

RECEIVED
8-31-16



LETTER OF TRANSMITTAL

To: Lorain Port Authority
319 Black River Ln
Lorain, OH 44052

Date: 8/26/16 KS Job No.: 16151 BG:
Attention: Richard Novak
RE: Resolution for Submerged Land Lease at 2635 E. Erie Ave.
Lorain, OH

WE ARE SENDING YOU Attached Under separate cover via the following items
 Shop drawings Prints Plans Samples Specifications
 Copy of Letter Change order

COPIES	DATE	NO.	DESCRIPTION
1	8/26/16	16151	ODNR & Corps of Engineers Permit Applications

THESE ARE TRANSMITTED as checked below:
 For approval Approved as submitted Resubmit copies for approval
 For your use Approved as noted Resubmit copies for distribution
 As requested Return for collections Return corrected prints
 PRINTS RETURNED AFTER LOAN TO US FOR BID USE

REMARKS:
Rick: Please have the Lorain Port Authority issue a resolution to ODNR to allow Robert Taylor to lease the submerged land shown on the attached permit applications for a new armor stone revetment at 2635 E. Erie Ave., Lorain, OH. Please send the original copy of the resolution to ODNR and a copy to me. Thanks and let me know if you have any questions.

COPY TO: R. Taylor, ODNR

SIGNED 
John S. Matricardi, P.E.

If enclosures are not as noted, kindly notify us at once.

KS Associates, Inc.
Civil Engineers + Surveyors
260 Burns Road, Suite 100
Elyria, Ohio 44035
P 440 365 4730
F 440 365 4790
www.ksassociates.com

**U.S. ARMY CORPS OF ENGINEERS
APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT**
33 CFR 325. The proponent agency is CECW-CO-R.

OMB APPROVAL NO. 0710-0003
EXPIRES: 28 FEBRUARY 2013

Public reporting for this collection of information is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of the collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters, Executive Services and Communications Directorate, Information Management Division and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. Please **DO NOT RETURN** your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authorities: Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Programs of the Corps of Engineers; Final Rule 33 CFR 320-332. Principal Purpose: Information provided on this form will be used in evaluating the application for a permit. Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of a public notice as required by Federal law. Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued. One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and/or instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Robert Middle - J Last - Taylor Company - E-mail Address - Taylor_realty@windstream.net	8. AUTHORIZED AGENT'S NAME AND TITLE (agent is not required) First - John Middle -S. Last - Matricardi Company - KS Associates, Inc. E-mail Address - Matricardij@ksassociates.com
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6. APPLICANT'S ADDRESS: Address- 2635 East Erie Avenue City - Lorain State - OH Zip - 44052 Country - USA	9. AGENT'S ADDRESS: Address- 260 Burns Road, Suite 100 City - Elyria State - Ohio Zip - 44035 Country - USA
--	--

7. APPLICANT'S PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 440-653-3576	10. AGENTS PHONE NOS. w/AREA CODE a. Residence b. Business c. Fax 440-365-4730 x 331 440-365-4790
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STATEMENT OF AUTHORIZATION

11. I hereby authorize, KS ASSOCIATES to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.


8/3/2016
 SIGNATURE OF APPLICANT DATE
 Robert J Taylor

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE (see instructions) New Armor Stone Revetment at 2635 East Erie Avenue, Lorain OH	
13. NAME OF WATERBODY, IF KNOWN (if applicable) Lake Erie	14. PROJECT STREET ADDRESS (if applicable) Address 2635 East Erie Avenue City - Lorain State- Ohio Zip- 44052
15. LOCATION OF PROJECT Latitude: °N 41d 28' 48" Longitude: °W 82d 08' 42"	
16. OTHER LOCATION DESCRIPTIONS, IF KNOWN (see instructions) State Tax Parcel ID 0300048101004 Municipality Lorain Section - Township - Lorain Range -	

17. DIRECTIONS TO THE SITE

From Westbound I-90 take exit 151 for OH-611 toward Sheffield/Avon. Turn right on OH-7 N. Turn right on Root Road. Turn left onto East Erie Avenue. Continue to 2635 East Erie Avenue, destination on right hand side of road.

18. Nature of Activity (Description of project, include all features)

The proposed project includes the construction of 60 linear feet of new armor stone revetment and concrete access stairs along the shore of Lake Erie at 2635 East Erie Avenue, Lorain, Ohio. The armor stone revetment is to be constructed with 2 to 4-ton armor stone at a 1.5 horizontal to 1 vertical slope. The armor stone will extend to a crest elevation of 582.0 feet IGLD 1985. A splash apron will be constructed with ODOT Type B Stone at a 1.5 horizontal to 1 vertical slope to a crest elevation of 585.0 feet IGLD 1985. The toe of the structure will be supported with new 3 to 5-ton armor stone at a minimum elevation of 568.0 feet IGLD 1985.

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

The purpose of the proposed armor stone revetment is to provide long-term erosion protection.

USE BLOCKS 20-23 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

To install the armor stone and concrete rubble core for the new revetment.

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards:

Type Amount in Cubic Yards	Type Amount in Cubic Yards	Type Amount in Cubic Yards
Armor Stone: 344 cy (137.4 below OHW)	Concrete rubble: 206 cy (47.2 below OHW)	Sand pre-fill: 0 cy (all below OHW)
ODOT B Stone: 72 cy (0 below OHW)	Concrete: 15.3 cy (4.2 below OHW)	

22. Surface Area in Acres of Wetlands or Other Waters Filled (see instructions)

Acres 0.0367 Acres
or
Linear Feet

23. Description of Avoidance, Minimization, and Compensation (see instructions)

The armor stone revetment was designed to be the minimum structure required to protect the toe of the bluff from wave based erosion. The 1.5 horizontal to 1 vertical slope is the minimum customarily allowable for structural stability.

24. Is Any Portion of the Work Already Complete? Yes No IF YES, DESCRIBE THE COMPLETED WORK

25. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (if more than can be entered here, please attach a supplemental list).

a. Address- 2715 East Erie Avenue (Oakmont Investment Properties)

City - Lorain State - Ohio Zip - 44052

b. Address- 2625 East Erie Avenue (Hany A & Kelly M Koury)

City - Lorain State - Ohio Zip - 44052

c. Address-

City - State - Zip -

d. Address-

City - State - Zip -

e. Address-



City - State - Zip -

26. List of Other Certificates or Approvals/Denials received from other Federal, State, or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED
ODNR	Shore Structure Permit		7-22-2016		
ODNR	Submerged Lands Lease		7-22-2016		
ODNR	Consistency Certification		7-22-2016		

* Would include but is not restricted to zoning, building, and flood plain permits

27. Application is hereby made for permit or permits to authorize the work described in this application. I certify that this information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT DATE 8/3/2016 SIGNATURE OF AGENT DATE 8/2/16
 Robert J Taylor John S. Matricardi, P.E.

