IN THE MATTER OF THE APPLICATION OF	)	
MAPLE VALLEY MATERIALS LLC, OWNER	)	
FOR AN AMENDMENT OF THE UNIFIED DEVELOPMENT	)	2023-051
ORDINANCE OF McHENRY COUNTY, ILLINOIS FOR	)	
A CONDITIONAL USE	)	

WHEREAS, your Petitioner, ***MAPLE VALLEY MATERIALS LLC*** as your Owner, has filed a petition with the McHenry County Zoning Board of Appeals requesting the issuance of a Conditional Use with variances as it relates to the McHenry County Unified Development Ordinance, as it relates to the real property more fully described as:

The East half of the Southwest Quarter of Section 13 lying West of the Right-of-Way of Maple Street as dedicated by Document No. 2009R0051767; ALSO the Southeast Quarter of the Northwest Quarter of said Section 13, lying West of the Right-of-Way of Maple Street as dedicated by Document No. 2009R0051767, all in Township 43 North, Range 5 East of the Third Principal Meridian (except that part of the West half of Section 13, Township 43 North, Range 5 East of the Third Principal Meridian, described as follows: Commencing at the South Quarter corner of said Section 13; thence Northerly, along the East line of the West half of said Section 13, a distance of 1531.9 feet for the Place of Beginning; thence continuing Northerly along the East line of said West half, a distance of 466.69 feet; thence Westerly, at right angles to the East line of said West half, a distance of 466.69 feet; thence Southerly, parallel with the East line of said West half, a distance of 466.69 feet; thence Easterly, at right angles to the last described course, a distance of 466.69 feet to the Place of Beginning), In McHenry County, Illinois.

PIN 16-13-300-006

More commonly known as ***Maple Street, Marengo, Illinois in Riley Township.***

WHEREAS, the Petition requests no reclassification of the subject property from its present classification which is ***"A-1" Agriculture District with a Conditional Use,*** but a Conditional Use be granted ***to allow for earth extraction/mining.***

WHEREAS, the subject property consists of approximately ***one hundred eleven (111) acres*** in which no reclassification is contemplated.

WHEREAS, a hearing on said petition was held before the Zoning Board of Appeals of McHenry County in the manner and the form as prescribed by the Ordinance and Statute; and

WHEREAS, as a result of said hearing, the taking of evidence, and the viewing of exhibits advanced thereat, the Zoning Board of Appeals of McHenry County ***did recommend by a vote of 7 ayes and 0 nays the granting of a Conditional Use to allow for*** **earth extraction mining** ***with the following conditions:***

1. The time limit for the Conditional Use Permit shall be 10 years from the date of approval by the McHenry County Board.

2. Existing trees, shrubs and other types of woody vegetation along road frontages shall be protected and maintained. Weeds and other unsightly noxious vegetation shall be cut or trimmed as may be necessary to present a reasonably neat appearance, to prevent grass fires or the hazard of grass fires.

3. No earth extraction and/or mining operation(s) is permitted to operate in such a manner that the groundwater table of surrounding properties is adversely impacted. In the case of mining operations, water pumped from the site for the purpose of washing shall be retained in a pond until the silt and clay settles and then the water recycled in the area affected. Groundwater quality shall be monitored and maintained on a regular basis in accordance with monitoring practices. Groundwater monitoring parameters are established in § 16.56.030.P.8 (Groundwater Monitoring). Results of the monitoring shall be made available to the Zoning Enforcement Officer as required.

4. The owner and/or operator shall repair any section of road adjacent to the access road to the property that is within 500 feet of either side of the entrance damaged as a result of hauling operations, but shall not be responsible for the normal wear and tear of the road. This provision shall not be construed to require the owner and/or operator to purchase additional right-of-way.

5. All operations shall be conducted in a safe manner, especially with respect to hazards to persons, damage to adjacent lands or improvements and wells, and damage to any street by slides, sinking or collapse of supporting soil adjacent to an excavation.

6. The following apply to earth extraction and/or mining conditions only - not to reclamation conditions:

    a. Earth extraction and/or mining operation(s) that remove and do not replace the lateral support shall not approach property lines, established right-of-way lines of any public roads, streets, or highways closer than a distance equal to thirty (30) feet unless a lesser distance is mutually agreed to by the operator and adjacent property owner and submitted in writing.

    b. The bottom of the slope of the excavated face shall be no closer to the point determined in §16.56.030.P.7.e.i, than a distance equal to one and one-half (1½) times the depth of the excavation.

    c. If consolidated materials occur in the excavated face, the slope of the face may be steeper than one and one-half (1½) to one (1) slope per §16.56.030.P.7.e.ii for the depth(s) of those materials, however all other excavated slopes of unconsolidated materials are limited to one and one-half (1½) to one (1) slope.

    d. In the case that the right-of-way has not been recently surveyed by a registered land surveyor and clearly marked, the right-of-way line is assumed to be, for the purpose of this section, a minimum of forty (40) feet from the centerline of the existing road.

7. An earthen berm no less than eight (8) feet in height, as depicted on the Landscape Plan prepared by Patrick Engineering (Appendix D) and the Mining Plan (Exhibit 6) of the Mining Plan Report shall be provided. Berms that remain in place for one (1) year or longer shall be planted with grass, shrubs, and trees, and maintained as a visual and acoustical screen. They shall be designed so that they do

not erode into the road or highway right-of-way or onto the adjoining property. A gate shall be placed at the main entrance that will be locked whenever the Owner, Operator or their agent is not on site. Said landscaping shall be insulated and maintained in accordance with the Landscape Plan preparate by Patrick Engineering as Appendix D of Exhibit #2- Mining Plan Report.

8. The processing and stockpiling of aggregate resources shall not be conducted within three hundred (300) feet of any adjoining residentially zoned property line.

9. The hours of operation for all activities, other than maintenance functions, are restricted to 7:00 a.m. to 7:00 p.m. on Mondays through Fridays and 7:00 a.m. to 3:00 p.m. on Saturdays. In emergency situations, operations are permitted at times otherwise prohibited. (An emergency situation, for the purpose of this section, is any operation necessary to provide repairs to roadways or provide other materials and assistance that, if delayed until normally permitted hours, would cause injury or loss of life or property.) Any operation or activity under this section shall immediately be reported to the McHenry County Sheriff's Department and reported to the Zoning Enforcement Officer the next business day.

10. Operations shall be conducted so that noise levels and air and water standards comply with federal and State of Illinois requirements.

11. Access ways and on-site roads shall be maintained in a dust-free condition. A Dust Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an Annual Operations Permit.

12. The premises shall be neat and orderly, free from junk, trash or unnecessary debris. Buildings shall be maintained in a sound condition, in good repair and appearance. Salvageable equipment stored in a non-operating condition shall be suitably screened or garaged.

13. Enough topsoil must be stockpiled to meet the finished conditions of Section §16.56.030.P.7.e of the McHenry County Unified Development Ordinance.

14. No operations may occur on the property pursuant to this ordinance without the issuance of an Annual Operations Permit issued by the Zoning Enforcement Officer. The operations permit may be for less than the total area proposed. Note: the construction of access or haul roads, building and landscaping of required berms, and other site improvements required for site preparation shall not require the issuance of an Annual Operations Permit. The Zoning Enforcement Officer shall issue said Operations Permit upon receipt from the owner or operator of the following items:

    a. An Operations Plan (Mine Plan and Mine Phasing Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibits 6 and 7) in compliance with this ordinance and other applicable County ordinances; and

    b. A Reclamation Plan (Mine Reclamation Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibit 8) in compliance with this ordinance and other applicable County ordinances; and

    c. A Groundwater Monitoring and Protection Plan in compliance with the County’s Unified Development Ordinance, the adopted Ground Water Monitoring Ordinance, and other applicable County ordinances; and

d. A surety as provided by the County's Unified Development Ordinance based upon the Engineer's Opinion of Probable Reclamation Cost prepared by Patrick Engineering, dated June 26, 2024; and

e. A copy of all applicable County, State and Federal permits or statements of exemption therefrom; and

f. An approved McHenry County Stormwater Management permit; and

g. A Dust Control Plan; and

h. A Spill Prevention Containment and Control Plan.

15. At all times the Owner and/or Operator shall take adequate measures to insure that contaminated surface water run- off shall not enter ponds or other areas of open standing water. A Spill Prevention Containment and Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an Annual Operations Permit.

16. The Owner and/or Operator shall take adequate measures within the site to insure that trucks, exiting the site on roadways, do not discharge earth materials or debris on the roadway.

17. The Zoning Enforcement Officer, or a duly authorized representative, shall have the free right of access to the subject property for the purpose of inspections, making water level measurements, obtaining water or material samples and for gathering other information necessary for the proper discharge of his/her responsibilities.

18. The owner and/or operator shall be assessed an annual fee to pay for compliance monitoring based on costs.

19. Prior to the termination of this Conditional Use, the Owner shall cause to be filed with the McHenry County Recorder of Deeds an easement approved by the Zoning Enforcement Officer, after review by the McHenry County's State's Attorney's Office, which shall provide access to the real estate for the purpose of monitoring and sampling of the then existing wells.

20. The Owner and/or Operator shall provide groundwater level and quality reports using data from monitoring wells and staff gauges. These reports shall meet the requirements of the §16.56.030.P.8 of the McHenry County Unified Development Ordinance.

21. To the extent lawfully permitted by the Illinois Department of Revenue, the point of sale of excavated materials from the site shall be deemed to originate in Unincorporated McHenry County.

22. Alf operations, reclamation and on-going uses shall comply with the terms and conditions of the McHenry County Unified Development Ordinance, the McHenry County Stormwater Management Ordinance, and the McHenry County Stormwater Management Permit. The requirements of these items shall supersede the Operations Plan and Reclamation Plan approved by this ordinance.

23. Decisions of the Zoning Enforcement Officer subsequent to the adoption of this Ordinance are subject to the normal appeals procedure set forth in the Zoning ordinance and/or State Statute.

24. The Owner and/or Operator shall provide proof of petition to Mine Safety and Health Administration (MSHA) for the use of alternative safety warning mechanisms, other than back-up beepers. If approved, the alternative method must be used when vehicles are on the subject property, as it applies to the MSHA approval.

25. Before the site is reclaimed, a vegetative buffer strip shall be installed along the slope around the mined area in order to reduce the potential of surface water pollutants from entering the mined area by providing an area for filtration and infiltration of water. Said buffer shall be vegetated using the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois (NRCS, et al, as amended) as a minimum standard.

26. The Owner and/or Operator shall not mine into the clay barrier above the Glasford Aquifer.

27. Before an Operations permit can be issued by the McHenry County Code Enforcement Officer, Maple Valley Materials LLC shall cause to be installed a new well on the property identified as "Exception" on the Plat of Survey, dated October 11, 2002, signed and sealed by William Vanderstappen. (Parcel Identification Number: 16-13-300-004) submitted as part of this conditional use request. The well shall be drilled to provide water of adequate quality and quantity.

28. Lighting on the property should be directed so that it falls within the property and so as not to affect the neighboring property, excluding lighting required by the Highway Commissioner for ingress and egress.

29. All other federal, state, and local laws shall be met.

30. The Owner and/or Operator shall erect a sign at the exit of the property reminding truck operators to adhere to designated truck routes. Said sign shall be erected within three (3) months of issuance of an Operations Permit and shall remain clearly visible during the duration of this Conditional Use Permit.

WHEREAS, the McHenry County Board has considered the recommendation as submitted by the Zoning Board of McHenry County.

WHEREAS, the McHenry County Board has determined that the standards for a Conditional Use Permit as set forth in the McHenry County Unified Development Ordinance and the Illinois Compiled Statutes have been met.

NOW, THEREFORE BE IT ORDAINED, that the Unified Development Ordinance and the Zoning Maps of McHenry County, and such Ordinances and such maps as amended, be and the same are ***a renewal of the CONDITIONAL USE of the subject property to allow for earth extraction/mining with the following conditions:***

1. The time limit for the Conditional Use Permit shall be 10 years from the date of approval by the McHenry County Board.

2. Existing trees, shrubs and other types of woody vegetation along road frontages shall be protected and maintained. Weeds and other unsightly noxious vegetation shall be cut or trimmed as may be necessary to present a reasonably neat appearance, to prevent grass fires or the hazard of grass fires.

3. No earth extraction and/or mining operation(s) is permitted to operate in such a manner that the groundwater table of surrounding properties is adversely impacted. In the case of mining operations, water pumped from the site for the purpose of washing shall be retained in a pond until the silt and clay settles and then the water recycled in the area affected. Groundwater quality shall be monitored and maintained on a regular basis in accordance with monitoring practices. Groundwater monitoring parameters are established in § 16.56.030.P.8 (Groundwater Monitoring). Results of the monitoring shall be made available to the Zoning Enforcement Officer as required.

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6. The following apply to earth extraction and/or mining conditions only - not to reclamation conditions:

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28. Lighting on the property should be directed so that it falls within the property and so as not to affect the neighboring property, excluding lighting required by the Highway Commissioner for ingress and egress.

29. All other federal, state, and local laws shall be met.

30. The Owner and/or Operator shall erect a sign at the exit of the property reminding truck operators to adhere to designated truck routes. Said sign shall be erected within three (3) months of issuance of an Operations Permit and shall remain clearly visible during the duration of this Conditional Use Permit.

If any part, sentence, clause, or provision of this ordinance is adjudged to be unconstitutional or invalid, the remainder of this Ordinance shall not be affected thereby.

This Ordinance shall be in full force and effect from and after its passage as by law provided.

DATED this _____day of _____, 20_____.

