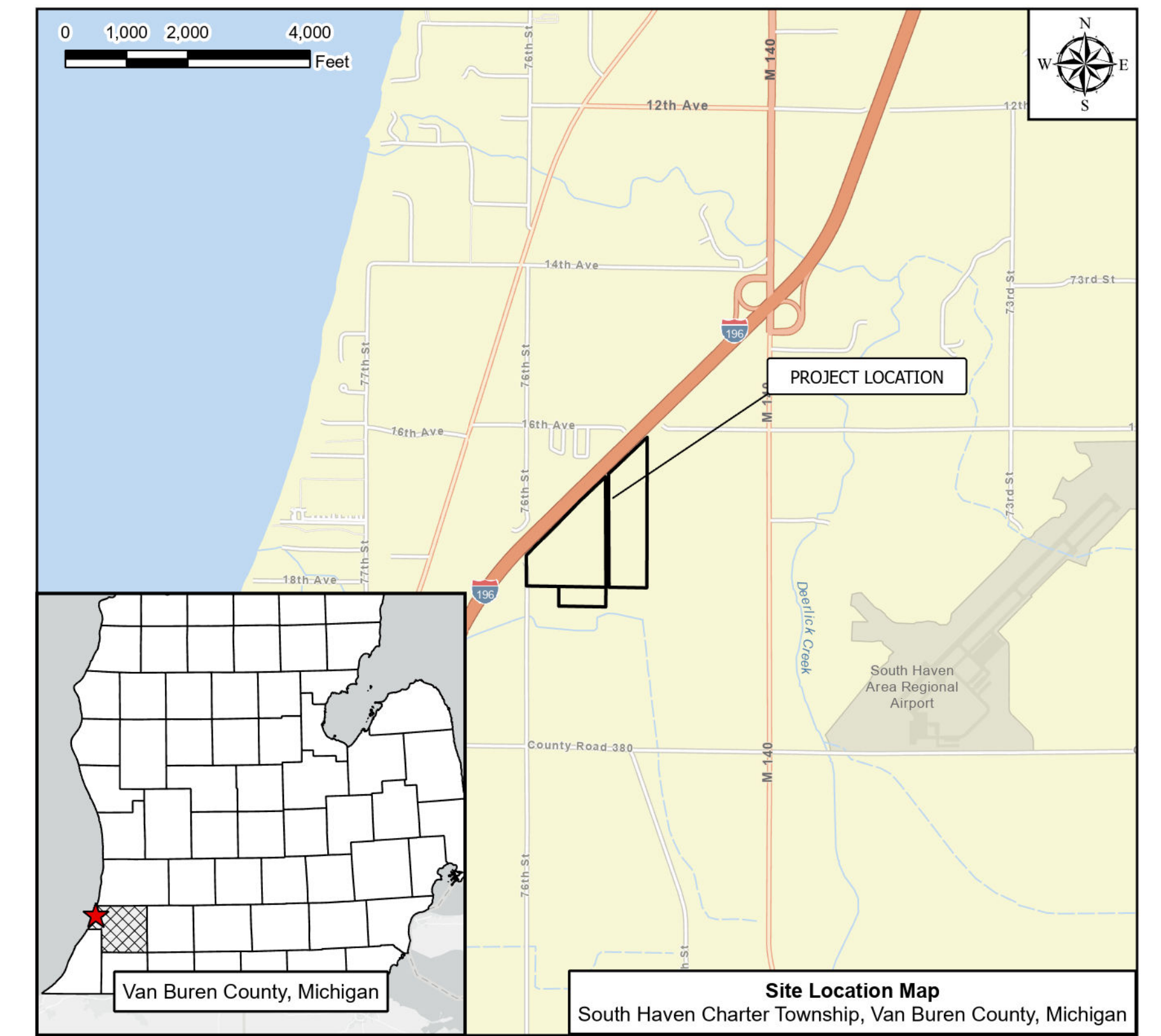


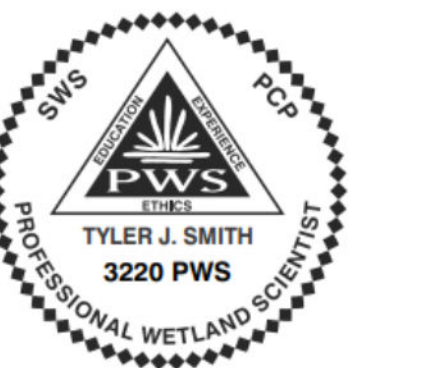
# South Haven Mitigation Bank

Paw Paw River Watersheds & Ecoregion VI.3.2 Southern Lake Michigan Lake Plain  
 South Haven Charter Township (T.01S, R.17W, S.27), Van Buren County, Michigan