The Application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.



COASTAL PERMITS AND LEASE APPLICATION

Please consult the instructions prior to completing this form. Please type or print clearly using blue or black ink.

GENERAL INFORMATION

1. Property owner name: Robert J Taylor	
2. Mailing address: 2635 East Erie Avenue Lorain OH, 44052	3. Home telephone number:
	4. Alternate telephone number: 440-653-3576
	5. Email address: Taylor_realty@windstream.net
6. Authorized agent/representative name: KS Associates, Inc., ATTN: John Matricardi, P.E.	
7. Mailing address: 260 Burns Road, Suite 100 Elyria, Ohio 44035	8. Telephone number: 440-365-4730 Ext. 331
	9. Fax Number: 440-365-4790
	10. Email address Matricardij@ksassociates.com

11. Street address: 2635 East Erie Avenue Lorain, OH 44052	
12. Permanent parcel number(s): 0300048101004	
13. City or township: Lorain	14. County: Lorain
15. Site location description (if necessary): See location map.	16. Submittals (check if enclosed): <input checked="" type="checkbox"/> Location map

17. Name of adjoining shoreline property owner(s)	Street address/city/state/ zip code (include permanent mailing and local)
OIP Lorain II limited Partnership	2715 East Erie Avenue Lorain OH 44052
Hany A & Kelly M Koury	2625 East Erie Avenue Lorain OH 44052

18. Brief description of the proposed structure or project (attach additional sheets if necessary): The proposed project includes the construction of 60 linear feet of new armor stone revetment and concrete access stairway along the shore Lake Erie at 2635 East Erie Avenue, Lorain OH. The armor stone revetment is to be constructed with 2 to 4-ton armor stone at a 1.5 horizontal to 1 vertical slope. The armor stone will extend to a crest elevation of 582.0 feet IGLD 1985. A splash apron will be constructed with ODOT Type B stone at a 1.5 horizontal to 1 vertical slope to a crest elevation of 585.0 feet IGLD 1985. The toe of the structures will be supported with new 3 to 5 ton armor stone at a maximum elevation of 568 feet IGLD 1985.	
19. Anticipated start date: 10/2016	20. Anticipated finish date: 12/2016

21. To apply for an authorization, check the box below and complete the application on the reverse page:		
<input checked="" type="checkbox"/> Shore Structure Permit	<input checked="" type="checkbox"/> Submerged Lands Lease	<input type="checkbox"/> Coastal Erosion Area Permit
<input type="checkbox"/> Shore Structure Permit Modification	<input type="checkbox"/> Submerged Lands Lease Modification	<input checked="" type="checkbox"/> Consistency Statement

AGENCY USE ONLY	
Application Reference #:	Date Received:
Lease Reference #:	This copy to: <input checked="" type="checkbox"/> SSP <input type="checkbox"/> SLL <input type="checkbox"/> CEA <input type="checkbox"/> Other

SHORE STRUCTURE PERMIT APPLICATION

§1506.40 ORC

1. Professional Engineer: John S. Matricardi, P.E.		2. Ohio registration number: 044003
3. Mailing address: KS Associates, Inc. 260 Burns Road, Suite 100 Elyria, Ohio 44035	4. Phone number: 440-365-4730 Ext. 331	7. Submittals (check if enclosed) <input checked="" type="checkbox"/> Construction drawings (by professional engineer) <input checked="" type="checkbox"/> Design information
	5. Fax number: 440-365-4790	
	6. Email address: Matricardij@ksassociates.com	

SUBMERGED LANDS LEASE APPLICATION

§1506.11 ORC

1. Total Area of Submerged Lands to be Occupied: 1,689 SF (0.0389 acres)	
2. Upland deed recording information [Deed book]	[Deed page] 2012-0437867
3. Local Authority Issuing Resolution: Lorain Port Authority	Date issued: To be submitted
4. Was any Portion of the Structure Erected in Lake Erie Prior to October 13, 1955?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5. Brief Explanation of the Purpose of the Structure or Project (<i>attach additional sheets if necessary</i>): The purpose of the proposed armor stone revetment is to provide long-term erosion protection	6. Submittals (check if enclosed): <input checked="" type="checkbox"/> Construction drawings <input checked="" type="checkbox"/> Copy of title deed <input checked="" type="checkbox"/> Metes & bounds description and plat <input type="checkbox"/> Local resolution or ordinance To be submitted <input checked="" type="checkbox"/> Legal documentation of signature authority

COASTAL EROSION AREA PERMIT APPLICATION

§1506.07 ORC

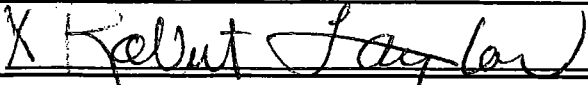
1. Authorization Type:	<input type="checkbox"/> Existing	<input type="checkbox"/> New Measure	Date Built (if existing):
2. Upland deed recording information [Deed book]	[Deed page]		
3. Construction start date for the building or addition:			
4. Brief description of the building or addition (<i>attach additional sheets if necessary</i>):	5. Submittals (check if enclosed): <input type="checkbox"/> Construction drawings <input type="checkbox"/> Permanent structure drawings <input type="checkbox"/> Copy of title deed <input type="checkbox"/> Construction schedule <input type="checkbox"/> Design information		

SIGNATURE AND CONSISTENCY STATEMENT

§1506.03 ORC

I certify that the proposed activity identified in this application shall comply with Ohio's approved Coastal Management Program and will be conducted in a manner consistent with such program (15 CFR 930.57 and ORC 1506.03).

I do additionally certify that I am familiar with the information contained in this application and, to the best of my knowledge and belief, such information is true, complete and accurate.