_____
Chairperson, McHenry County Board
McHenry County, Illinois

ATTEST:

_____
County Clerk

NUMBER VOTING AYE: _____

NUMBER VOTING NAY: _____

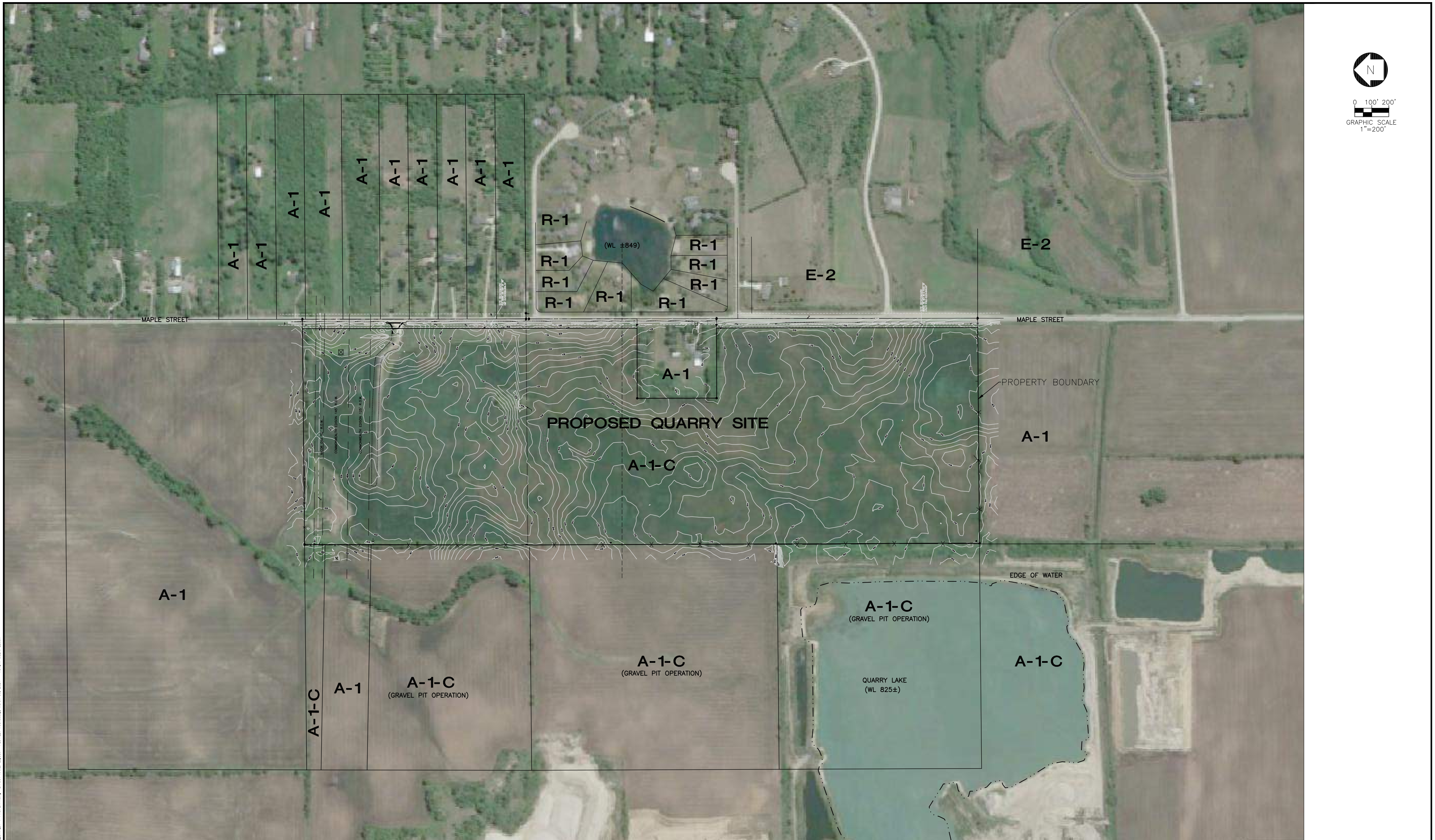
NUMBER ABSTAINING: _____

NUMBER ABSENT: _____

ATTACHMENT: OFFICIAL SITE PLAN

Ordinance 2023-051/Z25-0003

OFFICIAL SITE PLAN



TOPOGRAPHIC SURVEY SOURCE: VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098 DATED SEPTEMBER 22, 2013.

AERIAL PHOTOGRAPHY SOURCE: GOOGLE MAPS, 2023.

LEGEND

TOPOGRAPHIC CONTOUR (INTERVAL 1')

PATRICK
a RINA company

55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

ADJOINING PROPERTY AND ZONING MAP

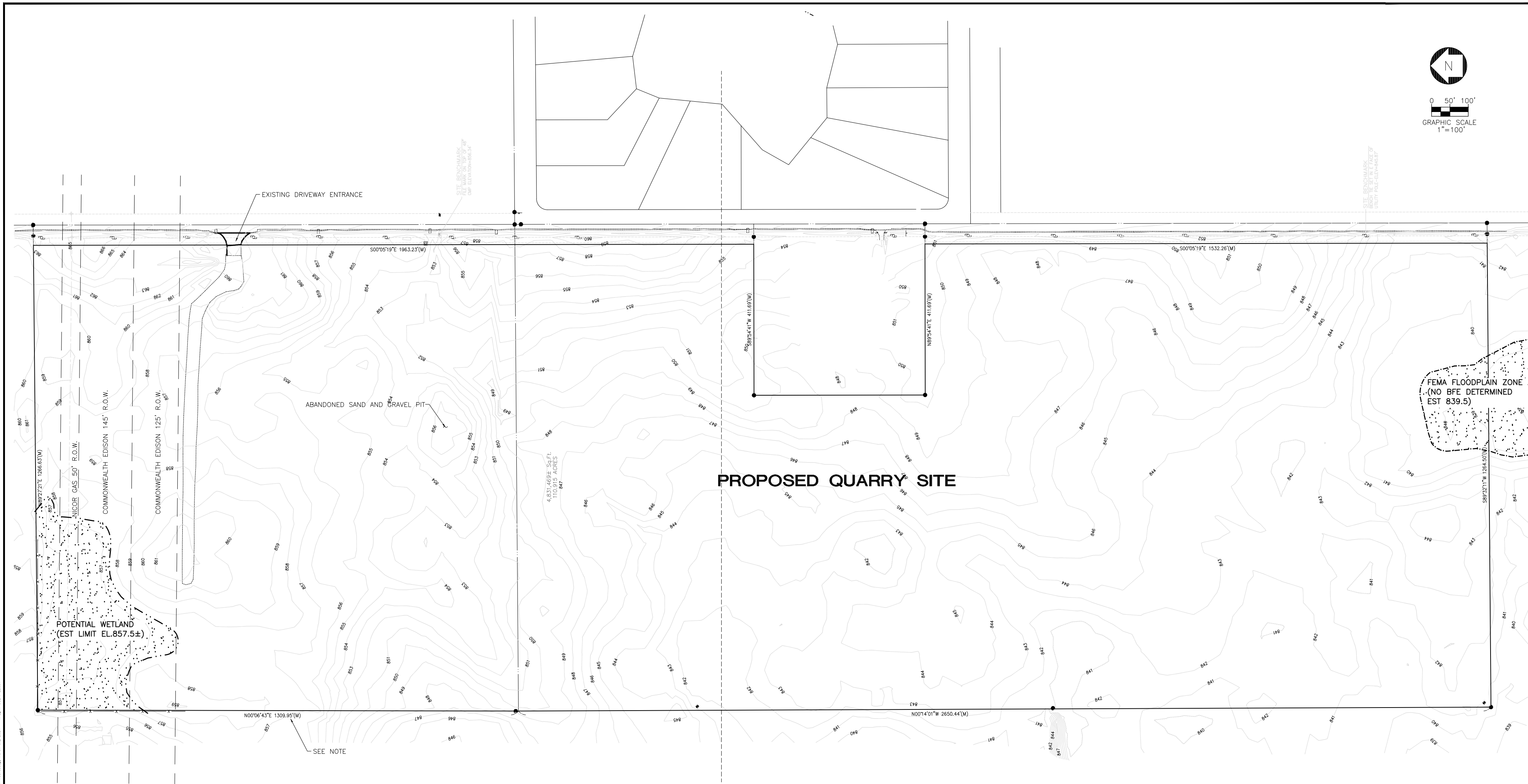
PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=200'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024
PROJECT No.: 22353.043

EXHIBIT 1

1 OF 8 EXHIBITS



LEGEND

TOPOGRAPHIC CONTOUR (INTERVAL 1')

NOTES:

TOPOGRAPHIC SURVEY SOURCE:

VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098 DATED SEPTEMBER 22, 2013.

BOUNDARY SURVEY INFORMATION

PROPERTY BOUNDARY INFORMATION SHOWN ON THIS SHEET IS SUPERSEDED BY PLAT OF SURVEY DATED 1/18/2024 BY VANDERSTAPPAN LAND SURVEYING INC.

PATRICK
a RINA company

55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

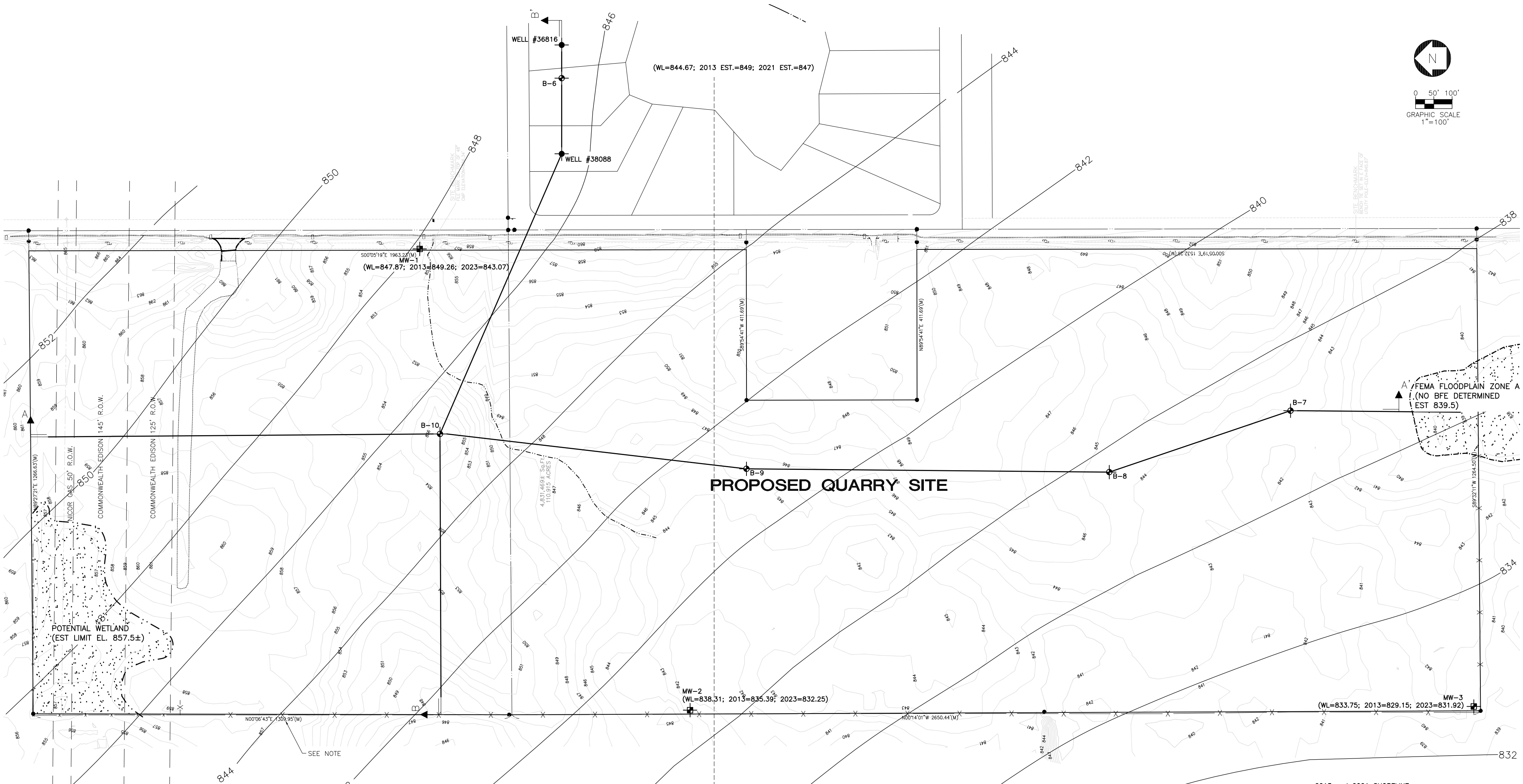
EXISTING CONDITIONS MAP

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'	DATE:	MARCH 2024
DESIGNED BY	JCS	PROJECT No.:	22353.043
DRAWN BY	EJB		
CHECKED BY	JCS		
APPROVED BY	JCS		

EXHIBIT 2

2 OF 8 EXHIBITS



LEGEND

- B-8 — SOIL BORINGS
- WELL #38088 — RESIDENTIAL WATER WELL
- MW-1 (847.87) — MONITORING WELL STATIC WATER ELEVATION 2002 AND 2013 & 2023 AS NOTED
- TOPOGRAPHIC CONTOUR (INTERVAL 1')
- A A' — REFER TO EXHIBIT 5 FOR FOR GEOLOGIC CROSS SECTIONS
- 840 — GROUNDWATER CONTOUR (11/05/02)
- DITCH
- EDGE OF POND

NOTES:

TOPOGRAPHIC SURVEY SOURCE:
VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098 DATED SEPTEMBER 22, 2013.

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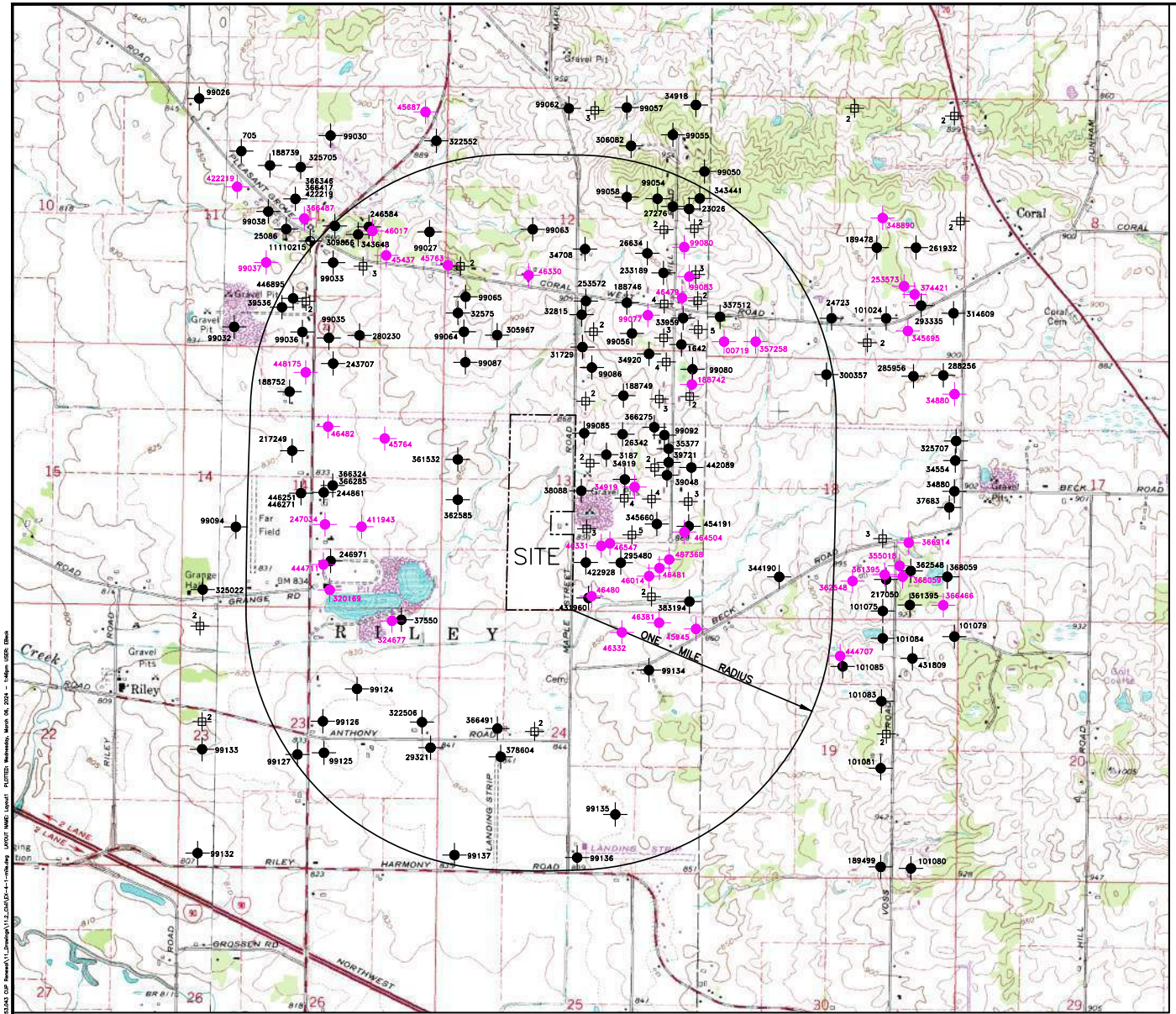
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