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Job No: NE 1979	Drawn: EAW 2025-02-13	Revisions:
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**South Haven Mitigation Bank**  
 Site Location  
 17711 76th Street, South Haven Charter Township (Parcel Numbers: 80-17-027-014-00 & 80-17-027-060-00)  
 Section 27 of South Haven Charter Township (T01S, R17W), Van Buren County, Michigan

Bank Sponsor: 72nd Avenue Farm, LLC  
 Owner: 72nd Avenue Farm, LLC  
 Design Approved by: Tyler J. Smith, PWS, CERP

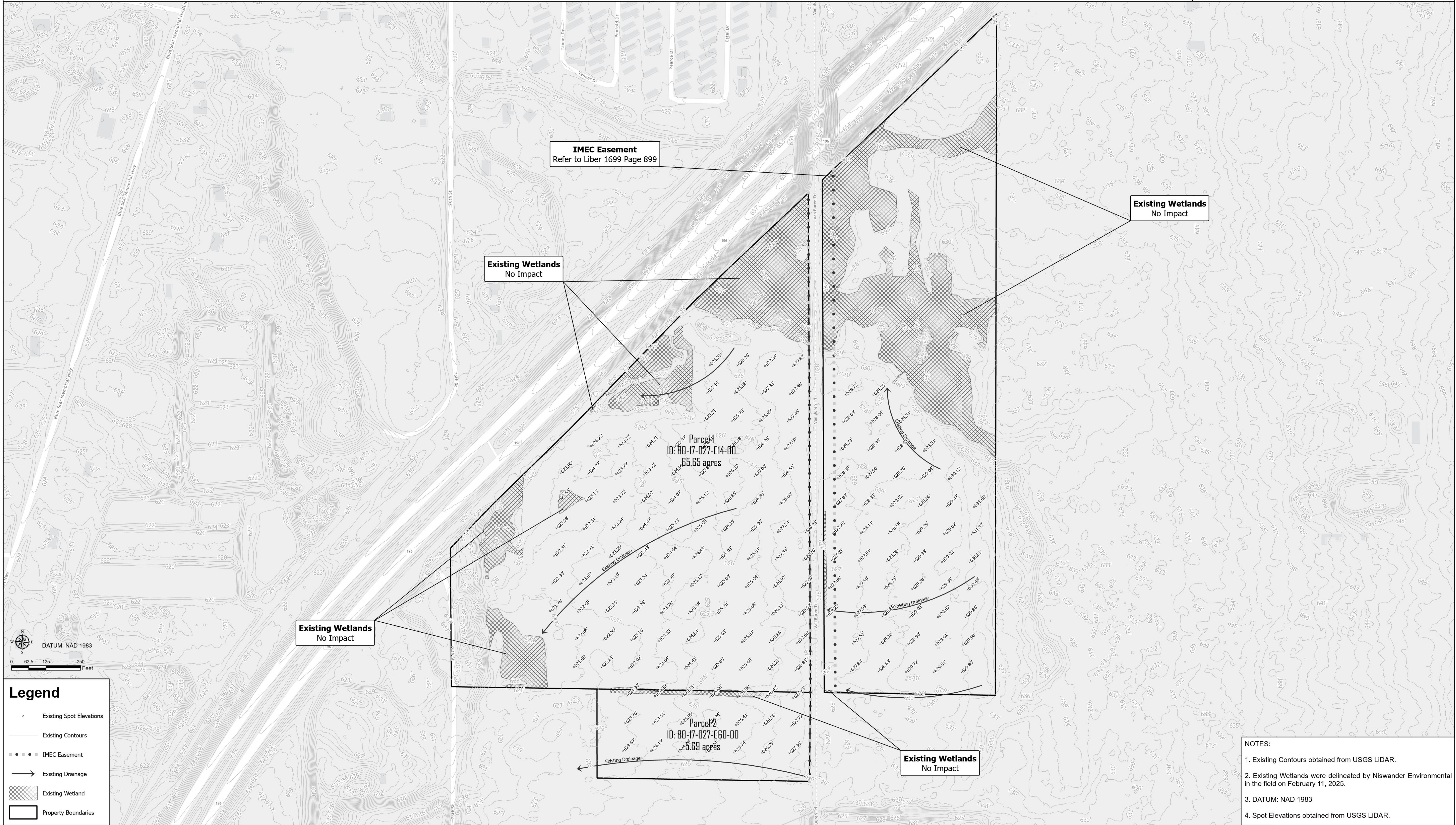




# TOPOGRAPHIC SURVEY FOR 17711 76TH STREET, SOUTH HAVEN CHARTER TOWNSHIP, MICHIGAN 49090

Parcel 1 (ID: 80-17-027-014-00, 65.65 acres)  
429 27-1-17 545-703.705 1171-249 1452-64 1454-436 1594-155/6 1773-649 \*\* W  