	8/3/2016
Signature of Property Owner or Authorized Agent	Date

Robert J Taylor

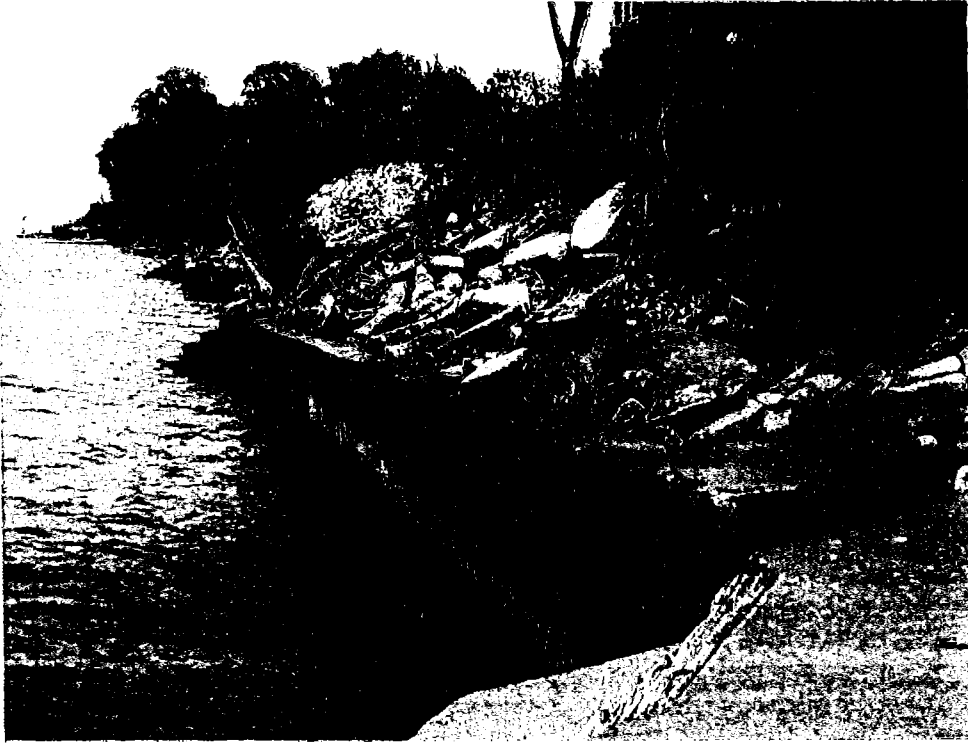


Photo 1: Looking east from west property line along the toe of bluff



Photo 2: Looking up the bluff from the toe at the west property line.



Photo 3: Looking up the bluff from the toe at the east property line.



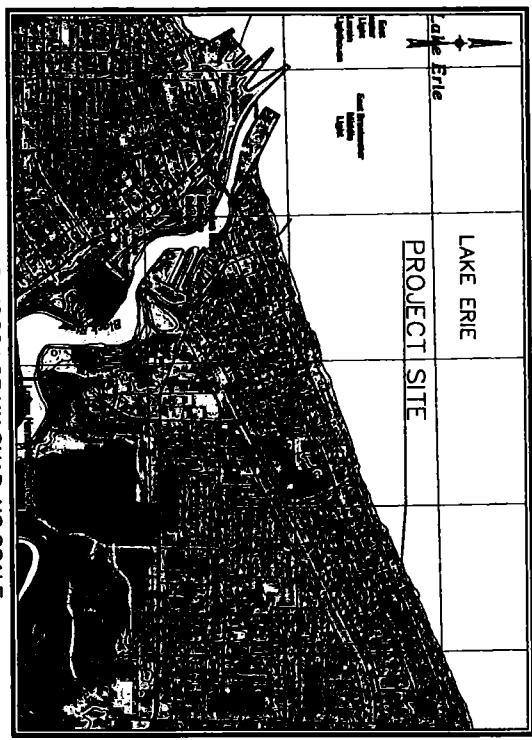
Photo 4: Looking west along the toe of the bluff from the east property line.

NEW ARMOR STONE REVETMENT

2635 EAST ERIE AVENUE, LORAIN OHIO

GENERAL NOTES:

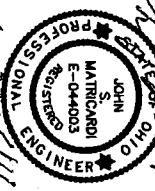
1. CONTRACTOR SHALL FIELD VERIFY DIMENSIONS AND ELEVATIONS. CONTRACTOR SHALL BE LIMITED TO CENTERLINE OF PAVEMENT, MONUMENT BOXES, STORM MANHOLES, STORM TEES, SANITARY MANHOLES, SANITARY VES, WATER MAIN, WATER CORPORATIONS, HYDRANTS, ALL VALVES, ALL LONG SIDE LATERALS AT THE RIGHT OF WAY LINE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY OF ANY INCONSISTENCIES BETWEEN THE DRAWINGS AND THE FIELD MEASUREMENTS.
2. AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION THE CONTRACTOR SHALL ADVISE THE CITY OF LORAIN TO CONDUCT A FIELD SURVEY OF ANY EXISTING UNDERGROUND UTILITIES NOT INDICATED ON THE PRINTS. IF UNCHARTED UTILITIES ARE ENCOUNTERED THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY.



VICINITY MAP, USGS LORAIN QUAD, NO SCALE

DRAWING TITLE	SHEET NO.
TITLE SHEET	1
EXISTING SITE PLAN	2
SITE PLAN	3
SECTION A-A	4
SECTION B-B	5

PERMIT DRAWINGS
NOT FOR CONSTRUCTION


John S. Matricardi
 JOHN S. MATRICARDI, P.E. OHIO REG. NO. 044003
 DATE: 8/22/16

Ohio
Utilities Projection
SERVICE
Call us for more information at
1-800-362-2764

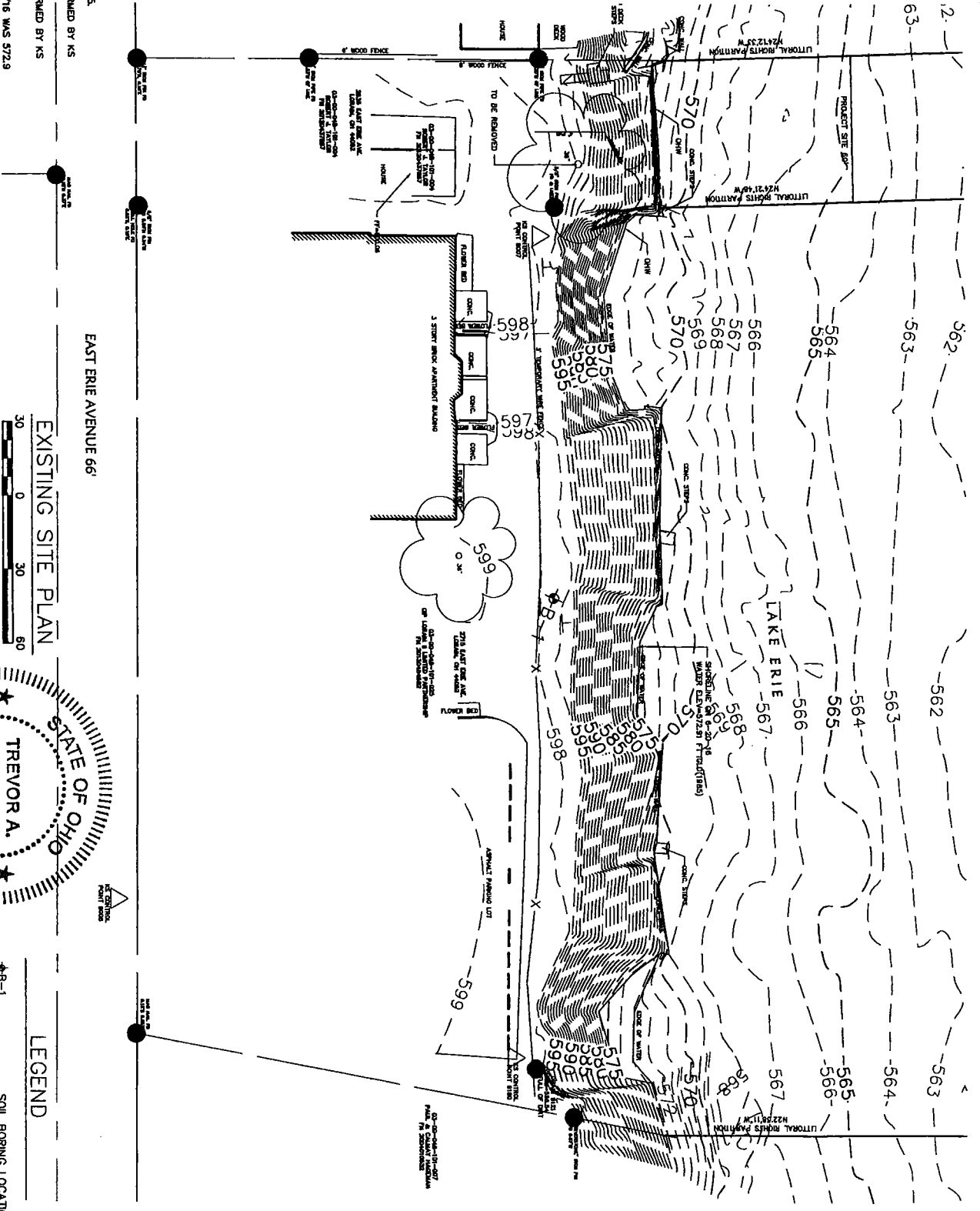
1. UNDERGROUND UTILITIES ARE SHOWN FROM RECORDS AND AGENCIES. ACTUAL LOCATIONS MAY VARY. CONTACT US AT LEAST 48 HOURS PRIOR TO EXCAVATION.
2. VISIBLE SURFACE UTILITIES HAVE BEEN FIELD LOCATED UNLESS OTHERWISE NOTED.