BORING LOCATION AND WATER TABLE MAP
(CIRCA 2002; UPDATED 2013 AND 2023)

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'	DATE:	MARCH 2024
DESIGNED BY	JCS	PROJECT No.:	22353.043
DRAWN BY	EJB		
CHECKED BY	JCS	**EXHIBIT 3**	
APPROVED BY	JCS	3 OF 8 EXHIBITS	



N

0 500' 1000'

GRAPHIC SCALE
1"=1000'

LEGEND

222111 — PRIVATE WATER WELL
WELL ID. (ISWS) 2013

348890 — PRIVATE WATER WELL IN THE ISWS
WATER WELL GIS (NOV 2023)

8 — MULTIPLE WELLS

WELL IDENTIFICATION TABLE

WELLS ON FILE FOR 2013 CUP RENEWAL

U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER
11	98983	
11	99026	*22544
11	99027	*23296
11	99028	*22758
11	99029	23863
11	99030	*22175
11	99031	*1714
11	99032	*23298
11	99033	*23294
11	99034	*23295
11	99035	*23297
11	99036	25276
11	99038	*23535
11	188737	*631
11	188738	26825
11	188739	29985
11	233187	
11		25086
11		*705
11	233188	
11	246584	32768
11	280230	34357
11	306856	36598
11	322502	37406
11	325705	37851
11	343648	40115
11	446895	43841
12	98984	*707
12	99039	25277
12	99040	
12	99041	26063
12	99042	24866
12	99043	
12	99044	*1207
12	99045	*22176
12	99046	*1413
12	99047	*22320
12	99048	*23300
12	99049	*23307
12	99050	*23301
12	99051	
12	99052	
12	99053	25463
12	99054	
12	99055	*22757
12	99056	*22759
12	99057	*23306
12	99058	*1798
12	99059	*23304
12	99060	*23295
12	99061	*22177
12	99062	*23303
12	99063	*1412
12	99064	*22002
12	99065	*23299
12	99066	*23302
12	188741	26537
12	188742	26941
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19	101083	23868
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19	101085	
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19	189502	27115

ADDITIONAL WELLS ON FILE WITH THE ISWS AS OF NOVEMBER 2023

U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER
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7	374421	*42309
7		*00719
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11	366487	*41805
11		*46017
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12		*45763
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12		*46479
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13		*46014
13		*46331
13		*46480
13		*46481
13		*46547
13	188742	*26341
13	464504	*44865
13	487368	*45281
14	247034	*32771
14	320169	*37343
14	411943	*42307
14	444711	43364
14	448175	*43890
14		*45784
14		*46482
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18	366914	*41878
18	368059	*41932
19	444707	*43781
23	324677	*37550
24		*45945
24		*46332
24		*46581

* DENOTES COUNTY NUMBER INSTEAD OF ISGS NUMBER.

PATRICK ENGINEERING
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

PRIVATE AND PICS WATER WELL SURVEY
ONE MILE RADIUS

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

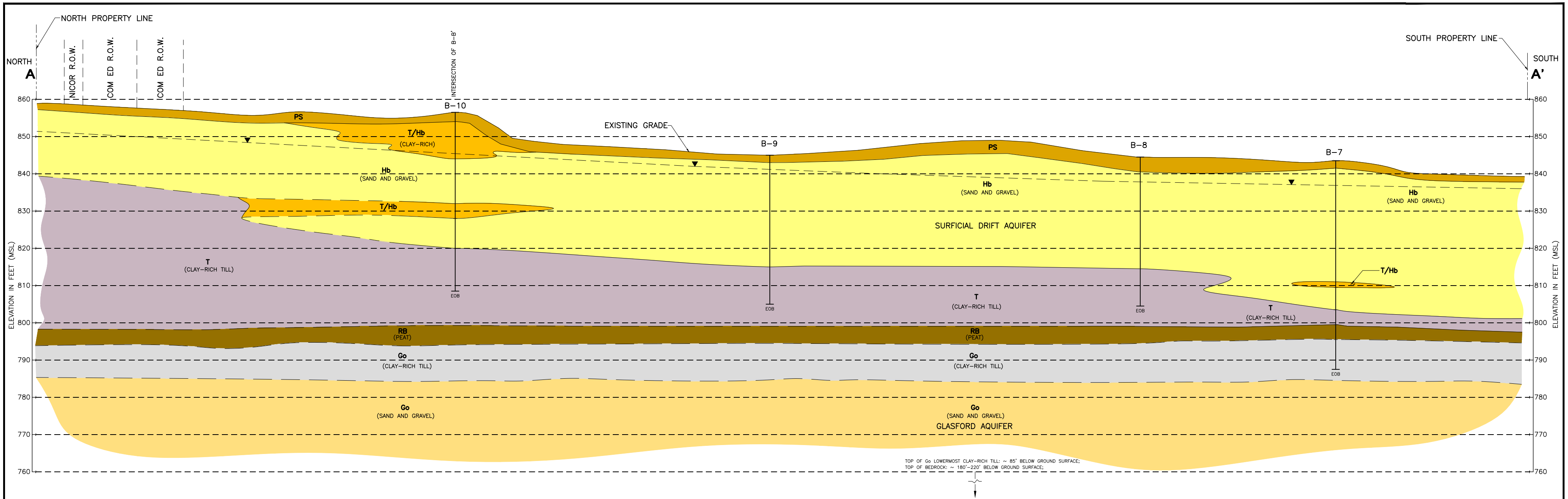
SCALE:	1"=1000'
DESIGNED BY	BE
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

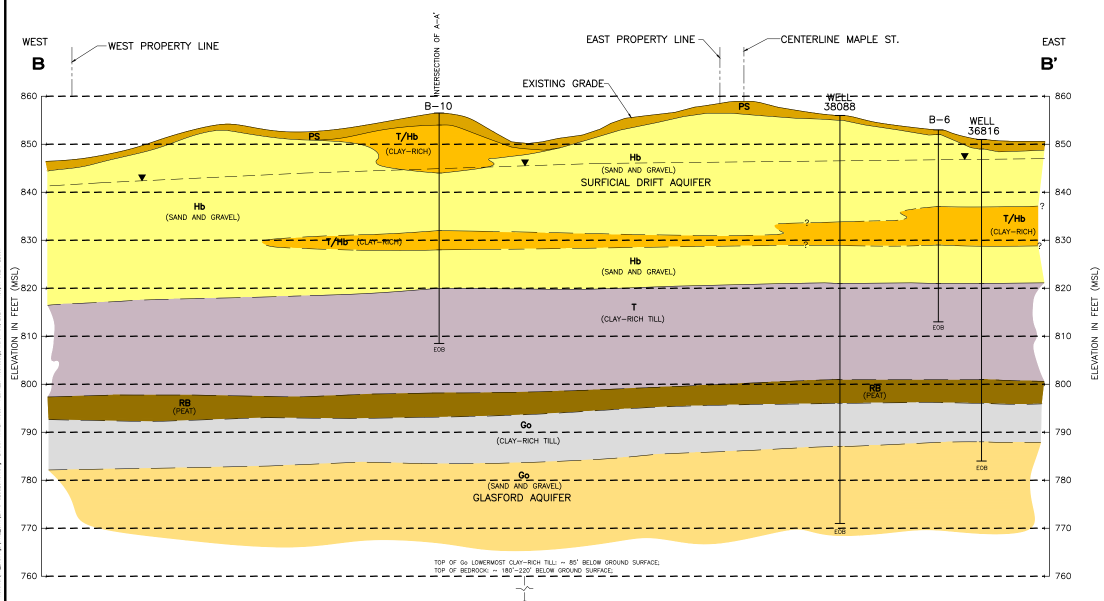
DATE: MARCH 2024

PROJECT No.: 22353.043

EXHIBIT 4

4 OF 8 EXHIBITS





LEGEND

WISCONSIN EPISODE

MASON GROUP

PS — PEORIA SILT FORMATION
Silt and Clay-rich Glacial Loess with Strong Modern Soil Development

WEDRON GROUP

Hb — HENRY FORMATION, BEVERLY TONGUE
Stratified Sand and Gravel-rich with Lenses of Silt and Clay; Glacial Outwash Deposits

T/Hb — Either Lenses of Silt and Clay of the HENRY (Hb) or TISKILWA (T) Till

T — TISKILWA FORMATION
Clay-rich Diamicton, Glacial Till Deposits

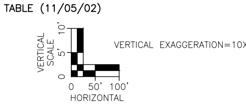
WISCONSIN, SANGAMON, AND ILLINOIS EPISODES

RB — MORTON TONGUE-ROBEIN MEMBER-BERRY CLAY MEMBER COMPLEX
Organic-rich Silt, Clay and Peat, Former Pre-Wisconsinan to Wisconsinan Soil/Wetlands Horizon (Undifferentiated)

ILLINOIS EPISODE

Go (CLAY-RICH TILL) / Go (SAND AND GRAVEL) — GLASFORD FORMATION, OREGON MEMBER
Interbedded Clay-rich Diamicton and Sand and Gravel-rich Glacial Till and Ice Marginal Fluvial Deposits

WATER TABLE (11/05/02)



REFER TO EXHIBIT 3 FOR THE LOCATIONS OF EACH CROSS SECTION.

REV. No.	DATE	DESCRIPTION

PATRICK a RINA company
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

GEOLOGIC CROSS SECTIONS A-A' AND B-B'

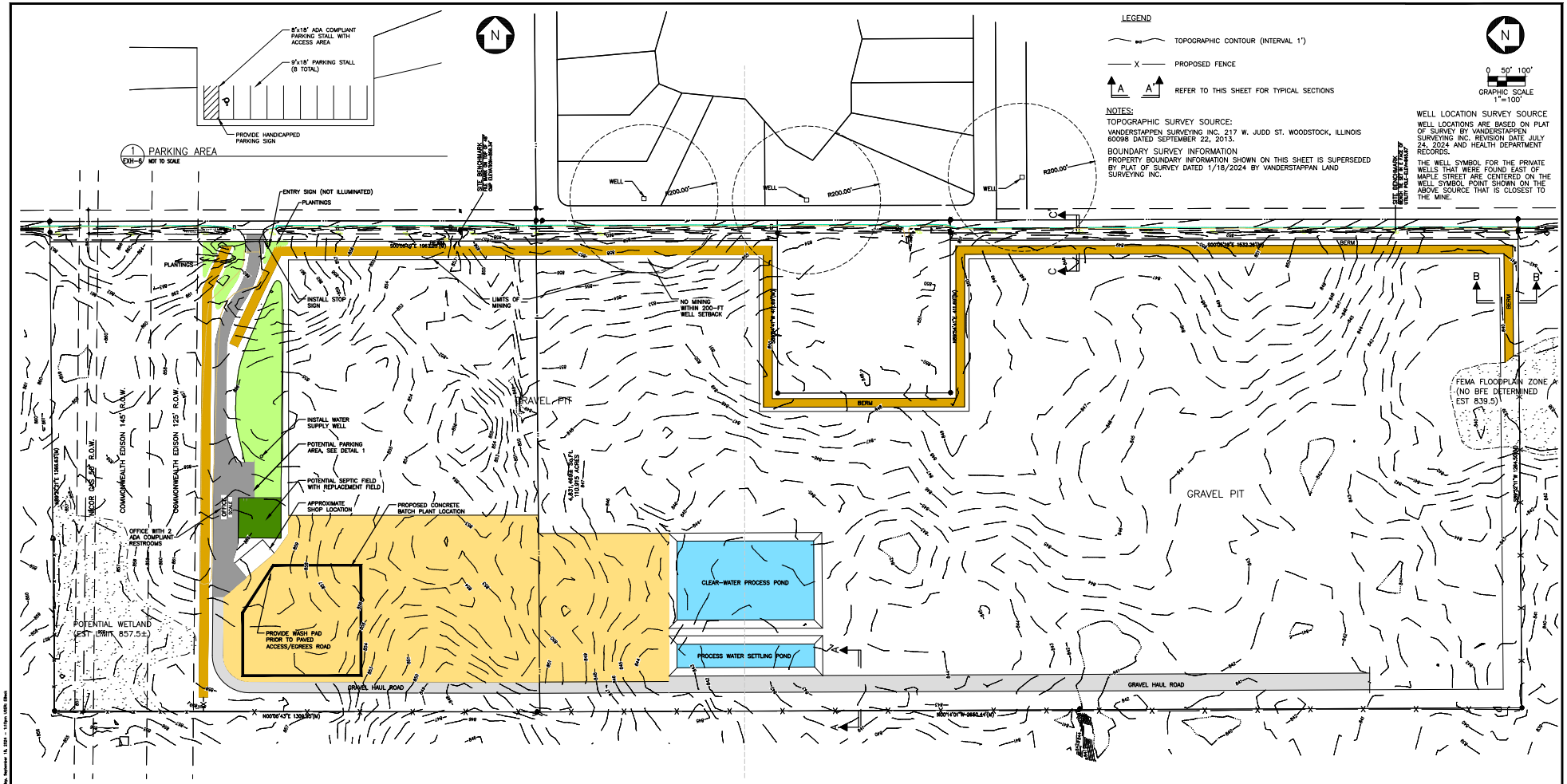
PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024
PROJECT No.: 22353.043

EXHIBIT 5

5 OF 8 EXHIBITS



REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS AND ADD FOUND OFFSITE WELL LOCATIONS

PATRICK engineering
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL. (312) 201-7600
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184003439-0014