3/4 OF NW 1/4 LY SELY OF I-196 ROW EX RR ROW.

Parcel 2 (ID: 80-17-027-060-00, 5.69 acres)  
453-A 27-1-17 1171-249 1452-64 1454-443 1594-155/6 1773-649 \*\*\* BEG AT NE  
COR N 1/2 NW 1/4 SW 1/4, TH W 800', TH S 326.7', TH E 800', TH N 326.7' TO  
BEG EX RR ROW.



- NOTES:**
- Existing Contours obtained from USGS LIDAR.
  - Existing Wetlands were delineated by Niswander Environmental in the field on February 11, 2025.
  - DATUM: NAD 1983
  - Spot Elevations obtained from USGS LIDAR.

Job No:  
NE 1979

Drawn:  
EAW 2025-02-13

Revisions:

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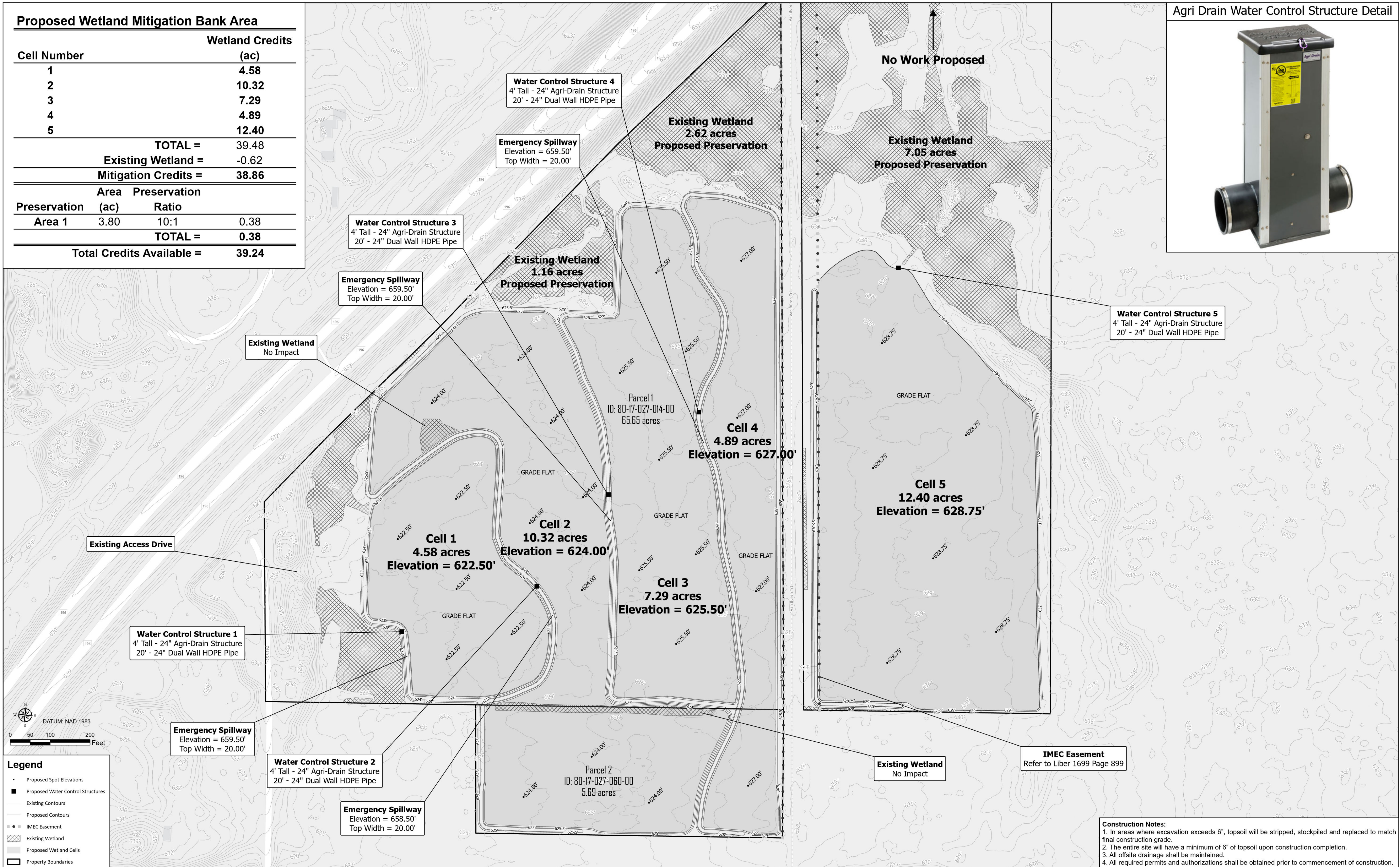
**NISWANDER ENVIRONMENTAL**  
9436 Maltby Road, Brighton, MI 48116  
810.225.0539 office | 810.225.0653 fax