SHEET 1 OF 5 JOB NO. 16151	TITLE SHEET NEW ARMOR STONE REVETMENT ROBERT TAYLOR 2635 EAST ERIE AVENUE, LORAIN STATE OF OHIO	 KS ASSOCIATES www.ksassociates.com	DATE: 08-16-2016 DRAWN BY: KS CVD BY: JMC PWD NAME: JMMO-20 PATH: P.L.:	REVISIONS DATE BY	ADJACENT PROPERTY OWNERS OIP LORAIN II LIMITED PARTNERSHIP 2715 EAST ERIE AVENUE, LORAIN, OHIO 44052 HANY A & KELLY KOURY 2625 EAST ERIE AVENUE LORAIN OHIO 44052 DATUM: O.D LWD = 569.2 FEET IGLD 1985
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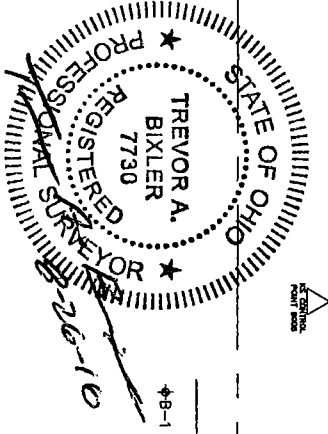


NOTES

1. VERTICAL DATUM IS IGLD 1985.
2. BATHYMETRIC SURVEY PERFORMED BY KS ASSOCIATES ON 06/15/16.
3. TOPOGRAPHIC SURVEY PERFORMED BY KS ASSOCIATES ON 06/20/16.
4. WATER ELEVATION ON 06/15/16 WAS 572.9 FEET IGLD 1985.
5. THIS PERMIT APPLICATION INCLUDES PROPOSED IMPROVEMENTS AND PROPOSED SHORTLINE IMPROVEMENTS ON ADJACENT PROPERTIES ARE SHOWN AS THEY IMPACT THE DESIGN OF THE PROPOSED STRUCTURES AT 2715 E. ERIE AVE. PROPOSED SHORTLINE IMPROVEMENTS ON ADJACENT PROPERTIES ARE SHOWN AS THEY IMPACT DRAWINGS FOR EACH PROPERTY.



**PERMIT DRAWINGS
NOT FOR CONSTRUCTION**



LEGEND
SOIL BORING LOCATION

4-B-1

SHEET 2 OF 5	JOB NO. 16151	EXISTING SITE PLAN NEW ARMOR STONE REVETMENT		KS Associates, Inc. 260 Burns Road, Suite 100 Elyria, OH 44035 P 440 365 4730 F 440 365 4790 www.ksassociates.com	DATE: 08-25-2016	DATE BY	ADJACENT PROPERTY OWNERS
		DRAWN BY: KS CVD BY: JEC DATE: 08/25/16 PAVE:	REVISIONS		OIP LORAIN II LIMITED PARTNERSHIP 2715 EAST ERIE AVENUE, LORAIN, OHIO 44052 HANY A & KELLY KOURY 2625 EAST ERIE AVENUE LORAIN OHIO 44052 DATUM: 0.0 LWD = 569.2 FEET IGLD 1985		