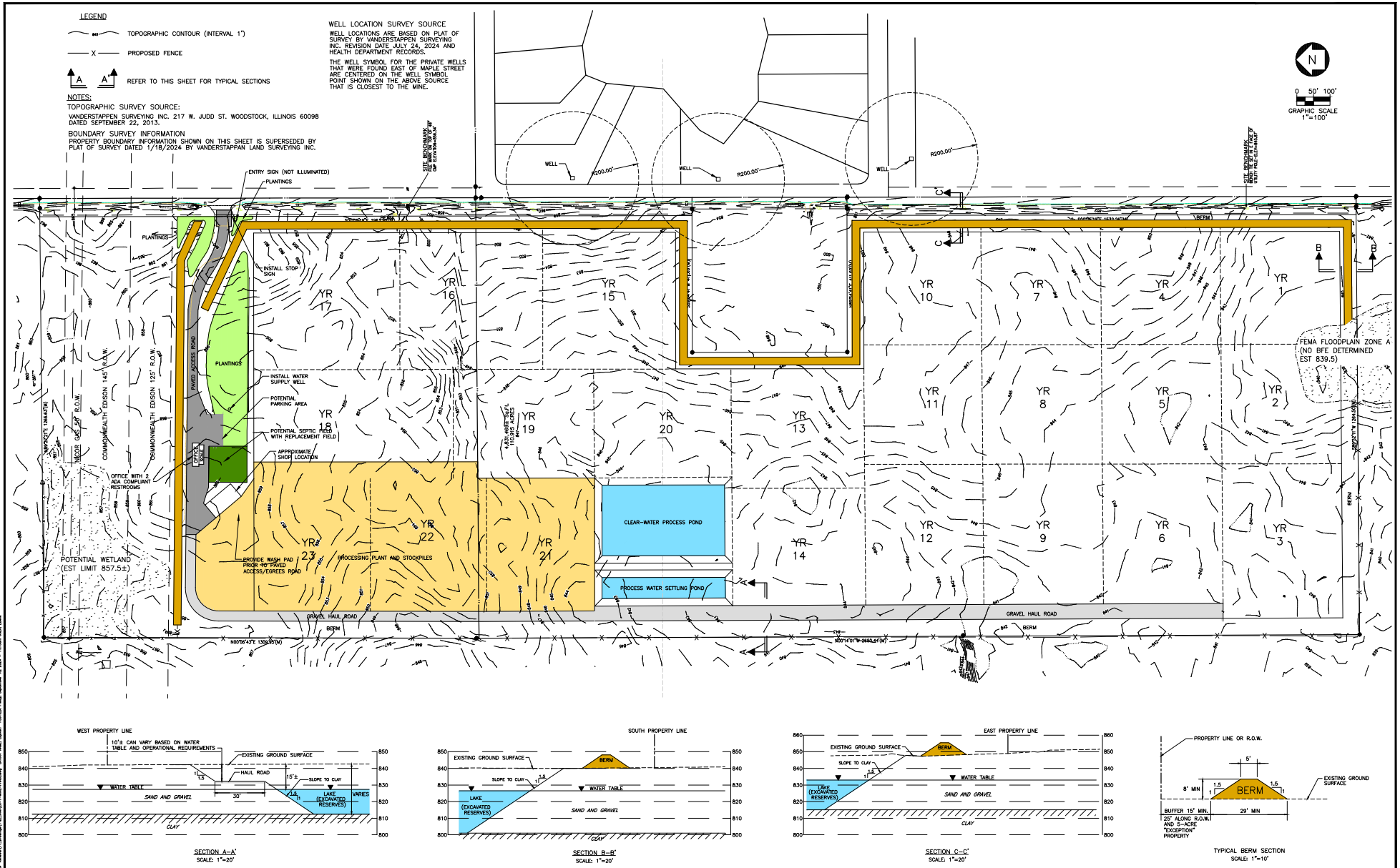
MINING PLAN

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS
DATE:	MARCH 2024
PROJECT No.:	22353.043

EXHIBIT 6

6 OF 8 EXHIBITS



SECTION A–A'
SCALE: 1"=20'

SECTION B–B'
SCALE: 1"=20'

SECTION C–C'
SCALE: 1"=20'

TYPICAL BERM SECTION
SCALE: 1"=10'

REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS AND ADD FOUND OFFSITE WELL LOCATIONS

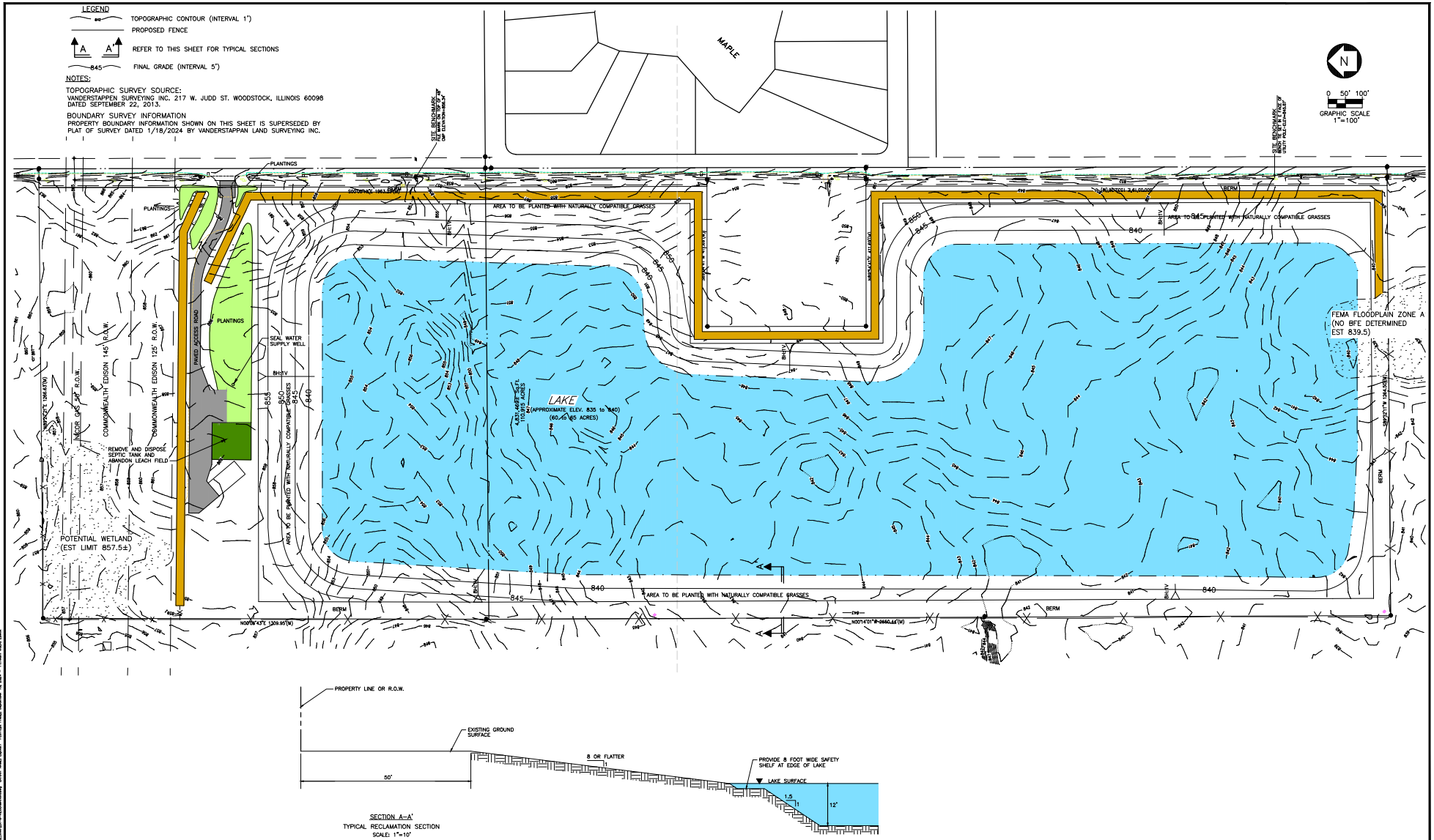
PATRICK
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL. (312) 201-7900
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184003409-0014

MINE PHASING PLAN

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS
DATE:	MARCH 2024
PROJECT No.:	22353.043

EXHIBIT 7
7 OF 8 EXHIBITS



REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS

PATRICK ENGINEERING
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL. (312) 201-7600
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184-003439-0014

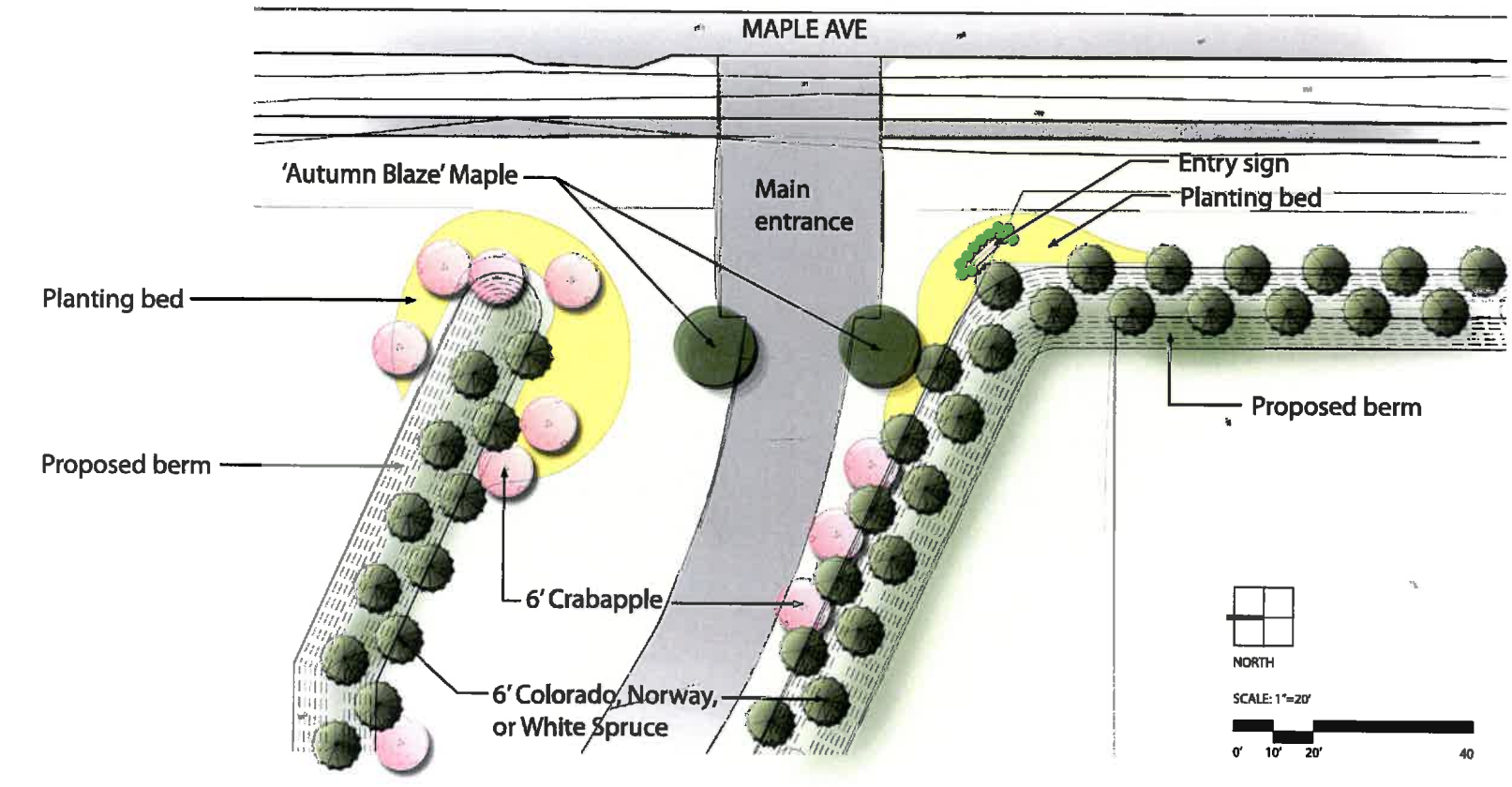
MINE RECLAMATION PLAN

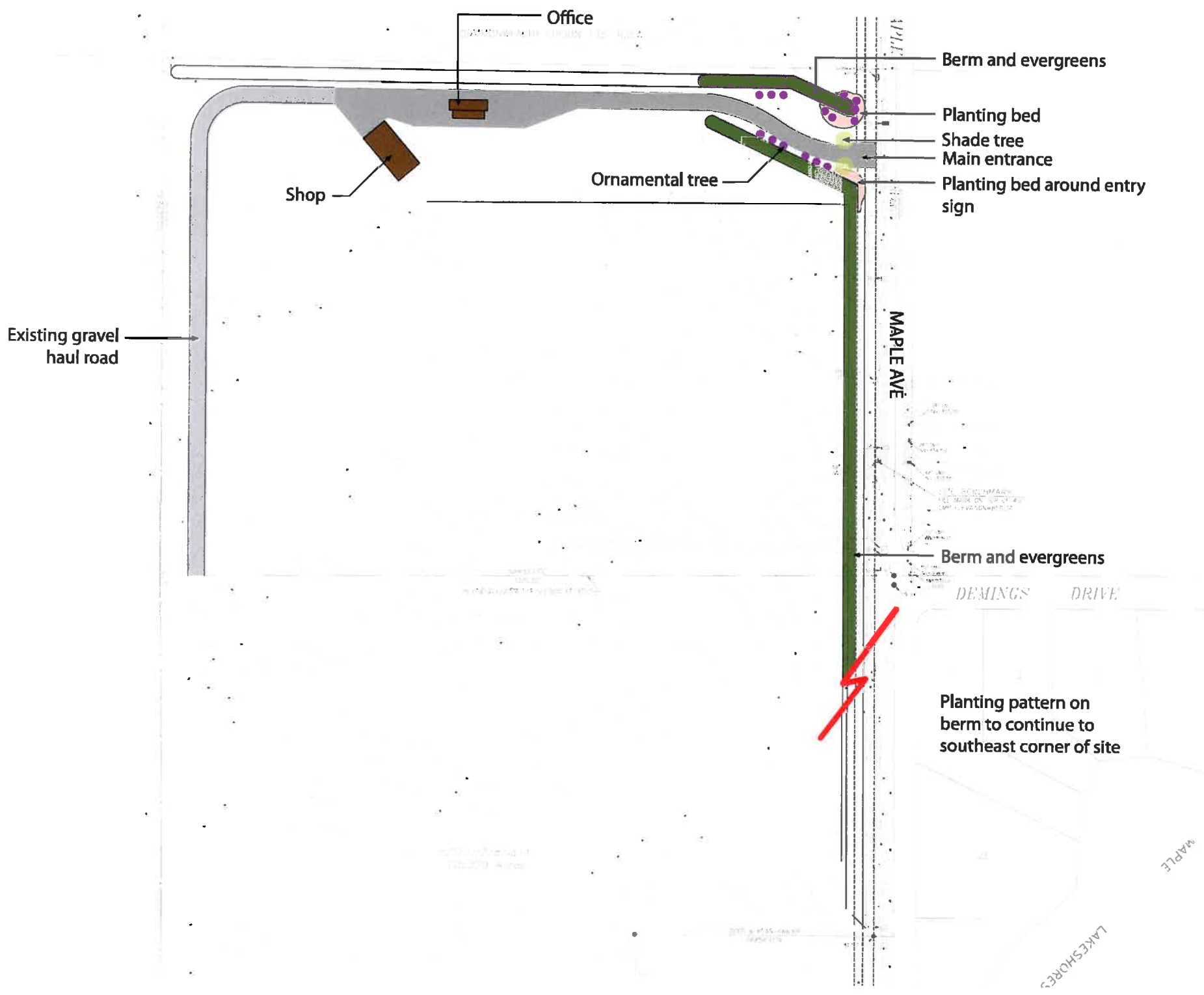
PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024
PROJECT No.: 22353.043