**2 OF 4**



**Proposed Wetland Mitigation Bank Area**

Cell Number	Wetland Credits (ac)	
1	4.58	
2	10.32	
3	7.29	
4	4.89	
5	12.40	
<b>TOTAL =</b>		<b>39.48</b>
<b>Existing Wetland =</b>		<b>-0.62</b>
<b>Mitigation Credits =</b>		<b>38.86</b>
Area Preservation		
Preservation (ac)	Ratio	
Area 1	3.80 10:1	0.38
<b>TOTAL =</b>		<b>0.38</b>
<b>Total Credits Available =</b>		<b>39.24</b>



**Agri Drain Water Control Structure Detail**



**Legend**

- Proposed Spot Elevations
- Proposed Water Control Structures
- Existing Contours
- Proposed Contours
- IMEC Easement
- ▨ Existing Wetland
- ▨ Proposed Wetland Cells
- ▭ Property Boundaries

DATUM: NAD 1983  
0 50 100 200 Feet

**Construction Notes:**

1. In areas where excavation exceeds 6", topsoil will be stripped, stockpiled and replaced to match final construction grade.
2. The entire site will have a minimum of 6" of topsoil upon construction completion.
3. All offsite drainage shall be maintained.
4. All required permits and authorizations shall be obtained prior to commencement of construction.



Proposed Wetland Mitigation Bank Area	
Wetland Type	Wetland Credits (ac)
Forested (PFO)	38.86
Existing Wetland	-0.62
<b>Total Forested Credits =</b>	<b>38.24</b>
Preservation	10.83
<b>Total Preservation Credits (Max 10%) =</b>	<b>0.38</b>
<b>Total Credits Available =</b>	<b>39.24</b>