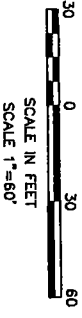


NOTES

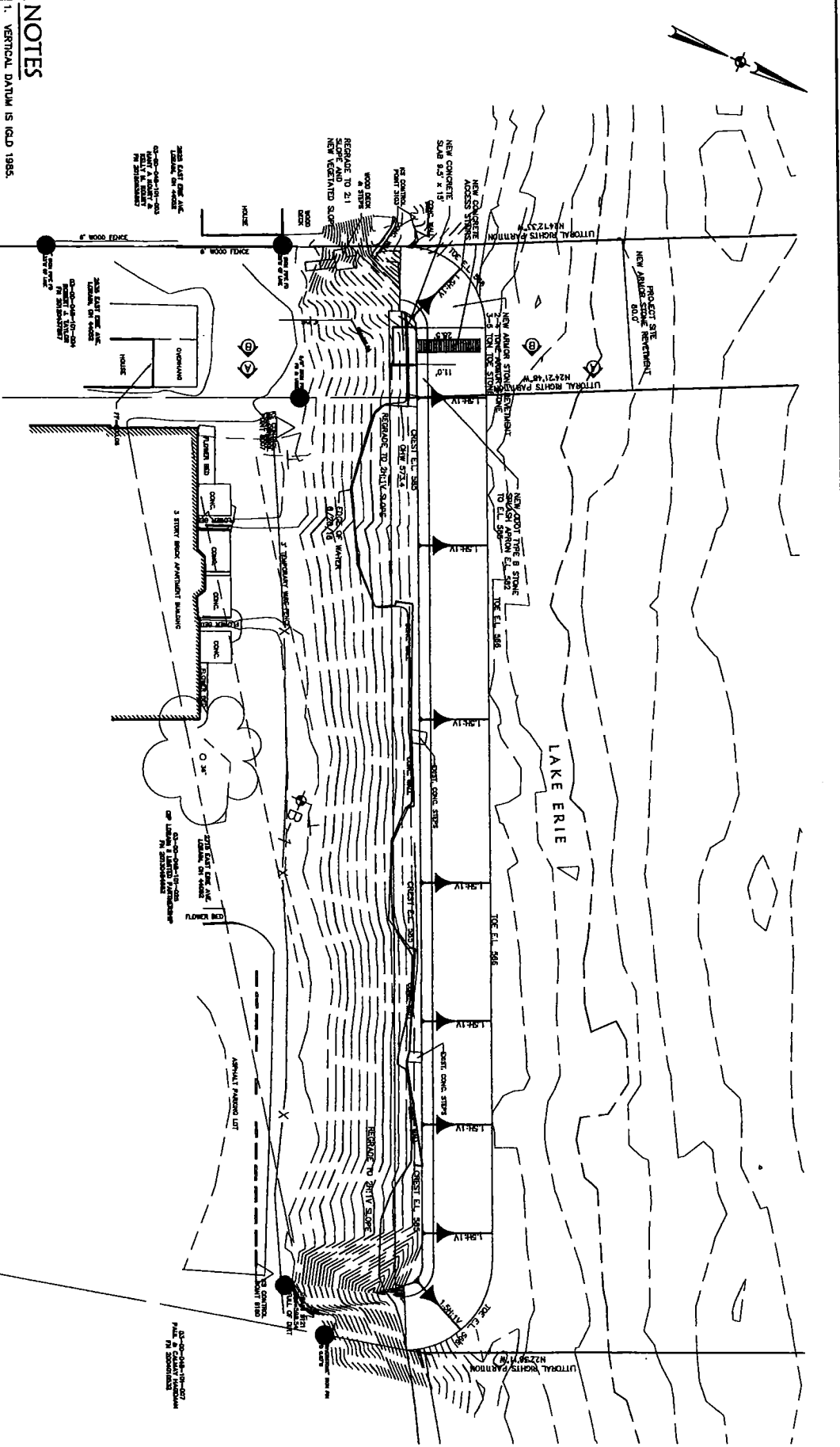
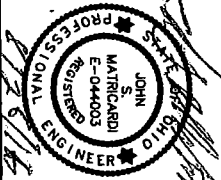
1. VERTICAL DATUM IS IGLD 1985.
2. BATHYMETRIC SURVEY PERFORMED BY KS ASSOCIATES ON 08/15/18.
3. TOPOGRAPHIC SURVEY PERFORMED BY KS ASSOCIATES ON 08/20/18.
4. WATER ELEVATION ON 08/15/18 WAS 572.9 FEET IGLD 1985.
5. THIS PERMIT APPLICATION INCLUDES PROPOSED SHORELINE IMPROVEMENTS AT SHORELINE IMPROVEMENTS ON ADJACENT PROPERTIES ARE SHOWN AS THEY IMPACT THE DESIGN OF THE PROPOSED STRUCTURES AT 2715 E. ERIE AVE. PROPOSED SHORELINE IMPROVEMENTS ON SEPARATE PERMIT DRAWINGS FOR EACH PROPERTY.
6. ALL SAND AND GRAVEL IN THE FOOTPRINT OF THE NEW REVETMENT SHALL BE EXCAVATED AND SIDE CASE DRENAGED.
7. THE EXISTING CONCRETE SEAWALL WILL BE LEFT IN PLACE (WHERE PRESENT). EXISTING CONCRETE RUBBLE WILL BE RELOCATED TO THE FILTER LAYER OF THE NEW REVETMENT.

EAST ERIE AVENUE 66'

SITE PLAN



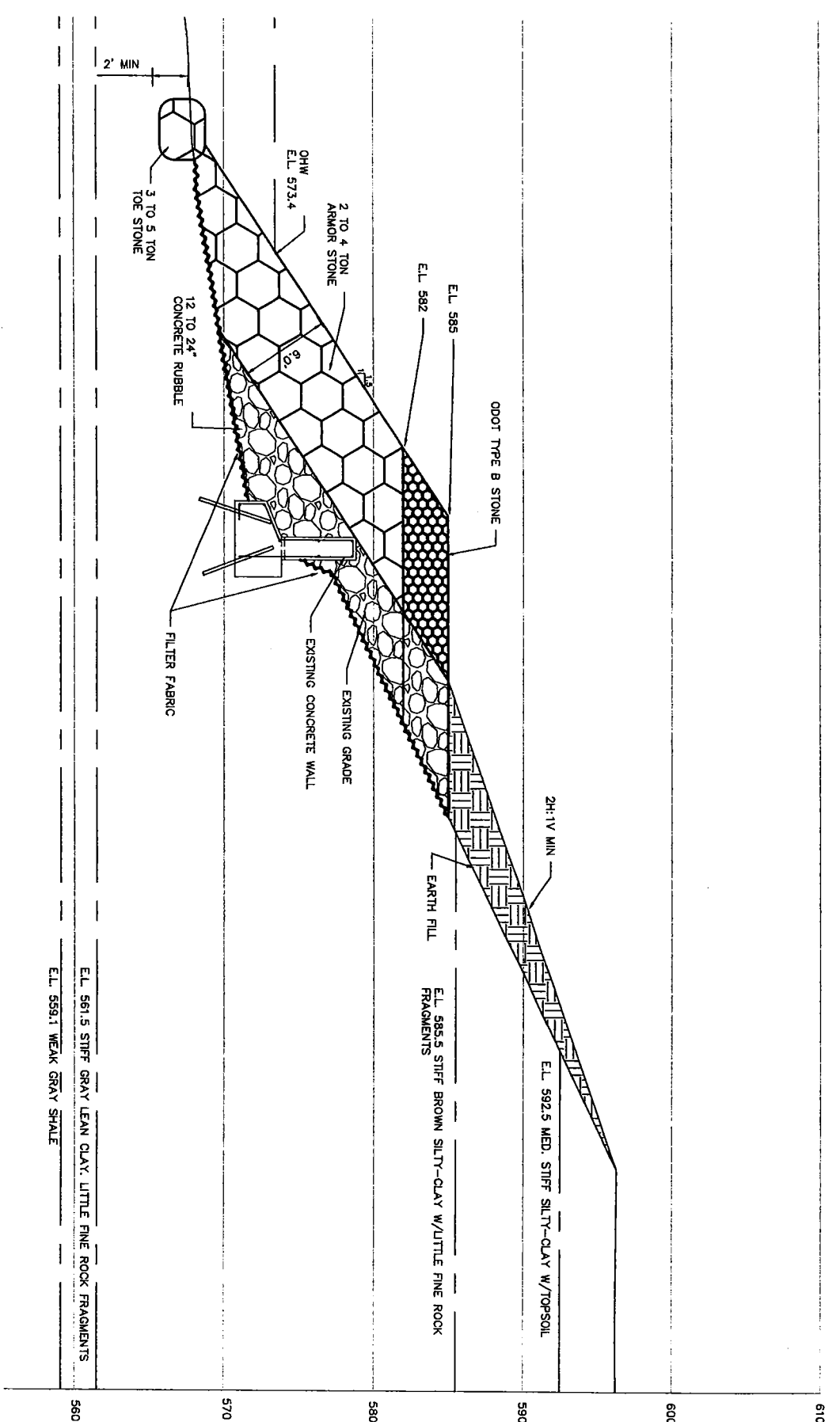
**PERMIT DRAWINGS
NOT FOR CONSTRUCTION**