EXHIBIT 8
8 OF 8 EXHIBITS





HITCHCOCK DESIGN GROUP
creating better places

Landscape Plan
Maple Valley Materials
Marengo, Illinois

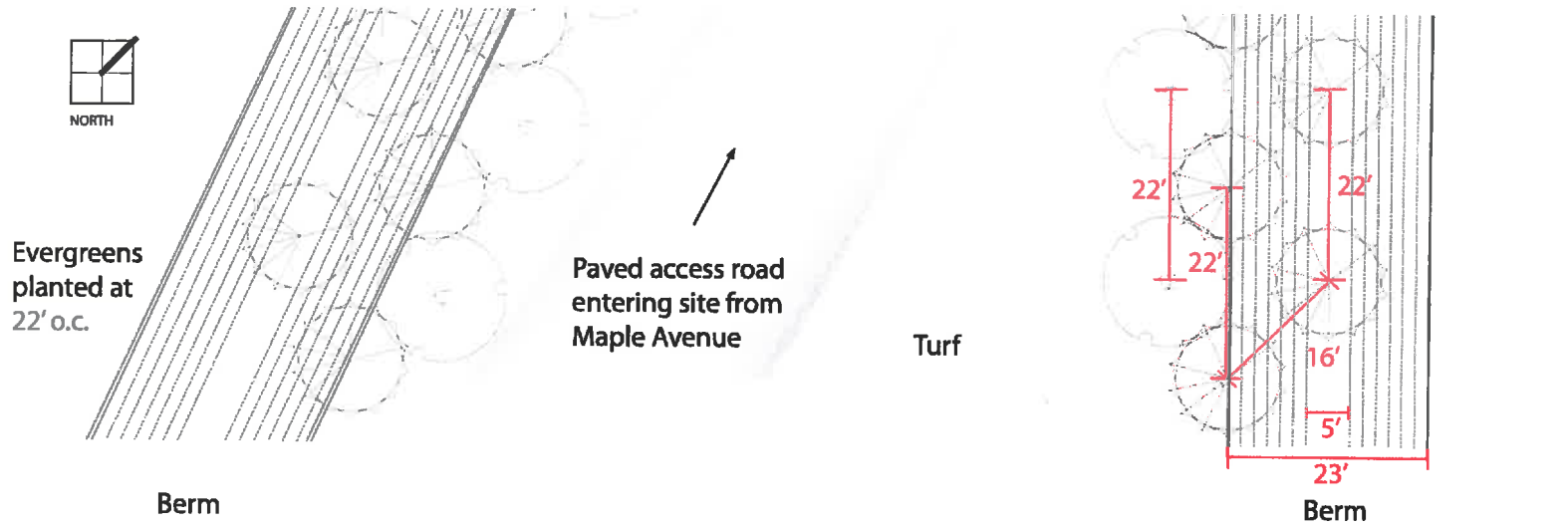
NORTH

SCALE: 1"=100'

0' 50' 100' 200'

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-064-01-01

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering



View looking north on Maple Avenue approximately five years after installment

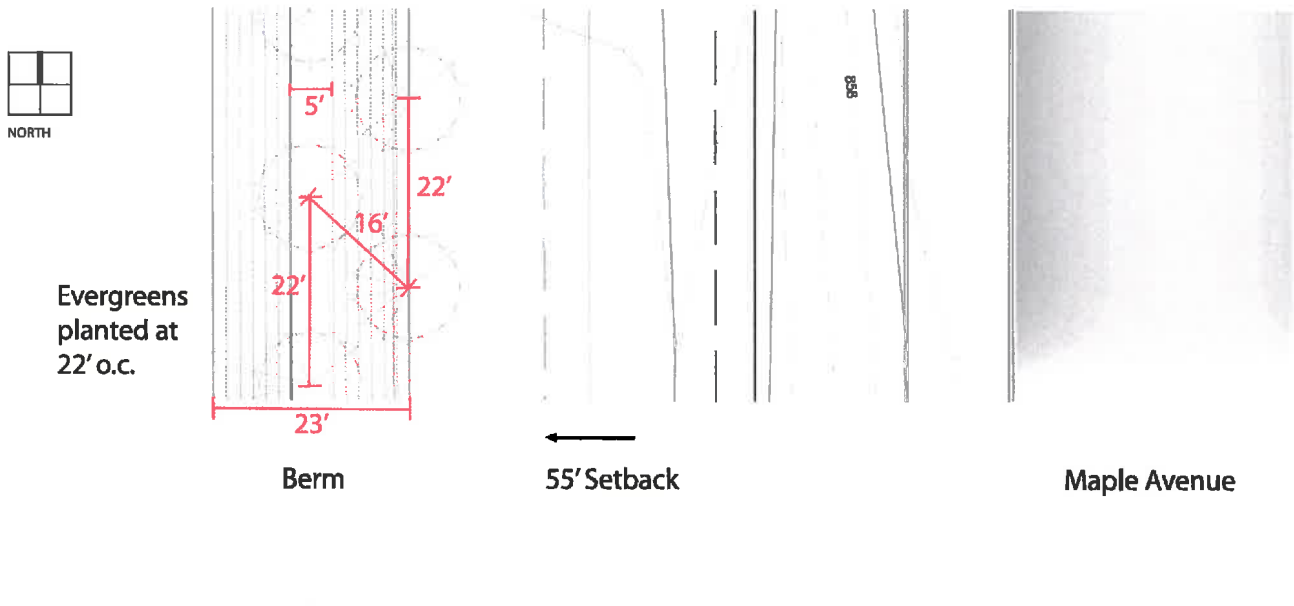
View of entry sign approximately five years after installment

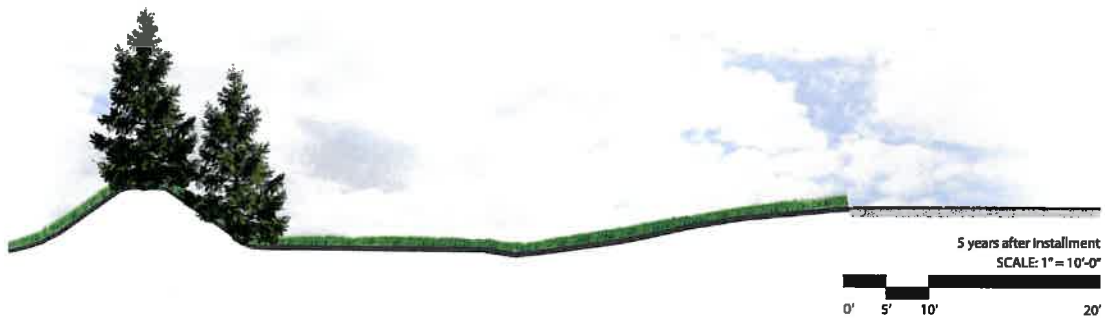
HITCHCOCK DESIGN GROUP
creating better places

Cross Section & Perspectives
Maple Valley Materials
Marengo, Illinois

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-004-01-01

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering





View looking north on Maple Avenue at maturity

View of entry sign at maturity

HITCHCOCK DESIGN GROUP
creating better places

Cross Section & Perspectives

Maple Valley Materials

Marengo, Illinois

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-004-01-01
All drawings are preliminary and subject to change.

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering

MCHENRY COUNTY

ZONING BOARD OF APPEALS

MINUTES ● November 21, 2024 & January 8, 2025

Zoning Hearing	**County Board Conference Room**	**1:30 PM**
	667 Ware Rd, Woodstock, IL 60098	

ZONING BOARD OF APPEALS REPORT TO THE MCHENRY COUNTY BOARD - 2023-051

1. **APPLICANT:** Maple Valley Materials LLC

2. **REQUEST:** Renewal of CUP 2013-046 to allow earth extraction and adding a Ready-Mix Batch Plant in the A1C district.

3. **LOCATION AND SIZE OF PROPERTY IN QUESTION:** The one hundred and eleven (111) acre tract is located on the West side of Maple Street, approximately one thousand four hundred seventy-five (1,475) feet south of the intersection of Maple Street and W Coral Road, in Riley Township.

4. **DATE AND TIME OF HEARING AND VOTING MEETING:** November 21, 2024, 1:30 PM and January 8, 2025, 1:30 PM

5. **LOCATION OF HEARING AND VOTING MEETING:** County Board Conference Room, 667 Ware Road, Woodstock, Illinois

6. **PRESENT AT NOVEMBER 21, 2024 HEARING:**
   A. ZBA Members: Linnea Kooistra – Chair, Vicki Gartner – Vice Chair, Charles Eldredge, Robert Kosin, Kurt Schnable, Mary Donner, William Kurnik

   B. Witness: Steve Gavers; Jeff Schuh, Civil Engineer with Patrick Engineering

   C. Attorney: Mark Saladin

   D. November 21, 2024 Public: Anna Kurtzman – County Staff, Kit GearhartSchinske – County Staff, Dan Gavers, David Novalinski, Julie Novalinski, Kathy Baumann, Jacqui Mitzelfelt, Jim Novalinski, Pat Novalinski, Jeff Watson, Jeff DeVine, Russell Polnow, Tim Vincent, Kyle Anderson, Ryan Weinberg, Jon Solka, Monica Richter, Robert Arlane Christensen, Yvonne Daniels, Cathy Streit, Tony Kyriazes, Scott Parchutz, Kathleen Anderson, Russel Anderson, Beth MacKinney, Cathy Wituk, Lisa Mitchell, Theresa Kyriazes, Dave Diamond, Anthony Hardin

7. PRESENT AT JANUARY 8, 2025 HEARING:

A. ZBA Members:Linnea Kooistra – Chair, Vicki Gartner – Vice Chair, Charles Eldredge, Robert Kosin, Kurt Schnable, Mary Donner, William Kurnik

B. Witness: Steve Gavers; Jeff Schuh, Civil Engineer with Patrick Engineering

C. Attorney: Mark Saladin

D. Public: Anna Kurtzman – County Staff, Kit GearhartSchinske – County Staff, Carmine Tucci, Patricia Gambino, Kathie Tasorac, Dwight MacKinney, Kathy Baumann, Steven Baumann, Jackie Mitzelfelt, Theresa Kyriazes, Jacqueline Mitzelfelt, Tony Myriazes, Ryan McGrath, Joel Kyriazes, Gary Baldassari, Jeffrey Watson, Jeffrey Devine, Ryan Weimberg, Russell Polnow, Marjorie Volkers, Bob Christensen, Arlene Christensen, Beth MacKinney, Tracy Reif, Mike Reif, Brian Kushner, Cathy Streit, Lisa Mitchell, Paulette Novalinski, Jim Novalinski, David Novalinski, Mary Gatlin, Char Hamilton, Ken Merritt, Ann Stone, Tim Vincent, Karen Landwehr, Dolores Landwehr, Russ Anderson, Kathleen Anderson, Kyle Anderson, Ingris Sandavul, Sean Lawler, Michael Ryan, Holin Ryan, Roger Moen, Carla Moen, Laurie Cisneros, Shana Krenzlock

8. ITEMS OF EVIDENCE:

Petitioner's Group Exhibit 1, Petitioner's Exhibit 2 (Curriculum Vitae), Petitioner's Exhibit 3 (Thunder Hearing & Sound Quarry Noise Study), Petitioner's Exhibit 3.2 submitted 1/3/2025 and published on County Meeting Portal site (Thunder Hearing & Sound Noise Study Question Responses)

9. SUMMARY OF TESTIMONY AT HEARING:

Chair Kooistra opened the hearing. The board members introduced themselves. Ms. Kooistra introduced the application and swore in the applicants, Staff and the public.

Mr. Saladin introduced himself, the applicant, Mr. Schuh and the application. Mr. Saladin asked Mr. Gavers questions regarding his business and the parcel in question. Mr. Saladin asked Mr. Gavers if the property is currently being farmed. Mr. Gavers stated that it is. Mr. Gavers stated that Maple Valley LLC is a small family company. Mr. Saladin asked to introduce all petitioner's filings as Petioner's Group Exhibit One (1). Ms. Kooistra accepted the exhibit into the record. Mr. Saladin asked Mr. Gavers to describe the concrete batch plant. Mr. Gavers stated that the equipment will be brand new and is powered by electricity and will not have emissions. Mr. Saladin asked Mr. Gavers how the plant is regulated. Mr. Gavers stated that they are regulated by OSHA and Mine Health and Safety (MSHA) for noise and dust. Mr. Saladin asked if there is another plant similar to what they propose. Mr. Gavers stated that his business owns another plant, Ranger Ready Mix and Materials, near Woodstock that is within five hundred (500) feet of residences. He stated that they have not received complaints from neighbors for that plant in its twenty-two (22) year existence.

Mr. Saladin addressed the proposed conditions with Mr. Gavers. Mr. Saladin addressed the standards for conditional use with Mr. Gavers.

Mr. Saladin asked Mr. Gavers if Mr. Schuh was hired to provide an updated mine plan, reclamation plan, engineer's estimate and an operations plan relating to the property. Mr. Gavers stated that that is correct. Mr. Saladin asked Mr. Schuh to describe his qualifications. Mr. Schuh stated that he is a civil engineer and gave his educational background and experience. Mr. Saladin asked Chair Kooistra if he may enter Mr. Schuh's curriculum vitae into evidence. Chair Kooistra accepted the document into evidence as Petitioner's Exhibit 2.

Mr. Saladin asked Mr. Schuh if the mine report complies with the requirements of section 16.56.030P of the Unified Development Ordinance (UDO). Mr. Schuh stated that it does. Mr. Schuh stated that they researched the geology, reviewed well logs; obtained additional well logs from the state since the last time the mine was permitted; obtained water samples from the wells; obtained water levels from the wells; evaluated site grades; looked at soils information, and they did an investigation to determine the ability to put in a leach field for the mine office. He stated that they also evaluated traffic.

Mr. Saladin asked if the McHenry County Department of Transportation (MCDOT) has received and approved the site plan. Mr. Schuh stated that they did.

Mr. Schuh described the geology and the hydrogeology of the property and the region. He described the drainage on the site. Mr. Saladin asked Mr. Schuh if the property in question is in a class three (3) groundwater resource. Mr. Schuh stated that it is not.

