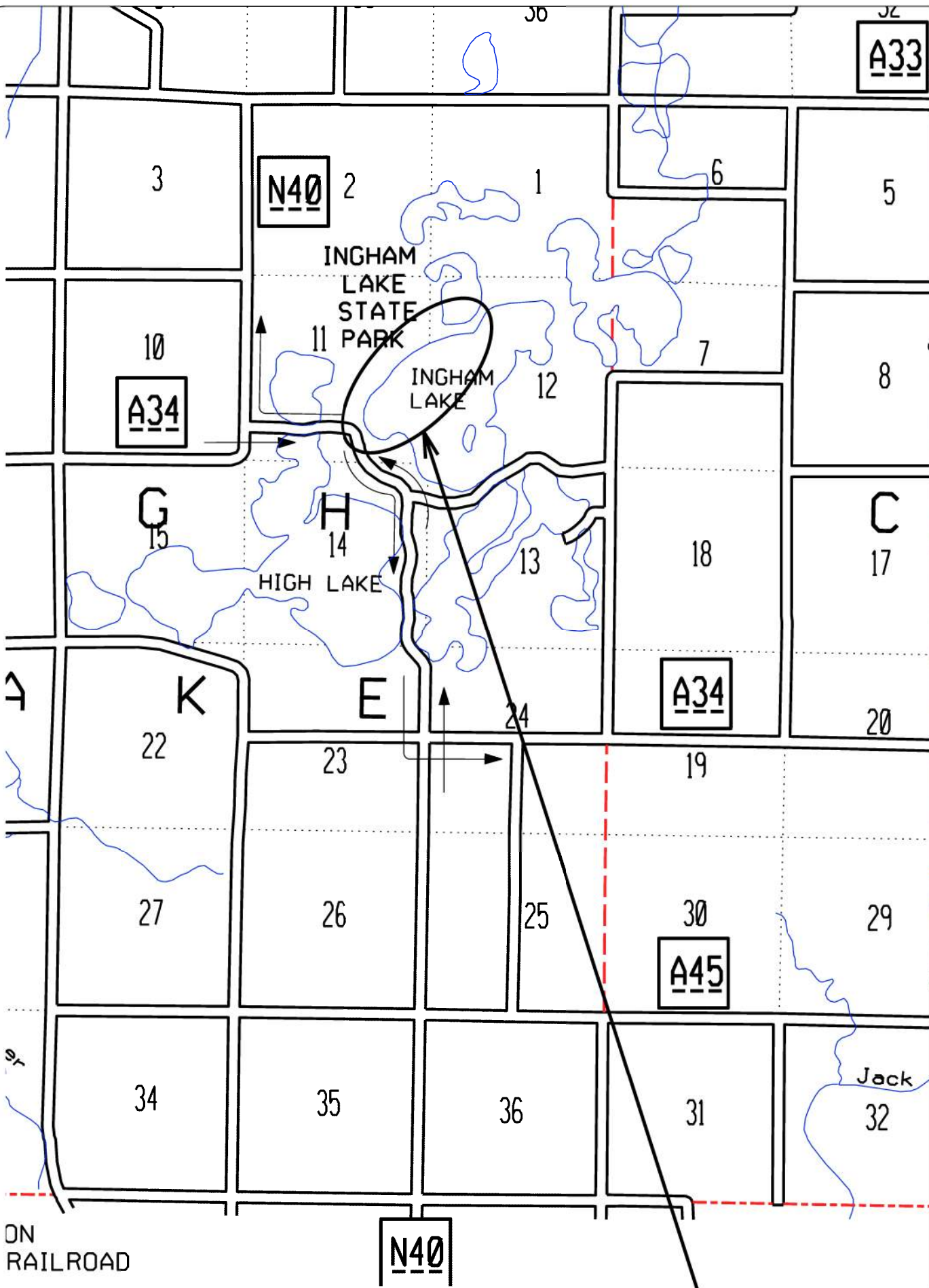


Ingham-High Wetland Complex Wildlife Management Area - N



Legend

- State Areas open to hunting
- WMA Boundary
- WPA Boundary
- Refuge
- Buildings
- Parking Lot
- Boat Ramp
- Access Road
- Other Public Land

2013 Aerial Photography
Map Creation Date: 1/2015

DNR IOWA DEPARTMENT OF NATURAL RESOURCES

Acres: 3,209

Habitat: 2/3 Lake, Marsh, 1/3 Timber, Upland

Species: Deer, Squirrel, Pheasant, Waterfowl, Rabbit, Dove

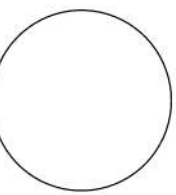
Contact: Bryan Hellyer
Prairie Lakes Wildlife Unit
712-330-2563

Restrictions: Non-Toxic Shot
Closed Canada Goose Area #1

Emmet County, Iowa
T-98N, R-32&33W,
Sections 1,6-7,11-15,18-19,23-24,32

Directions: 5 miles E of Wallingford on A34.

CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



PROJECT LOCATION MAP

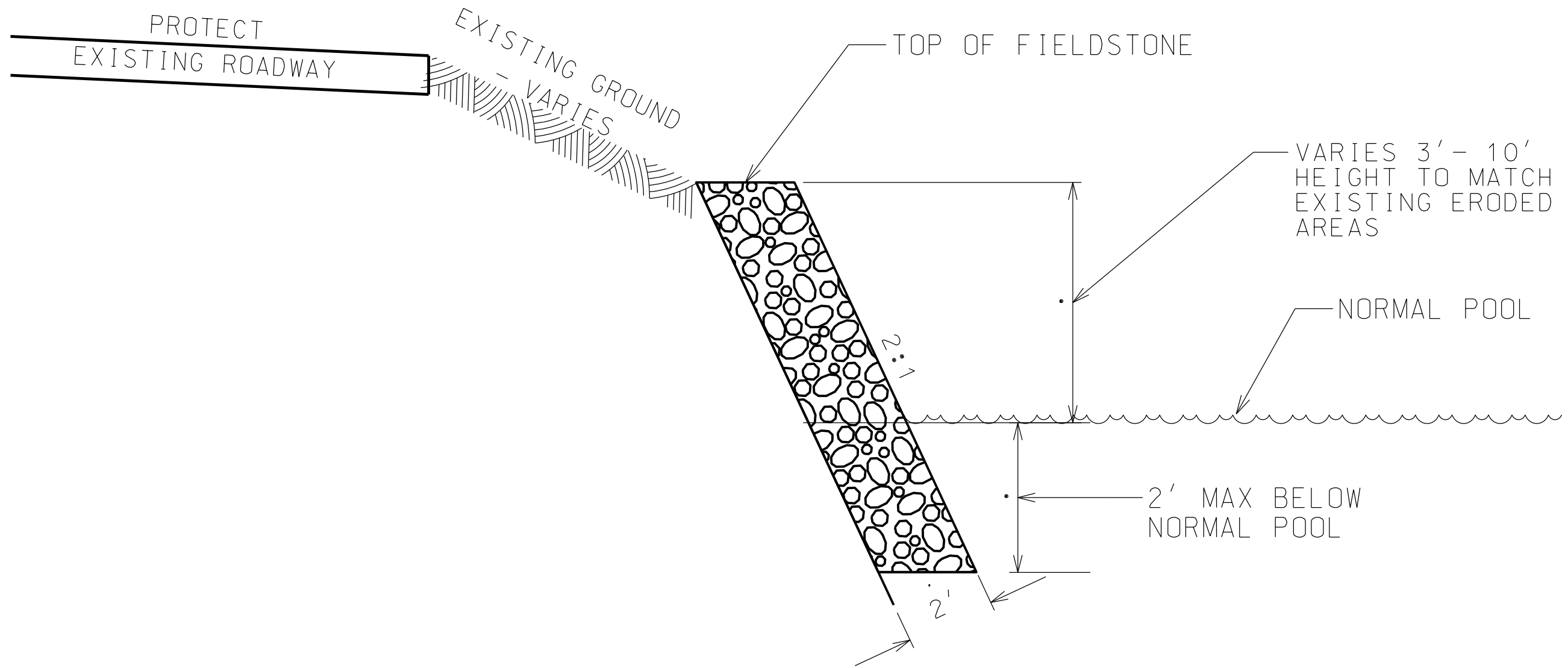
SHORELINE ARMORING FOR:
INGHAM-HIGH WETLAND WMA
EMMET COUNTY

NO.	DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 19-01-32-02
CHK'D BY: DATE: DEC 2021
SHEET NO:

ON RAILROAD

PROJECT LOCATION



SHORELINE ARMORING DETAIL

NOT TO SCALE

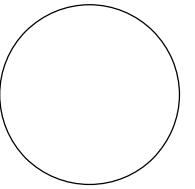
Note:

The contractor shall flush cut all unwanted vegetation and trees along the length of the project (STA 2+50 to 40+00). The IDNR has marked/flagged the trees that are to remain and be protected. All others shall be cut and moved to the indicated brush pile area for future disposal.