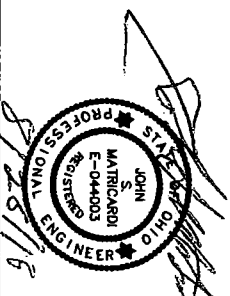
SHEET 3 OF 5 JOB NO. 16151	SITE PLAN NEW ARMOR STONE REVETMENT ROBERT J TAYLOR 2635 EAST ERIE AVENUE, LORAIN STATE OF OHIO	KS Associates, Inc. 260 Burns Road, Suite 100 Elyria, OH 44035 P 440 365 4730 F 440 365 4790 www.kssociates.com	DATE: 08-25-2018 DRAWN BY: KS CVD BY: MEC DMC NAME: JESL PAVE: F.A.	DATE BY: REVISIONS:	ADJACENT PROPERTY OWNERS OIP LORAIN II LIMITED PARTNERSHIP 2715 EAST ERIE AVENUE, LORAIN, OHIO 44052 HANY A & KELLY KOURY 2625 EAST ERIE AVENUE LORAIN OHIO 44052 DATUM: 0.0 LWD = 569.2 FEET IGLD 1985
			JOHN STUARD REGISTERED PROFESSIONAL ENGINEER STATE OF OHIO E-04403		

NOTES

1. VERTICAL DATUM IS IGLD 1985.
2. BATHYMETRIC SURVEY PERFORMED BY KS ASSOCIATES ON 06/15/16.
3. TOPOGRAPHIC SURVEY PERFORMED BY KS ASSOCIATES ON 06/20/16.
4. WATER ELEVATION ON 06/15/16 WAS 572.9 FEET IGLD 1985.
5. THIS PERMIT APPLICATION INCLUDES PROPOSED SHOULDERLINE IMPROVEMENTS AT 2715 E. ERIE AVE. ONLY. PROPOSED SHOULDERLINE IMPROVEMENTS ON ADJACENT PROPERTIES AT 2717 E. ERIE AVE. ARE NOT SHOWN AS THEY IMPACT THE DESIGN OF THE PROPOSED SHOULDERLINE IMPROVEMENTS AT 2715 E. ERIE AVE. ADJACENT PROPERTIES ARE INCLUDED ON SEPARATE PERMIT DRAWINGS FOR EACH PROPERTY.
6. ALL SAND AND GRAVEL IN THE FOOTPRINT OF THE NEW REVETMENT SHALL BE EXCAVATED AND SIDE CASE LANEWAY.
7. THE EXISTING CONCRETE SEAWALL WILL BE RELOCATED TO THE FILTER LAYER OF THE NEW REVETMENT.



**PERMIT DRAWINGS
NOT FOR CONSTRUCTION**



SECTION A-A
NEW ARMOR STONE REVETMENT

ROBERT TAYLOR
2635 E ERIE AVE. LORAIN
STATE OF OHIO

KS ASSOCIATES
KS Associates, Inc.
260 Burns Road, Suite 100
Elyria, OH 44035
P 440 365 4730
F 440 365 4790
www.ksassociates.com

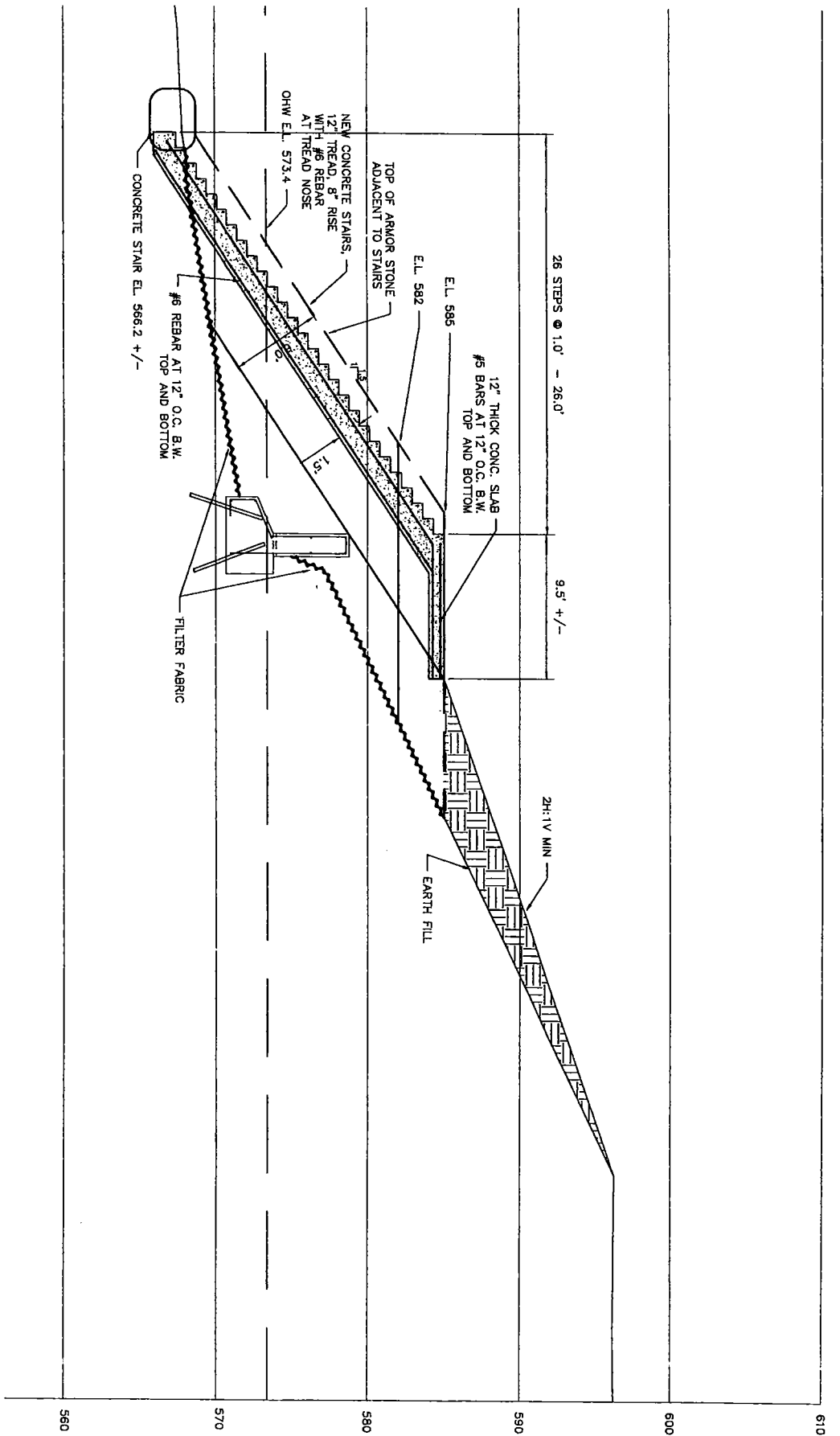
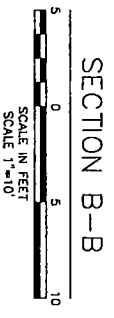
DATE:	08-25-2016
DRAWN BY:	PFC
CHECKED BY:	MEC
DESIGN NAME:	16151
PATH:	
P.A.:	