Mr. Schuh addressed the Sensitive Aquifer Recharge Area (SARA). He stated that the Illinois State Water Survey (ISWS) report is almost identical to the SARA map. He stated that all gravel operations are in the SARA because that is where the gravel is located. Mr. Schuh stated that the residential wells are separate from the recharge area under the parcel in question. Mr. Schuh described the excavating process. Mr. Schuh described the mining cell operation. Mr. Schuh described the noise study and stated that the noise levels of the site are projected to be less than the limit dictated by the Illinois Environmental Protection Agency (IEPA). Mr. Saladin introduced Petitioner's Exhibit 3 (Thunder Hearing & Sound Quarry Noise Study). Chair Kooistra accepted that document into evidence. Mr. Saladin addressed the standards for conditional use with Mr. Schuh.

Ms. Donner asked for clarification on the traffic study. Mr. Schuh stated that the number of vehicles is different than the number of trips. If there are thirty (30) vehicles coming in, then there are thirty (30) vehicles leaving. That is sixty (60) trips.

Mr. Eldredge asked what would be the greatest depth that the applicant will mine. Mr. Schuh stated that it would be around thirty-five (35) feet. M. Eldredge asked what the traffic study determined the average daily traffic to be for Maple Street. Mr. Schuh stated that the study identified one thousand

five hundred (1,500) vehicles per day. Mr. Eldredge asked what the maximum number of trucks that the site would be able to serve per day. Mr. Gavers stated that they would be able to serve thirty (30) gravel and thirty (30) concrete trucks per day. Mr. Eldredge asked why the change from six (6) feet to eight (8) feet berms. Mr. Schuh stated that an eight (8) foot berm is more noise absorbent.

Ms. Gartner asked about noise on the site. Mr. Gavers stated that everything has a muffler on it and there is a dosimeter. He stated that they must stay under the required limits, or that piece of equipment gets tagged out and cannot be run.

Mr. Schnable asked how often and what type of trucks deliver concrete powder. Mr. Gavers stated that it would be an enclosed tanker truck, one (1) to two (2) times a week.

Mr. Kurnik asked how the sound decibel levels generating from different points interact together and does the sound level increase. Mr. Schuh stated that he is not an expert, but he stated that Mr. Thunder has a library of data, and it was modeled. Mr. Kurnick stated that the report indicates that it was a worst-case scenario report. Mr. Gavers stated that MSHA caps them at eighty-three (83) decibels.

Ms. Kooistra asked about the batch plant on Donovan Street in Woodstock. Mr. Gavers stated that the plant is in a residential area, and the aggregate and the powder is all trucked in. He stated that there are about twenty-five (25) trucks coming and going per day. Ms. Kooistra asked if that would be about the same as the proposed Marengo concrete plant. Mr. Gavers stated that it would, except there would not be trucks delivering aggregate because it would be available on site.

Ms. Kooistra asked Staff if they have any questions. Staff stated that they do not have any questions at this time. Ms. Kooistra opened the floor to questions from the public.

Mr. Vincent asked if a ready-mix plant has ever been approved on this site. Mr. Gavers stated that it has not. Mr. Vincent asked if the thirty (30) trucks would be owned by Gavers. Mr. Gavers stated that all trucks would not be owned by Gavers.

Ms. Baumann asked how the wells would be affected by the mining. Mr. Schuh stated that the wells are deeper than the clay which is about thirty (30) feet to the top of the clay and would not be affected by the mining. He stated that the water is also flowing from east to west.

Mr. Diamond asked if all conditions would be transferred to a new owner if the property sold. Mr. Saladin stated that they would.

Mr. Novalinski asked if there would be provisions to protect the one hundred (100) year flood water. Mr. Schuh stated that they will not fill the FEMA floodplain and that when they remove material from the mine, it could decrease the amount of flooding upstream.

Ms. Mitzelfelt asked if the Gavers trucks would be governed. Mr. Gavers stated that they are governed at sixty two (62) miles per hour. Ms. Mitzelfelt asked how high the berms would be and how far they would extend around the property. Mr. Gavers stated that the berms would be eight (8) feet and would extend from the north side, down the east side and to the south.

Mr. Polnow asked about property values. Mr. Schuh stated that he did not think the property values would decrease due to the mine. Mr. Polnow asked if the noise study included his property, which is the five (5) acre square surrounded by the parcel in question. Mr. Schuh stated that Mr. Polnow's property is site number five (5) in the report.

Mr. Anderson asked if the clay layer could be punctured by the operator. Mr. Gavers stated that the operators will know where the clay is because hitting the clay is like getting hit by a brick.

Ms. McKinney asked if the truck traffic would go North. Mr. Schuch stated that is correct. Ms. McKinney asked how many gallons of water per day will be removed. Mr. Gavers stated that it is a supply and demand process but estimates two thousand five hundred (2,500) to three thousand (3,000) gallons per day. Ms. McKinney asked if the mine's water usage will affect residents. Mr. Schuh stated that it would not, because the mining well will be deeper than a residential well. She asked what an acceptable noise level would be numerically. Mr. Schuh stated that figure seven (7) depicts an acceptable noise level of sixty-two (62) dB, and the report predicts that they will be around fifty-three (53) dB.

Tony Kariazes asked how much a loaded concrete truck weighs. Mr. Gavers stated sixty-four thousand (64,000) pounds.

Ms. Kooistra stated that the hearing will be continued to January 8, 2025, at 1:30 PM in the County Board Conference Room.

On January 8, 2025, Chair Kooistra resumed the hearing. She reaffirmed that those sworn in during the last meeting were still sworn in and swore in members of the public that were not present at the last date.

Staff gave their report. The property is zoned "A-1" agriculture with a conditional use for an earth extraction mining. The parcel is surrounded by "A-1" Agriculture with conditional use permits for two (2) different gravel pit operations. To the east, there is an E-2 subdivision and an R-1 subdivision. There are also several residents to the north of the R-1 subdivision in the A-1 district.

Staff stated that the existing land use consists of gravel facilities to the west, agriculture to the north and to the south, and residential use to the east. The future land use designation for the parcel in

question is agricultural as well as to the north, south, and west. The future land use to the east is designated as estate.

Mr. Eldredge asked Staff if any of the proposed conditions are specific to the concrete batch plant. Staff stated that they were not. Mr. Eldredge asked Staff if the petitioner has been cited for any violations at the parcel in question or other facilities that they may own. Staff stated that they have not been cited for violations on the parcel in question, and Staff stated that they do not have knowledge of violations at other facilities.

Mr. Kosin asked Staff if Marengo or any other governmental unit submitted a comment regarding the current petition. Staff stated that they did not.

Mr. Saladin asked Staff if based on their experience in McHenry County and enforcing groundwater monitoring and reviewing those records, if they are aware of any mining activity having an adverse effect on groundwater to neighboring property. Staff stated that they are not.

Ms. Kooistra opened the hearing to public comment. Members of the public expressed concern about how the proposed uses will affect: public health, property values, noise pollution, air pollution including microscopic particulate matter, light pollution, traffic safety, water quality, volume of water consumption, disruption of aquatic species habitat, disruption of the Kishwaukee River Watershed ecosystem, interference with the breeding grounds of migratory birds including geese and federally protected sandhill cranes, and drain tiles.

Mr. Saladin gave a closing statement. Ms. Kooistra closed the testimony portion of the hearing.

10. SOIL AND WATER CONSERVATION DISTRICT REPORT:

For further information refer to report number: 23-092-4552.

11. ILLINOIS DEPARTMENT OF NATURAL RESOURCES:

The consultation was received.

12. SUMMARY OF VOTING MEETING DISCUSSION:

Chair Kooistra opened the voting meeting immediately following the hearing. She read the new conditions into the record. Mr. Eldredge motioned to accept the conditions as presented. Ms. Donners seconded the motion. Motion carried (7-0).

Mr. Eldredge motioned to accept the petition as submitted. Ms. Gartner seconded the motion. Mr. Kurnik motioned to amend the previous motion to vote on the approval of earth extraction mining separate from the ready-mix batch plant. Mr. Eldredge amended his motion to vote on the request for earth extraction mining separate from the request for a ready-mix batch plant. Ms. Gartner seconded

the motion. Mr. Kurnik stated that the principal reason to separate the vote was because the ready-mix batch plant was an expansion of use. Motion carried (6-1).

Mr. Eldredge motioned to recommend approval of the renewal of the conditional use for an earth extraction mine. Ms. Donner seconded the motion. Mr. Eldredge stated that earth extraction mining has a long history in McHenry County and this site has had the permission for that earth extraction mining for the last twenty (20) years.

Mr. Kosin stated that the conditional use for earth extraction mining existed prior to many of the neighboring homes. He stated that use was recorded in public documents. Mr. Kosin stated that the use is not incompatible with the growth and development of residential use that the area has experienced.

Mr. Kurnik stated that the petitioner has met the standards for conditional use for earth extraction mining. Motion carried (7-0).

Mr. Eldredge motioned to recommend approval of the ready-mix batch plant. Ms. Donner seconded the motion. Mr. Eldredge stated that the control of dust and noise would be as modern as it can be and that there is a lack of ready-mix plants in McHenry County.

Ms. Gartner stated that the noise and increased traffic from a ready-mix batch plant would be a detriment to the neighbors. She cited the noise study by Mr. Thunder and stated that his list of clients do not include a concrete plant.

Mr. Kosin stated that none of the conditions are specific to a ready-mix batch plant.

Mr. Schnable stated that the use of a ready-mix batch plant is not compatible with the neighborhood. He stated that unlike the existing cement batch plant on Illinois Route 23, the parcel in question is not in a light industrial district and is without direct state highway access. He expressed concern over the effect that a ready-mix batch plant would have on the increased volume of water usage, well safety, water drainage and dust citing the white dust cloud surrounding the batch pant on Illinois Route 23.

Ms. Donner stated that she would have concerns if the request was for an asphalt batch plant.

Mr. Kurnik stated that the petitioner has not demonstrated that the noise created by a ready-mix batch plant would not be injurious. Mr. Kurnik cited page seven (7) of the report by Mr. Thunder that was supplied by the petitioner which states that the sound would be injurious.

Ms. Kooistra stated that it is efficient to have a ready-mix batch plant on site with an earth extraction mine. Motion failed (3-4).

13. FACTS THAT SUPPORT RECOMMENDING APPROVAL OF THE REQUEST FOR RENEWAL OF THE CONDITIONAL USE FOR EARTH EXTRACTION MINING:

a. The subject parcel is zoned A-1 agriculture.

b. The surrounding zoning is "A-1" agriculture with conditional use permits for two (2) different earth extraction mines.

c. The surrounding land use consists of earth extraction mines to the west, and agriculture to the north and south.

d. The future land use designation for the subject parcel is agricultural.

14. FACTS THAT SUPPORT RECOMMENDING DENIAL OF THE REQUEST FOR RENEWAL OF THE CONDITIONAL USE FOR EARTH EXTRACTION MINING: None.

15. FACTS THAT SUPPORT RECOMMENDING APPROVAL OF THE REQUEST FOR A READY MIX BATCH PLANT: None.

16. FACTS THAT SUPPORT RECOMMENDING DENIAL OF THE REQUEST FOR A READY-MIX BATCH PLANT:

a. The applicant has not met the approval standards for conditional use.

17. MOTIONS:

Mr. Eldredge motioned to accept the conditions as presented. Ms. Donners seconded the motion. Motion carried (7-0).

Mr. Eldredge motioned to accept the petition as submitted. Ms. Gartner seconded the motion. Mr. Kurnik motioned to amend the previous motion to vote on the approval of earth extraction mining separate from the ready-mix batch plant. Mr. Eldredge amended his motion to vote on the request for earth extraction mining separate from the request for a ready-mix batch plant. Ms. Gartner seconded the motion. Motion carried (6-1).

Mr. Eldredge motioned to recommend approval of the renewal of the conditional use for an earth extraction mine. Ms. Donner seconded the motion. Motion carried (7-0).

Mr. Eldredge motioned to recommend approval of the ready-mix batch plant. Ms. Donner seconded the motion. Motion failed (3-4).

18. VOTE to recommend approval of the renewal of the conditional use for an earth extraction mine:
7 – AYES; 0 – NAYS; 0 – ABSTAIN

19. VOTE to recommend approval of the ready-mix batch plant:
3 – AYES; 4 – NAYS; 0 – ABSTAIN

The request for renewal of the CONDITIONAL USE for an earth extraction mine GOES TO COUNTY BOARD WITH ZBA RECOMMENDATION FOR Approval of the Conditional Use subject to the conditions:

1. The time limit for the Conditional Use Permit shall be 10 years from the date of approval by the McHenry County Board.

2. Existing trees, shrubs and other types of woody vegetation along road frontages shall be protected and maintained. Weeds and other unsightly noxious vegetation shall be cut or trimmed as may be necessary to present a reasonably neat appearance, to prevent grass fires or the hazard of grass fires.

3. No earth extraction and/or mining operation(s) is permitted to operate in such a manner that the groundwater table of surrounding properties is adversely impacted. In the case of mining operations, water pumped from the site for the purpose of washing shall be retained in a pond until the silt and clay settles and then the water recycled in the area affected. Groundwater quality shall be monitored and maintained on a regular basis in accordance with monitoring practices. Groundwater monitoring parameters are established in § 16.56.030.P.8 (Groundwater Monitoring). Results of the monitoring shall be made available to the Zoning Enforcement Officer as required.

4. The owner and/or operator shall repair any section of road adjacent to the access road to the property that is within 500 feet of either side of the entrance damaged as a result of hauling operations, but shall not be responsible for the normal wear and tear of the road. This provision shall not be construed to require the owner and/or operator to purchase additional right-of-way.

5. All operations shall be conducted in a safe manner, especially with respect to hazards to persons, damage to adjacent lands or improvements and wells, and damage to any street by slides, sinking or collapse of supporting soil adjacent to an excavation.

6. The following apply to earth extraction and/or mining conditions only - not to reclamation conditions:

    a. Earth extraction and/or mining operation(s) that remove and do not replace the lateral support shall not approach property lines, established right-of-way lines of any public roads, streets, or highways closer than a distance equal to thirty (30) feet unless a lesser distance is mutually agreed to by the operator and adjacent property owner and submitted in writing.

b. The bottom of the slope of the excavated face shall be no closer to the point determined in §16.56.030.P.7.e.i, than a distance equal to one and one-half (1½) times the depth of the excavation.

c. If consolidated materials occur in the excavated face, the slope of the face may be steeper than one and one-half (1½) to one (1) slope per §16.56.030.P.7.e.ii for the depth(s) of those materials, however all other excavated slopes of unconsolidated materials are limited to one and one-half (1½) to one (1) slope.

d. In the case that the right-of-way has not been recently surveyed by a registered land surveyor and clearly marked, the right-of-way line is assumed to be, for the purpose of this section, a minimum of forty (40) feet from the centerline of the existing road.

7. An earthen berm no less than eight (8) feet in height, as depicted on the Landscape Plan prepared by Patrick Engineering (Appendix D) and the Mining Plan (Exhibit 6) of the Mining Plan Report shall be provided. Berms that remain in place for one (1) year or longer shall be planted with grass, shrubs, and trees, and maintained as a visual and acoustical screen. They shall be designed so that they do not erode into the road or highway right-of-way or onto the adjoining property. A gate shall be placed at the main entrance that will be locked whenever the Owner, Operator or their agent is not on site. Said landscaping shall be insulated and maintained in accordance with the Landscape Plan preparate by Patrick Engineering as Appendix D of Exhibit #2- Mining Plan Report.