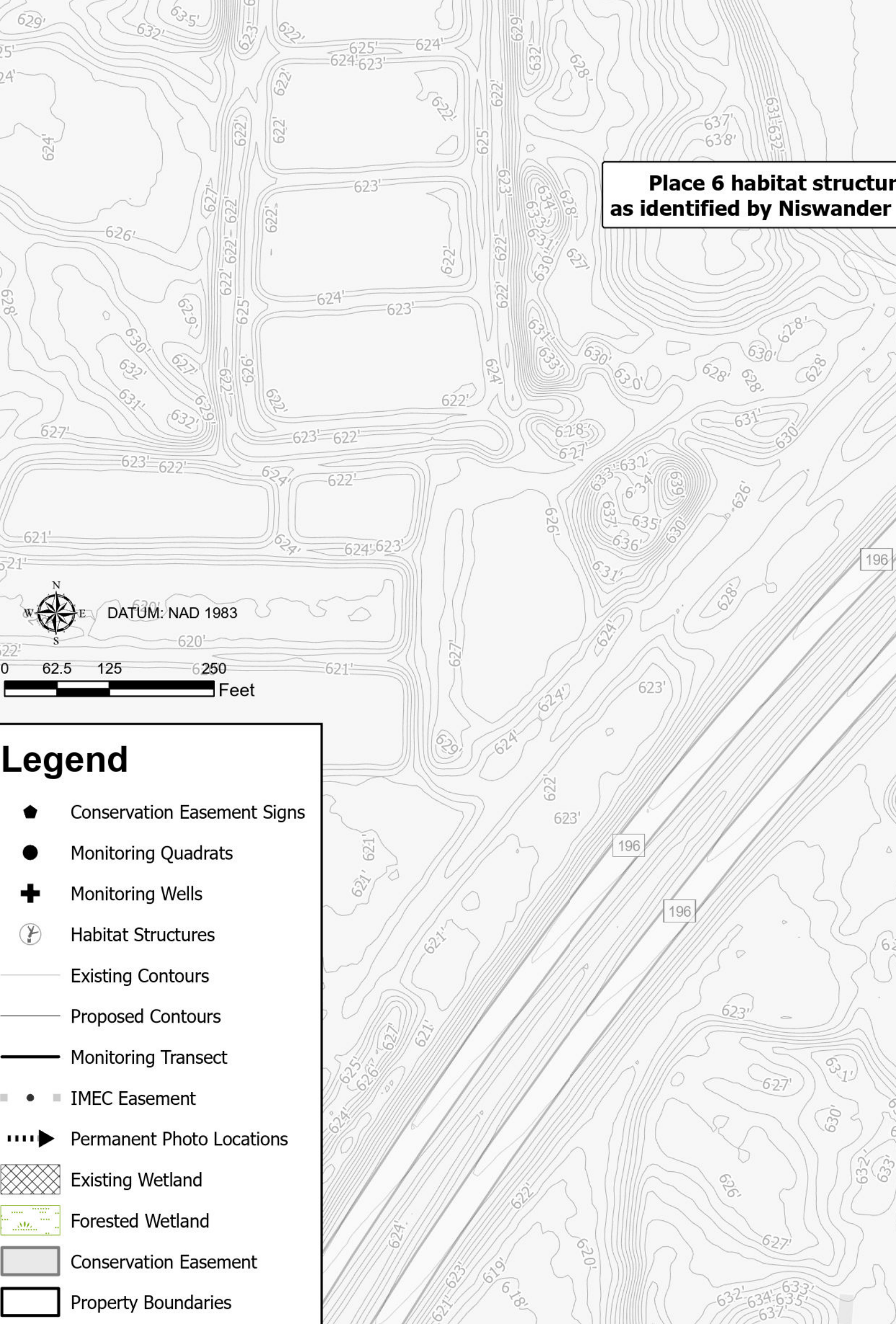
Proposed EGLE Conservation Easement Area	
Conservation Easement Area	Area (ac)
1	36.74
2	29.27
<b>Total EGLE Conservation Easement Area =</b>	<b>66.01</b>

**Wetland Monitoring**

Wetland establishment will be monitored following the Department of Environment, Great Lakes, and Energy's Wetland Monitoring Protocol. Five (5) water level loggers will be installed on the site.

**Construction Notes:**

1. A total of 233 habitat structures are to be placed throughout the wetland cells. Habitat structure refers to whole tree, log, root wad, or sand mound, and each symbol show on the plan represents 6 structures.



Job No: NE 1979  
 Drawn: EAW 2025-02-13  
 Revisions:



Forested Zone Seed Mix*		
Scientific Name	Common Name	Ind. Status
<i>Grasses, Sedges, and Rushes:</i>		
<i>Bromus ciliatus</i>	Fringed Brome	FACW
<i>Carex bebbii</i>	Bebb's Oval Sedge	OBL
<i>Carex blanda</i>	Woodland Sedge	FAC
<i>Carex grayi</i>	Common Bur Sedge	FACW
<i>Carex hystericina</i>	Porcupine Sedge	OBL
<i>Carex intumescens</i>	Shining Bur Sedge	FACW
<i>Carex lacustris</i>	Common Lake Sedge	OBL
<i>Carex lupulina</i>	Common Hop Sedge	OBL
<i>Carex squarrosa</i>	Narrow-leaved Cattail Sedge	OBL
<i>Carex tenera</i>	Narrow-leaved Oval Sedge	FAC
<i>Carex vulpinoidea</i>	Brown Fox Sedge	OBL
<i>Cinna arundinacea</i>	Wood Reed Grass	FACW
<i>Elymus riparius</i>	Riverbank Wild Rye	FACW
<i>Elymus virginicus</i>	Virginia Wild Rye	FACW
<i>Glyceria canadensis</i>	Rattlesnake Grass	OBL
<i>Glyceria striata</i>	Fowl Manna Grass	OBL
<i>Leersia oryzoides</i>	Rice Cut Grass	OBL
<i>Panicum virgatum</i>	Switchgrass	FACW
<i>Scirpus atrovirens</i>	Dark-green Bulrush	OBL
<i>Scirpus cyperinus</i>	Woolgrass	OBL
<i>Spartina pectinata</i>	Prairie Cord Grass	FACW
<i>Forbs:</i>		
<i>Asclepias incarnata</i>	Swamp Milkweed	OBL
<i>Bidens cernua</i>	Nodding Bur Marigold	OBL
<i>Bidens frondosa</i>	Common Beggar's Ticks	FACW
<i>Boehmeria cylindrica</i>	False Nettle	OBL
<i>Boltonia asteroides</i>	False Aster	FACW
<i>Campanula americana</i>	Tall Bellflower	FAC
<i>Eupatorium purpureum</i>	Purple Joe-Pye Weed	OBL
<i>Helenium autumnale</i>	Sneezeweed	FACW
<i>Hypericum pyramidatum</i>	Great St. John's Wort	FAC
<i>Lobelia cardinalis</i>	Cardinal Flower	OBL
<i>Lobelia siphilitica</i>	Great Blue Lobelia	FACW
<i>Lycopus americanus</i>	Water Horehound	OBL
<i>Mimulus ringens</i>	Monkey Flower	OBL
<i>Rudbeckia laciniata</i>	Cutleaf Coneflower	FACW
<i>Scutellaria lateriflora</i>	Mad-dog Skullcap	OBL
<i>Solidago patula</i>	Swamp Goldenrod	OBL
<i>Symphotrichum lateriflorum</i>	Calico Aster	FACW
<i>Symphotrichum novae-angliae</i>	New England Aster	FACW
<i>Thalictrum dasycarpum</i>	Purple Meadowrue	FACW
<i>Verbena hastata</i>	Blue Vervain	FACW
<i>Verbesina alternifolia</i>	Wingstem	FACW
<i>Vernonia gigantea</i>	Tall Ironweed	FAC
<i>Zizia aurea</i>	Golden Alexanders	FAC

\*to be installed at supplier recommended rates

Upland Prairie Seed Mix*		
Scientific Name	Common Name	Ind. Status
<i>Grasses, Sedges, and Rushes:</i>		
<i>Adropogon gerardii</i>	Big Bluestem	FACU
<i>Elymus canadensis</i>	Canada Wild Rye	FACU
<i>Panicum virgatum</i>	Switch Grass	FAC
<i>Schizachyrium scoparium</i>	Little Bluestem	FACU
<i>Sorghastrum nutans</i>	Indian Grass	FACU
<i>Forbs:</i>		
<i>Asclepias syriaca</i>	Common Milkweed	UPL
<i>Asclepias tuberosa</i>	Butterfly Weed	UPL
<i>Chamaecrista fasciculata</i>	Partridge Pea	FACU
<i>Echinacea purpurea</i>	Purple Coneflower	UPL
<i>Helianthus giganteus</i>	Tall Sunflower	FACW
<i>Lespedeza capitata</i>	Round-headed Bush Clover	FACU
<i>Liatris pycnostachya</i>	Prairie Blazing Star	FAC
<i>Lupinus perennis</i>	Wild Lupine	UPL
<i>Monarda fistulosa</i>	Wild Bergamot	FACU
<i>Penstemon digitalis</i>	Foxglove Beardtongue	FAC
<i>Ratibida pinnata</i>	Yellow Coneflower	UPL
<i>Rudbeckia hirta</i>	Black-eyed Susan	FACU
<i>Rudbeckia triloba</i>	Brown-Eyed Coneflower	FACU
<i>Solidago rigida</i>	Stiff Goldenrod	FACU
<i>Tradescantia ohioensis</i>	Ohio Spiderwort	FACU
<i>Verbena stricta</i>	Hoary Vervain	UPL

\*to be installed on berms and spoil piles at supplier recommended rates

Trees*		
Scientific Name	Common Name	Ind. Status
<i>Acer rubrum</i>	Red Maple	FAC
<i>Acer saccharinum</i>	Silver Maple	FACW
<i>Platanus occidentalis</i>	Sycamore	FACW
<i>Quercus bicolor</i>	Swamp White Oak	FACW
<i>Quercus palustris</i>	Pin Oak	FACW
<i>Salix nigra</i>	Black Willow	OBL
<i>Ulmus americana</i>	American Elm	FACW

\*Trees will be planted at a density to achieve 300 trees/acre.

**Seeding Notes**

- All species to be seeded at supplier recommended rate.
- All species are Native to Michigan.
- No Threatened, Endangered or Special Concern species will be planted.

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