DATE	BY

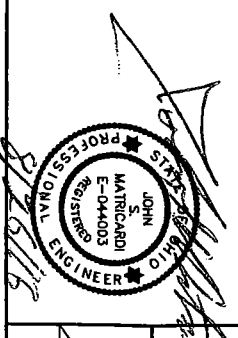
ADJACENT PROPERTY OWNERS	
OIP LORAIN II LIMITED PARTNERSHIP 2715 EAST ERIE AVENUE, LORAIN, OHIO 44052	
HANY A & KELLY KOURY 2625 EAST ERIE AVENUE LORAIN OHIO 44052	
DATUM: 0.0 LWD = 569.2 FEET IGLD 1985	

SHEET	4
OF	5
JOB NO.	16151

- NOTES**
1. VERTICAL DATUM IS IGLD 1985
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 6. ALL SAND AND GRAVEL IN THE FOOTPRINT OF THE NEW REVENMENT SHALL BE EXCAVATED AND SIDE CASE LAKEWARD.
 7. THE EXISTING CONCRETE SEAWALL WILL BE LEFT IN PLACE (WHERE PRESENT). THE EXISTING CONCRETE REBARS WILL BE RELOCATED TO THE FILTER LAYER OF THE NEW REVENMENT.



PERMIT DRAWINGS
NOT FOR CONSTRUCTION



SECTION B-B
NEW ARMOR STONE REVENMENT

ROBERT TAYLOR
2635 E ERIE AVE. LORAIN
STATE OF OHIO

KS Associates, Inc.
260 Burns Road, Suite 100
Elyria, OH 44035
P 440 365 4730
F 440 365 4790
www.ksassociates.com

DATE:	08-25-2016
DRAWN BY:	RJC
CHKD BY:	MC
ENG. NAME:	LSJM
PAGE:	
P.R.:	

REVISIONS	DATE	BY

ADJACENT PROPERTY OWNERS	
OIP LORAIN II LIMITED PARTNERSHIP	
2715 EAST ERIE AVENUE, LORAIN, OHIO 44052	
HANY A & KELLY KOURY	
2625 EAST ERIE AVENUE LORAIN OHIO 44052	
DATUM: O.D LWD = 569.2 FEET IGLD 1985	

SHEET	5
OF	5
JOB NO.	18151

KS Associates, Inc.
 260 Burns Rd. Suite 100
 Elyria, Ohio 44035

Job 15151, Taylor
 Sheet No. 1 of 1
 Calculated By PJC Date 6/13/2016
 Checked By MPC Date 7/11/2016

Revetment Design

A 30 Year Design Water Level 575.1 ft IGLD 1985
 Reference Ohio Coastal Design Manual, ODNR 2010

B Design Wave Height
 Toe of structure 569.1 ft IGLD 1985
 Water depth at toe, d_s 6 ft
 $H_b = 0.78d_s$
 Design wave height, H_b 4.7 ft

C Armor Stone Size

Hudson's Equation

$$W_{50} = \frac{\omega_r H^3}{k_d (S_r - 1)^3 \cot \theta}$$

 Unit weight of armor stone, ω_r 165 lb/ft³
 Slope stability coefficient, K_d 2 for rough angular quarry stone
 Specific weight ratio, S_r 2.64
 Structure Slope, $\cot \theta$ 1.5

Median armor stone size, W_{50} 1268 lbs Use 2-4 ton armor stone
 0.63 tons with 3-5 ton toe stone.

D Wave Run-up and Overtopping

Calculate Surf Similarity Parameter

$$\xi = \frac{\tan \theta}{\sqrt{2\pi H_b / g T^2}}$$

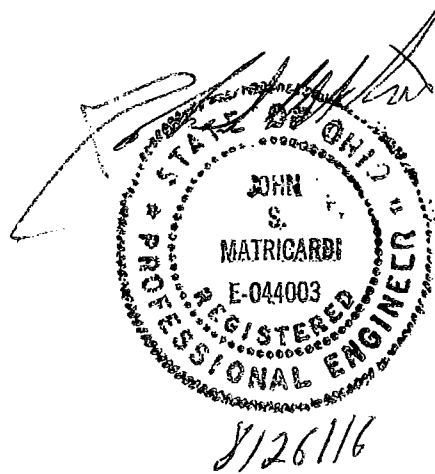
 Structure Slope, $\tan \theta$ 0.67
 Gravitational Acceleration, g 32.2 ft/s²
 Wave Period (assumed), T 8 s (assumed)
 Surf Similarity Parameter, ξ 5.58

Calculate Wave Run-up

$$R = \frac{H_b (a\xi)}{1 + (b\xi)}$$

 Coefficient, a 0.775
 Coefficient, b 0.361

Wave Run-up 6.7 ft
 Wave run-up elevation 581.8 ft IGLD 1985



Set crest elevation at 582 feet IGLD 1985. Use ODOT "B" Stone from 582.0 to 585.0 feet IGLD 1985.