8. The processing and stockpiling of aggregate resources shall not be conducted within three hundred (300) feet of any adjoining residentially zoned property line.

9. The hours of operation for all activities, other than maintenance functions, are restricted to 7:00 a.m. to 7:00 p.m. on Mondays through Fridays and 7:00 a.m. to 3:00 p.m. on Saturdays. In emergency situations, operations are permitted at times otherwise prohibited. (An emergency situation, for the purpose of this section, is any operation necessary to provide repairs to roadways or provide other materials and assistance that, if delayed until normally permitted hours, would cause injury or loss of life or property.) Any operation or activity under this section shall immediately be reported to the McHenry County Sheriff's Department and reported to the Zoning Enforcement Officer the next business day.

10. Operations shall be conducted so that noise levels and air and water standards comply with federal and State of Illinois requirements.

11. Access ways and on-site roads shall be maintained in a dust-free condition. A Dust Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an Annual Operations Permit.

12. The premises shall be neat and orderly, free from junk, trash or unnecessary debris. Buildings shall be maintained in a sound condition, in good repair and appearance. Salvageable equipment stored in a non-operating condition shall be suitably screened or garaged.

13. Enough topsoil must be stockpiled to meet the finished conditions of Section §16.56.030.P.7.e of the McHenry County Unified Development Ordinance.

14. No operations may occur on the property pursuant to this ordinance without the issuance of an Annual Operations Permit issued by the Zoning Enforcement Officer. The operations permit may be for less than the total area proposed. Note: the construction of access or haul roads, building and landscaping of required berms, and other site improvements required for site preparation shall not require the issuance of an Annual Operations Permit. The Zoning Enforcement Officer shall issue said Operations Permit upon receipt from the owner or operator of the following items:

    a. An Operations Plan (Mine Plan and Mine Phasing Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibits 6 and 7) in compliance with this ordinance and other applicable County ordinances; and

    b. A Reclamation Plan (Mine Reclamation Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibit 8) in compliance with this ordinance and other applicable County ordinances; and

    c. A Groundwater Monitoring and Protection Plan in compliance with the County's Unified Development Ordinance, the adopted Ground Water Monitoring Ordinance, and other applicable County ordinances; and

    d. A surety as provided by the County's Unified Development Ordinance based upon the Engineer's Opinion of Probable Reclamation Cost prepared by Patrick Engineering, dated June 26, 2024; and

    e. A copy of all applicable County, State and Federal permits or statements of exemption therefrom; and

    f. An approved McHenry County Stormwater Management permit; and

    g. A Dust Control Plan; and

    h. A Spill Prevention Containment and Control Plan.

15. At all times the Owner and/or Operator shall take adequate measures to insure that contaminated surface water run- off shall not enter ponds or other areas of open standing water. A Spill Prevention

Containment and Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an Annual Operations Permit.

16. The Owner and/or Operator shall take adequate measures within the site to insure that trucks, exiting the site on roadways, do not discharge earth materials or debris on the roadway.

17. The Zoning Enforcement Officer, or a duly authorized representative, shall have the free right of access to the subject property for the purpose of inspections, making water level measurements, obtaining water or material samples and for gathering other information necessary for the proper discharge of his/her responsibilities.

18. The owner and/or operator shall be assessed an annual fee to pay for compliance monitoring based on costs.

19. Prior to the termination of this Conditional Use, the Owner shall cause to be filed with the McHenry County Recorder of Deeds an easement approved by the Zoning Enforcement Officer, after review by the McHenry County's State's Attorney's Office, which shall provide access to the real estate for the purpose of monitoring and sampling of the then existing wells.

20. The Owner and/or Operator shall provide groundwater level and quality reports using data from monitoring wells and staff gauges. These reports shall meet the requirements of the §16.56.030.P.8 of the McHenry County Unified Development Ordinance.

21. To the extent lawfully permitted by the Illinois Department of Revenue, the point of sale of excavated materials from the site shall be deemed to originate in Unincorporated McHenry County.

22. Alf operations, reclamation and on-going uses shall comply with the terms and conditions of the McHenry County Unified Development Ordinance, the McHenry County Stormwater Management Ordinance, and the McHenry County Stormwater Management Permit. The requirements of these items shall supersede the Operations Plan and Reclamation Plan approved by this ordinance.

23. Decisions of the Zoning Enforcement Officer subsequent to the adoption of this Ordinance are subject to the normal appeals procedure set forth in the Zoning ordinance and/or State Statute.

24. The Owner and/or Operator shall provide proof of petition to Mine Safety and Health Administration (MSHA) for the use of alternative safety warning mechanisms, other than back-up beepers. If approved, the alternative method must be used when vehicles are on the subject property, as it applies to the MSHA approval.

25. Before the site is reclaimed, a vegetative buffer strip shall be installed along the slope around the mined area in order to reduce the potential of surface water pollutants from entering the mined area by

providing an area for filtration and infiltration of water. Said buffer shall be vegetated using the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois (NRCS, et al, as amended) as a minimum standard.

26. The Owner and/or Operator shall not mine into the clay barrier above the Glasford Aquifer.

27. Before an Operations permit can be issued by the McHenry County Code Enforcement Officer, Maple Valley Materials LLC shall cause to be installed a new well on the property identified as "Exception" on the Plat of Survey, dated October 11, 2002, signed and sealed by William Vanderstappen. (Parcel Identification Number: 16-13-300-004) submitted as part of this conditional use request. The well shall be drilled to provide water of adequate quality and quantity.

28. Lighting on the property should be directed so that it falls within the property and so as not to affect the neighboring property, excluding lighting required by the Highway Commissioner for ingress and egress.

29. All other federal, state, and local laws shall be met.

30. The Owner and/or Operator shall erect a sign at the exit of the property reminding truck operators to adhere to designated truck routes. Said sign shall be erected within three (3) months of issuance of an Operations Permit and shall remain clearly visible during the duration of this Conditional Use Permit.

The request for CONDITIONAL USE for a ready mix batch plant GOES TO COUNTY BOARD WITH NO RECOMMENDATION FOR Approval of the Conditional Use.

Full Comments and complete application submittal for the above agenda items are available on the McHenry County Meeting Portal.

MINE PLANNING REPORT

CONDITIONAL USE PERMIT RENEWAL
MARENGO MINE
MARENGO, ILLINOIS

PREPARED FOR
MAPLE VALLEY MATERIALS, L.L.C.

PROJECT NO. 22353.043

SEPTEMBER 2024

SUBMITTED BY:

Patrick Engineering Inc.
Professional Design Firm License No. 18000409-0014

TABLE OF CONTENTS

FIGURES

TABLES

APPENDICES

EXHIBITS

Seal Applies to Report Content
Except Appendices C, D, E, H and I

License Expires 11/30/2025

September 26, 2024

1.0 INTRODUCTION

1.1 General

This Mine Planning Report presents an assessment of the Proposed Marengo Mine conducted by Patrick Engineering Inc. (Patrick) for Maple Valley Materials, L.L.C. (MVM). The report includes the methods, data and evaluation of the mine plans and anticipated impact from the development of the proposed earth extraction (sand and gravel) facility. This report supports a petition by MVM for Conditional Use Permit Renewal and is prepared in accordance with McHenry County Zoning Ordinance §16.56.030 Principal Use Standards Section P and §16.56.030 Sensitive Aquifer Recharge Area requirements. MVM plans to extract and process sand and gravel at the Site for use as construction aggregates and to produce concrete at the Site. Processed materials (aggregates and concrete) would be transported off-Site by truck to markets situated primarily to the north. The mine site would ultimately be reclaimed as a recreational lake with potential for lakefront residential properties.

MVM formerly petitioned the County and was granted a Conditional Use Permit on August 19, 2003 (with modifications on November 4, 2003) for similar activities at the Site. An entrance driveway to the planned gravel pit was permitted by McHenry County in 2009 and constructed as originally proposed during the Conditional Use zoning process in 2003.

In 2013 MVM petitioned the County to renew its Conditional Use Permit. The County issued a Conditional Use Permit to MVM on April 15, 2014. No development activities associated with the Conditional Use were completed at the Site due to a downturn in market conditions. The 10-year term of the Conditional Use for the Site is nearing expiration.

There is one significant difference between the current petition and the 2014 Conditional Use Permit. In this CUP request, MVM seeks to use the Site property to extract and process sand and gravel and operate a concrete batch plant. This request is consistent with the original Conditional Use Permit that included provisions for an asphalt batch plant, a redi-mix concrete facility, and a concrete recycling operation. Only the redi-mix concrete facility combined with the

sand and gravel operation is currently being sought by MVM for the Site. Consequently, the number of planned full-time employees is 7. (Depending on daily operation requirements there could be 3 personnel at the site operating the concrete batch plant and 4 operating the mine) and the number of trucks entering and leaving the facility per day is 60 (30 aggregate trucks and 30 concrete trucks). The details regarding the planned operations are presented later in this report.

This report includes geologic, hydrogeologic and drainage (hydrologic) assessments, traffic impact assessment, a Mine Plan, a Mine Phasing Plan, and a Mine Reclamation Plan. A Noise Study Report is submitted separately to support the CUP petition. These components of the report present information required to comply with Section P of the Ordinance, including:

a. Ownership of land
b. Minerals to be extracted or mined.
c. Character and composition of vegetation and wildlife on land to be affected.
d. Current assessed valuation of lands to be affected.
e. Assessed valuation shown by two (2) quadrennial assessments next preceding the currently effective assessment.
f. The nature, depth, and proposed disposition of the overburden.
g. The estimated depth to which the mineral or aggregate resource will be extracted or mined.
h. The technique to be used in the extracting and/or mining operation.
i. Estimated type and volume of excavation.
j. The equipment proposed to be used.
k. Practices and methods proposed to be used to minimize noise, dust, air contaminants, and vibration and to prevent pollution of surface or ground water.
l. If applicable, the recycling of water used for washing and grading.
m. If applicable, the proposed usage or drainage of excess water.
n. The simultaneous reclamation plan including methods of accomplishment, phasing, and timing.
o. Current and past uses of the land.
p. Location of existing roads, and anticipated access and haulage roads planned to be used or constructed in conducting earth extraction and/or mining operation(s).
q. Location and names of all streams, creeks, wetlands and bodies of water within lands to be affected.
r. Drainage on and away from affected land, including directional flow of water, natural and artificial drainage ways and waterways, and streams or tributaries receiving the discharge.

s. A topographic survey with one-foot (1') contours, at the same scale as the aerial photo showing the existing conditions on the subject site.
t. A traffic study showing the impacts of increased truck traffic from the location of the earth extraction or mining site to the nearest County or State highway that will be used for transport.
u. A current Illinois Department of Natural Resources Endangered Species Consultation (EcoCAT) Report.

In addition, the requirements of the Sensitive Aquifer Recharge Area (§ 16.52.030) are addressed in Section 4.4.

1.2 Site Location and Boundary Information; Ownership

The proposed mine Site, Owned by Maple Valley Materials, LLC (MVM), is located west of Maple Street between Coral (West) Road to the north and Anthony Road to the south, approximately 3 miles south of the Village of Marengo, Illinois (Figure 1, *Site Vicinity Map*). The Site occupies approximately 111 acres. For a complete legal description of the property refer to the Boundary Survey provided in Appendix E.

1.3 Zoning

The Site is zoned Agricultural A-1-C. The proposed zoning would remain A-1 with a Conditional Use for Earth Extraction and Mining. The adjoining properties situated along the western property line of the Site are zoned A-1-C with Conditional Use Permits for Earth Extraction and/or Mining Operations. Other adjoining properties are zoned A-1 except for 1) a small R-1 Residential Subdivision (Maple Lake Shores), which occupies a reclaimed portion of a former sand and gravel mine east of the central portion of the Site and 2) properties north and southeast of the site are E2-Estate. All the adjoining properties and their respective zoning designations are presented on an aerial photographic representation of the Site and vicinity in Exhibit 1, *Adjoining Property and Zoning Map*. A topographic map depicting the features and topography is presented in Exhibit 2, *Existing Conditions Map*.

1.4 Current and Past Land Uses

Nearly 100% of the Site is currently used to raise grain-producing crops during the growing season. The former farmhouse, barn and small outbuildings located on a 5-acre parcel situated near the center of the east portion of the Site are excluded from the mine. This parcel is shown on the Plat of Survey in Appendix E. An abandoned sand pit occupying approximately 1/3 acre is situated in the north-central portion of the Site. This topographically high knob was historically mined to extract sand and gravel.

1.5 Character and Composition of Vegetation and Wildlife

Other than the dominance of farming row crops at the Site, a small amount of vegetation including grasses, small shrubs and trees is located along the fencerows, and has overgrown the former sand pit. Wildlife on the property includes typical Illinois farmland fauna including insects, birds, reptiles, raccoons, coyotes, groundhogs and small mammals such as field mice, voles and shrews. Deer may periodically occupy portions of the Site. An Endangered Species Consultation Process (EcoCAT Review #2404958) with the Illinois Department of Natural Resources (IDNR) was initiated for the Site by Patrick. The IDNR indicated that the Site is in the vicinity of several recorded nesting sites for the State-listed endangered Swainson's Hawk, *Buteo swainsoni*. However, the IDNR concludes in the consultation that proposed mine is unlikely to adversely modify the essential habitat of the Swainson's Hawk. Refer to the IDNR letter in Appendix F.

1.6 Minerals to be Extracted

MVM plans to extract sand and gravel at the Site for use as construction aggregates and in the production of concrete. The nature and extent of the minerals to be extracted are discussed in the Geology section of this report.

1.7 Nature, Depth and Proposed Deposition of the Overburden

Generally, less than 5 feet of soil overburden materials will be stripped to reach the minerals to be extracted. The stripped overburden will be predominantly used to construct landscape berms at perimeter locations on the Site. The excess stripped overburden not used for berm

construction will be placed back into the excavated areas from which the minerals were extracted. The nature and extent of the overburden are discussed in the Geology section of this report.

1.8 Estimated Type and Volume of Excavation

Approximately 95 acres are proposed to be excavated as an open pit mine at the Site. The proposed pit is anticipated to be between 20 feet and 35 feet deep based on the Site geologic conditions, which are discussed in the Geology section of this report. The excavated volume of the proposed quarry would be approximately 4.5 million cubic yards over the expected 20 to 25-year life of the quarry. The excavation will extend below the water table forming a lake as the pit progresses. After mining is completed, a recreational lake, which will cover approximately 60 to 65 acres of the Site, will remain as discussed in the Hydrogeology section of this report. The un-mined acreage will be reclaimed as prairie grasslands and residential lots. Detailed mine and reclamation plans are described in the latter sections of this report.