Following the cutting of vegetation, all stumps shall be treated with Garlon 3A (or approved equal) herbicide to prevent regrowth.

Rock placement is not continuous along the length of the project, only areas with current erosion and cut banks will be stabilized. The anticipated length of armoring is approximately 1850 LF out of the +/-4,000 LF of shoreline indicated on plans. The DNR Field Engineer will mark all start and stop points following tree removal.

CONSULTANT:



**IOWA DEPARTMENT OF
NATURAL RESOURCES**

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



TYPICAL CROSS SECTIONS AND DETAILS

SHORELINE ARMORING FOR:

INGHAM-HIGH WETLAND WMA

EMMET COUNTY

NO.	DATE	REVISION

DRAWN BY: PROJECT NUMBER:
BLF 19-01-32-02

CHK'D BY: DATE:
DEC 2021

SHEET NO:

B.01

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	CLEARING	LS	1
2	FIELDSTONE	TON	3630
3	TRAFFIC CONTROL	LS	1
4	MOBILIZATION	LS	1

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	A. Cut trees flush with, or as close as possible to, ground level. B. Move cleared trees to location on plans. C. Trees to be saved, will be marked by the IDNR. D. Trees may only be cut October 15th through March 31st.
2	A. Quantities based on the average dimensions of 2-foot X 10-foot X 1850-foot. B. The length of slope to be armored varies greatly along the project; as much as 3' - 10'. C. The intent is to armor the eroded areas of shoreline.
3	A. Road may be closed to the public at STA. 0+00. B. Follow Iowa DOT specification 2523 for Safety Closure. C. DNR field staff will need to get through to office on a daily basis.

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

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.

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.

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.

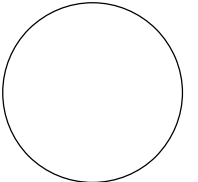
The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

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.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

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.

CONSULTANT:



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ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



QUANTITIES AND GENERAL INFORMATION
SHORELINE ARMORING FOR:
INGHAM-HIGH WETLAND WMA
EMMET COUNTY

NO.	BY	REVISION
DRAWN BY:	PROJECT NUMBER:	
BLF	19-01-32-02	
CHK'D BY:	DATE:	
	DEC 2021	
SHEET No:		



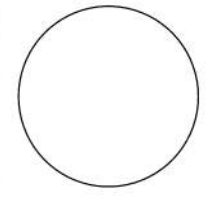
PRIMARY TREE DISPOSAL AREA

SECONDARY TREE DISPOSAL AREA

INGHAM HIGH WETLAND COMPLEX



CONSULTANT:



IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



SITE PLAN

SHORELINE ARMORING FOR:

INGHAM-HIGH WETLAND WMA

EMMET COUNTY

NO.	DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 19-01-32-02
CHK'D BY: DATE: DEC 2021

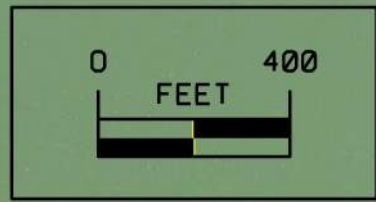
SHEET No:

D.01

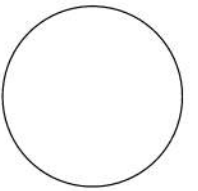
SECONDARY TREE DISPOSAL AREA

PRIMARY TREE DISPOSAL AREA

D.02	
Clearing	
2+50	40+07
1 LS	
Fieldstone	
2+50	40+07
3630 Tons	
Safety Closure	
0+00	
1 Each	



CONSULTANT:



IOWA DEPARTMENT OF
NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



SITE PLAN

SHORELINE ARMORING FOR:

INGHAM-HIGH WETLAND WMA

EMMET COUNTY

NO.	DATE	REVISION

DRAWN BY: BLF
PROJECT NUMBER: 19-01-32-02
CHK'D BY: DATE: DEC 2021

SHEET No: **D.02**