Submerged Land Lease
1,696 Square Feet (0.0389 Acre)
Page 1 of 2

Situated in the City of Lorain, County of Lorain and State of Ohio and known as being submerged land within Lake Erie adjacent to Original Sheffield Township Lot No. 48, (Fractional Township 7-N, Range 17-W Connecticut Western Reserve). Also being adjacent to the land conveyed to Robert J. Taylor as recorded in Document No. 20120437867 of the Lorain County Records, being more definitely described as follows:

Commencing at the intersection of the centerline of East Erie Avenue (66 feet wide) and the centerline of Nebraska Avenue (60 feet wide), said intersection being referenced by a Mag nail found 0.10 feet North and 0.37 feet East;

Thence, along the centerline of East Erie Avenue, North 67° 29' 59" East, 12.55 feet;

Thence, leaving the centerline of East Erie Avenue, North 22° 30' 01" West, 33.00 feet to the northerly right of way of East Erie Avenue and the southeasterly corner of said land conveyed to Robert J. Taylor, said southeasterly corner being referenced by drill hole found 0.03 feet South and 0.10 feet East;

Thence, leaving the northerly right of way of East Erie Avenue, along the easterly line of said land conveyed to Robert J. Taylor, North 22° 30' 01" West, 216.33 feet, and passing through a 5/8" iron pin found 172.86 feet northerly of said northerly right of way, to the natural shoreline of Lake Erie as observed on June 20, 2016 and the **True Point of Beginning** for the parcel herein described;

Thence, leaving said easterly line, along the natural shoreline of Lake Erie, the following 6 courses;

South 73° 29' 51" West, 1.13 feet;

Thence, South 66° 41' 15" West, 23.65 feet;

Thence, South 63° 47' 34" West, 29.07 feet;

Thence, South 66° 38' 42" West, 4.23 feet;

Thence, North 40° 14' 24" West, 4.64 feet;

Thence, North 74° 49' 27" West, 0.49 feet;

Thence, leaving the natural shoreline of Lake Erie, along the arc of a curve which deflects to the right, 46.46 feet, said curve having a radius of 33.04 feet, a central angle of 80° 34' 35", and a chord length of 42.73 feet which bears North 24° 30' 30" East;

Thence, North 67° 25' 29" East, 27.52 feet to the littoral rights partition line between said land conveyed to Robert J. Taylor and land conveyed to OIP Lorain II Limited Partnership as recorded in Document No. 20130454682 of the Lorain County Records;

Thence, along said littoral rights partition line, South 24° 21' 48" East, 31.74 feet to the point of beginning.

Containing within said bounds 1,696 square feet (0.0389 acre) of land as surveyed by KS Associates, Inc. under the supervision of Trevor A. Bixler, Professional Surveyor No. 7730 in June 2016.

The basis of bearings for this survey is Ohio State Plane, North Zone NAD83(2011) Grid North.

Submerged Land Lease
1,696 Square Feet (0.0389 Acre)
Page 2 of 2

T. A. Bixler 8-4-16

Trevor A. Bixler, P.S.
Professional Surveyor, Ohio No. 7730

KS ASSOCIATES
Civil Engineers + Surveyors
260 Burns Road, Suite 100
Elyria, OH 44035
440 365 4730



R:\16000\16151\Legal Descriptions\SLL 2635 East Erie Avenue Parcel.docx



Doc ID: 017239060002 Type: OFF
 Kind: DEEDS
 Recorded: 11/26/2012 at 12:33:19 PM
 Fee Amt: \$28.00 Page 1 of 2
 Lorain County, Ohio
 Judith H Nedwick County Recorder
 File **2012-0437867**

TRANSFERRED
 IN COMPLIANCE WITH SEC. 319-202
 OHIO REV. CODE

NOV 26 2012

See file 240 00 MEM

2012 NOV 26 P 12:26

005104

MARK R. STEWART
 LORAIN COUNTY AUDITOR

SHERIFF'S DEED

Revised Code § 2329.36

I, Phil R. Stammitti, Sheriff of Lorain County, Ohio, pursuant to the Judgment and Decree of Foreclosure entered on April 23, 2012 in the amount of \$17,179.17, the Order of Sale entered on August 7, 2012, the Order of Sale issued to Sheriff on August 13, 2012, the sale held on September 26, 2012, the Confirmation of Sale entered on November 8, 2012 and in consideration of the sum of \$60,000.00 dollars, the receipt whereof is hereby acknowledged, do hereby **GRANT, SELL AND CONVEY** unto **Robert J. Taylor**, all the rights, title and interest of the parties in Court of Common Pleas, Lorain County, Ohio, Case Number 10CV168665, JPMorgan Chase Bank, National Association vs. Anne H. Juhasz, et al., and all pleadings therein incorporated herein by reference in and to the following Lands and Tenements situated in the County of Lorain and State of Ohio, known and described as follows, to-wit:

SEE ATTACHED LEGAL DESCRIPTION

This deed does not reflect any restrictions, conditions or easements of record.

Executed this 9th day of November, 2012

Phil R. Stammitti

Phil R. Stammitti, Sheriff of Lorain County, Ohio

STATE OF OHIO

)
) SS:

COUNTY OF LORAIN

The foregoing was acknowledged before me this 9th day of November, 2012 by Phil R. Stammitti, Sheriff of Lorain County, Ohio.

Mary Margaret Ochenas
 Mary Margaret Ochenas - Notary Public
 State of Ohio

My Commission Expires April 24th, 2016

This instrument prepared by Manley Deas Kochalski LLC, P. O. Box 165028, Columbus, OH 43216-5028

EXHIBIT A

Legal Description:

Situated in the City of Lorain, County of Lorain and State of Ohio:

And known as being part of Original Sheffield Township Lot No. 48 and bounded and described as follows: Beginning on the centerline of East Erie Avenue at the most Easterly corner of land conveyed to Fred F. Gove and Sarah Gove by deed dated February 2, 1926 and recorded in Volume 218, Page 50 of Lorain County Deed Records; thence Northeasterly along said center line of East Erie Avenue about 60 feet to the most Southerly corner of land conveyed to Lorain-Overlook Inc., by deed dated February 24, 1926, and recorded in Volume 218, Page 304 of Lorain County Deed Records; thence Northwesterly along the Southwesterly line of land so conveyed to Lorain-Overlook, Inc., to the low watermark to the most Northerly corner of land conveyed to Fred F. Gove and Sarah Gove as aforesaid; thence Southeasterly along the Northeasterly line of land so conveyed to Fred F. Gove and Sarah Gove to the place of beginning, be the same more or less, but subject to all legal highways.

Parcel Number(s): 03-00-048-101-004

Property Address: 2635 East Erie Avenue, Lorain, OH 44052

Deed Reference Number: dated April 2, 1990, filed April 4, 1990, recorded in Official Records Volume 275, Page 735, Recorder's Office, Lorain County, Ohio

Case Number: 10CV168665

Legal description reviewed by RRW
on 3-19-12 per ORC, Section 5713.08

UPDATE LEGAL BEFORE NEXT TRANSFER

SHERIFF STAMMITTI/MARY O

Missing a course DA
TRANSFER/ ENGINEERS DEPT. 11/20/12