2.0 SITE INVESTIGATION ACTIVITIES

2.1 Soil Boring and Monitoring Wells

Several soil borings and monitoring wells drilled at the Site were used to help characterize the subsurface conditions. In addition to the Site-related borings specifically drilled for geologic purposes, private water well records near the Site were also reviewed. Ten soil borings were drilled previously on or near the proposed mine Site during the 1980s (assumed) by the former landowner. Four of these borings were drilled in the area currently proposed for the mine and the remaining six borings were drilled near the former gravel pit situated east of the Site in the area now occupied by Maple Lakeshores Subdivision. Three additional borings drilled by Patrick were completed on the proposed quarry Site to supplement the data derived from the historical boring program and to construct groundwater monitoring wells. The wells were constructed to determine the depth to the water table, estimate groundwater flow direction and for use for groundwater monitoring in accordance with McHenry County Zoning Ordinance §16.56.030 Principal Use Standards Section P and §16.52.030 Sensitive Aquifer Recharge Area monitoring requirements.

The Site-related locations of the soil borings and monitoring wells are presented in Exhibit 3, *Boring Location and Water Table Map*. Table 1, *Site Borings / Monitoring Wells*, presents a detailed construction summary of the Site soil borings and monitoring wells. The historical boring report data, boring logs, and monitoring well installation reports are presented in Appendix A, *Soil Borings and Monitoring Well Installation Reports*.

2.2 Private, Public, Industrial and Commercial Water Wells

Water well records from the Illinois State Water Survey (ISWS) well-record database were acquired for the area surrounding the Site. A summary of the Private Water Well Survey wells is presented in the table in Exhibit 4, *Private and PICS Water Well Survey Wells – One Mile Radius*. The wells on record as of the 2014 CUP Renewal are designated in columns 1-3. The new wells (wells placed into the ISWS GIS database since the 2014 renewal) are shown in column 4. The

well logs for the new wells are provided in Appendix B1. Well logs for the well logs on file for the 2014 CUP Renewal are in Appendix B2.

In addition to identifying water supply wells using a desk-top study, a field survey was performed to identify the locations of private water supply wells located near the site. Wells that could be seen from public property were surveyed and are shown on the survey provided in Appendix E. The location of one well was provided by the McHenry County Health Department (reference Appendix B1). The wells located within 250 feet of the right-of-way are shown on Exhibit 6 and include a 200-ft radius line. The planned limits of mining are outside the 200-ft setback zone.

Maple Valley Materials will perform another field survey at the time of mining and will attempt to locate those wells that may be present but could not be seen from public property. Any new wells that could possibly be within 200 feet of the limits of earth extraction will be surveyed. The location of the mine limits will be adjusted if necessary to provide the 200-foot setback from the well to the edge of earth extraction.

3.0 REGIONAL AND SITE GEOLOGY

3.1 General

The geology of the area near the Site includes approximately 180 feet to 220 feet of unconsolidated sediments unconformably overlying consolidated bedrock formations. The unconsolidated materials were deposited during episodes of continental glaciation, which dominated this region during the Pleistocene Epoch of the Quaternary Period, generally within the last 200,000 years. The bedrock formations, which subcrop beneath the glacial-aged sediments, are reported to be several hundred feet thick. These formations were emplaced in a shallow sea during the Ordovician Period of the Paleozoic Era approximately 450 million years ago.

Cross-sections of geologic materials at the Site have been created based on the boring and water well data collected during the investigation. The locations of the cross-sections are shown in Exhibit 3, *Boring Location and Water Table Map*. The cross-sections are presented in Exhibit 5, *Geologic Cross-Sections A – A' and B – B'*.

3.2 Unconsolidated / Overburden Sediments

Several geologically distinct units or formations divide the unconsolidated/overburden sediments at the Site based on geologic studies performed in the region and data derived from the on-site soil boring programs. The units are presented below from oldest (deepest) to youngest (at the surface) beginning at the interface with the buried bedrock surface.

The oldest definable unconsolidated unit near the Site is the Oregon Member of the Glasford Formation. This unit was deposited during the Illinois Episode of the Pleistocene Epoch between 190,000 and 130,000 years ago. This unit is comprised of diamicton (clay-rich poorly sorted glacial till) interbedded with sand and gravel-rich glacial till, and stratified, sand and gravel-rich fluvial (meltwater-borne) deposits. There are two well-defined, grayish colored glacial till portions of the formation sandwiching about 20 feet of fluvial sand and gravel. The lowermost portion is approximately 100 feet thick and the uppermost portion is about 10 feet thick.

Overlying the Glasford Formation is the Morton Tongue - Robein Member - Berry Clay Member Complex. This undifferentiated, mappable complex potentially represents portions of several different Pleistocene glacial events including the Illinois (Pre-Wisconsin), Sangamon and Wisconsin Episodes. This unit may represent sediments deposited and soils formed between 130,000 and 25,000 years ago. This complex typically is comprised of grayish-brown colored, organic-rich silt, clay and peat representing a former pre-Wisconsin to Wisconsin soil/wetlands horizon and is about 5-feet thick at the Site.

Overlying the older organic-rich complex is the Tiskilwa Formation of the Wedron Group. This formation was deposited during the Wisconsin Episode of the Pleistocene Epoch. The Tiskilwa Formation is a pinkish-brown colored clay-rich glacial till diamicton. It ranges between 5-feet and 40-feet thick at the Site. The thinner portions of this formation are typically coincident with the thicker portions of the overlying sand and gravel formation. This formation rises to the ground surface east and north of the Site, becoming very thick in the upland areas, forming the hilly area called the Marengo Moraine. This moraine represents deposits at a temporary margin of the melting glacial ice sheet, which paused during its retreat from the region between 25,000 and 14,000 years ago. Upper portions of the Wedron Group sediments were difficult to differentiate from the fine-grained portions of the overlying Beverly Tongue of the Henry Formation at the Site. These undifferentiated zones may represent transitional interbeds of the Tiskilwa and Henry Formations.

Overlying the Tiskilwa Formation is the Beverly Tongue of the Henry Formation of the Mason Group. The Henry Formation is glacial outwash deposit comprised predominantly of stratified sand and gravel with limited, localized lenses of silt and clay. The Henry Formation is approximately 20 and 40 feet thick forming a broad outwash plain across the Site and beyond. This formation was formed by sediment carried by glacial meltwater emanating from the glacial ice-margin that formed the Marengo Moraine. The sediments were carried by meltwater in a braided stream network, which flowed southwesterly from melting glacial ice. The Henry Formation formed when these water-borne sediments settled out as a layer of sand and gravel

where the velocity of the stream flow diminished away from the ice-margin. The finer-grained portions of the formation represent small, localized ponds and stream cut-offs that formed on the outwash plain. Additional coarser grained sediments, typical of highly variable braided stream networks, ultimately buried these finer grained pockets of materials.

The Beverly Tongue of the Henry Formation and/or the Tiskilwa Formation is mantled with a thin layer of silt and clay-rich glacial loess (windblown sediments). This unit is the Peoria Silt Formation of the Mason Group of the Wisconsin Episode and probably was deposited shortly after the ice retreated about 14,000 years ago. The Peoria Silt Formation at the Site is typically less than 4-feet thick and may be nearly unrecognizable due to disturbances from plowing and modern soil development processes. In fact, the parent materials for the organic-rich modern soils present at the Site are usually a mixture of this formation and the underlying glacial outwash.

3.3 Soils

Several modern soils have been identified at the Site according to the McHenry County Soil Survey. Typically, these soils are described as developing in loamy, sand and gravel outwash deposits with slopes less than 2%. These soils are specifically identified as the Warsaw Loam, Lorenzo Loam, Kane Silt Loam, Hoopole Loam and a small incidence of Parr Silt Loam. Typically, these soils are well drained to somewhat well drained. The Hoople Loam is poorly drained.

3.4 Bedrock

No on-Site borings were drilled deep enough to intersect the bedrock. Nonetheless, several water wells in the area reported bedrock on their respective well logs. Based on this information, apparently the bedrock subcrops beneath the Site between 180 and 220 feet below the ground surface. However, bedrock was reported to be less than 100 feet deep in a few locations northwest of the Site near Route 23. This indicates that the bedrock surface may have significant topographic relief in the region.

Evidently, two geologic units (i.e., a very thick limestone overlain by up to 20 feet of shale) were identified in some of the water wells that penetrated bedrock near the Site. Published data for the area indicate the Ordovician-aged bedrock that subcrops in the region should consist of dolomitic limestone of the Galena Group and shale of the Maquoketa Group. Therefore, due to the reported presence of shale in the well logs, it is assumed that the lowermost portion of the Scales Formation (Maquoketa Group) overlies the Dubuque Formation of the Galena Group beneath the area at or near Site. The Galena Group is reported to be over 250 feet thick in the area where overlain by the Maquoketa Group. However, as inferred from the potential variations in topographic relief of the bedrock surface near the Site, regionally the Scales Formation and portions of the uppermost Galena Group formations may be partially or totally missing in limited areas.

3.5 Mine Reserves and Overburden

The unconsolidated sand and gravel portions of the Beverly Tongue of the Henry Formation are the principal targets for proposed mining activities at the Site. This sand and gravel formation represents all of the mining reserves intended for permit request. The bottom of the mine is anticipated to be coincident with the top of the Tiskilwa Formation. The Tiskilwa Formation and other deeper clay-rich formations are too thick overall to effectively mine the yet deeper stratified sand and gravel of the Glasford Formation. The organic-rich modern soil horizons within the Peoria Silt Formation and any clay-rich lenses of the Henry Formation are considered overburden material and will be stripped and used for berm construction, landscaping, and reclamation activities as discussed in detail in the Mine Plan and Reclamation sections of this report.

4.0 SITE HYDROGEOLOGY

4.1 General

Normally, aquifers (i.e., economically significant water producing materials) are typically present in the more permeable coarser-grained materials. These include water saturated sand and gravel, sand or silt formations and permeable bedrock. However, the more coarse-grained the material or more fractured the bedrock, the more likely it may qualify as an aquifer, if water saturated. Therefore, geologic formations that are unfractured, very well graded or with high percentages of silt and clays are not typically viable aquifers. These poorly producing formations are typically aquitards, meaning they do not transmit water readily and effectively isolate different aquifers from one another.

Several aquifer systems are reported to exist in McHenry County. These aquifers include portions of the bedrock system as well as multiple aquifers in the unconsolidated formations at various locations across the County. In addition, several geologic units are excellent aquitards and effectively isolate different aquifer systems from each another. Given that the proposed mine will only extract materials from the uppermost formations of a very thick unconsolidated geologic sequence at the Site, only the hydrogeology of the unconsolidated materials near the Site will be considered in this report. Please refer to Exhibit 5, *Geologic Cross-Sections A – A' and B – B'* for more specific information regarding the distribution of the aquifers at the Site.

4.2 Site Hydrogeology

Two aquifers are thought to exist at the Site based on boring logs, water well records, groundwater monitoring wells constructed by Patrick, and local ponds and lakes. These include the deeper Glasford Aquifer, which is coincident with the stratified sand and gravel portion of the Oregon Member of the Glasford Formation, and the shallower Surficial Drift Aquifer, which is coincident with the water saturated portion of the Beverly Tongue of the Henry Formation. The Surficial Drift Aquifer is the uppermost aquifer present at the site. These two aquifers are separated by three separate geologic formations with hydrogeologic characteristics of aquitards. These aquitard units include the Tiskilwa Formation, the Morton Tongue - Robein Member -

Berry Clay Member Complex, and the upper clay-rich Oregon Member of the Glasford Formation. In fact, these three clay-rich units lie between the two aquifers (i.e., Glassford and Surficial Drift aquifers) in a continuous vertical hydrostratigraphic sequence, combining as a single aquitard approximately 35 feet thick. This combined hydrostratigraphic unit is thought to be a very effective aquitard, isolating the shallower, uppermost Surficial Drift Aquifer from the deeper Glasford Aquifer. This clay-rich aquitard acts to restrict downward groundwater percolation into the Glasford Aquifer from precipitation, which results in a well-saturated aquifer (i.e., the Surfical Drift Aquifer) perched above it in the permeable sand and gravel of the Beverly Tongue of the Henry Formation.

The lower clay-rich Oregon Member of the Glasford Formation, which lies below the Glasford Aquifer is approximately 100 feet thick and is thought to behave as another hydrostratigraphic aquitard unit. This aquitard should effectively isolate any other deep bedrock aquifer systems (or other unknown unconsolidated aquifers such as the Basal Drift Aquifer, which may be present in the region) from the shallower Glasford Aquifer.

The Glasford Aquifer system is likely confined and totally isolated from the shallower Surfical Drift Aquifer above and the deeper aquifers below by the extensive clay-rich aquitards previously discussed. No Site borings penetrated the Glasford Aquifer. However, several local water wells apparently exploit this aquifer system, based on their reported depths. No information is available regarding the flow direction of groundwater in this aquifer.

The shallow, uppermost Surficial Drift Aquifer is thought to be locally unconfined and well-connected to most shallow surface water bodies such as small streams, ponds, lakes and wetlands. Generally, the source water in this aquifer is from infiltration of precipitation and stormwater runoff originating in the uplands east and north of the Site. The water table of this shallow aquifer system would likely vary several feet at any given location, seasonally or in response to prolonged periods of drought, excessive precipitation or stormwater management practices.

The position of the water table within the Surficial Drift Aquifer at the Site is estimated based on information gathered at the three on-Site groundwater monitoring wells constructed in it, the former quarry lake located east of the Site in Maple Lakeshores subdivision, the Meyers Pit Lake located to the west-southwest. The surface water bodies are generally thought to be coincident with the water table near the Site. A review of the water level data collected in 2002, July 2013, and recently for this report suggest that the water levels have varied at each of the locations by several feet between these times. A water table map was generated from the water level data collected in 2002 from the on-Site groundwater monitoring wells and nearby lakes to graphically depict general water table and groundwater flow direction relationships in the Surficial Drift Aquifer near the Site. This drawing is presented in Exhibit 3, *Boring Location and Water Table Map*.

The 2002 water table map and more recent water level data gathered for the Surficial Drift Aquifer indicates the water table is typically 10 to 15 feet below the ground surface beneath the Site. The elevation of the water table at the northeastern portion of the Site near groundwater monitoring well MW-1 ranged between approximately 843 and 849 feet above mean sea level between 2002 and 2023, respectively. The elevation at the far southwestern corner of the Site near groundwater monitoring well MW-3 ranged approximately between 834 and 829 feet above mean sea level between 2002 and 2023, respectively. The water level of Meyers' Pit Lake may have fallen from about 828 to 825 feet above mean sea level during the same period.

The water table measurements in the shallow Surficial Drift aquifer show that most groundwater passing through the north-northeastern portion of the Site ultimately ends up in the Meyers' Pit Lake after flowing beneath the Site. Groundwater flow across the Site is southwesterly with a hydraulic gradient likely varying between approximately 0.005 and 0.01ft/ft. The groundwater monitoring wells constructed at the Site are screened within the uppermost Surficial Drift Aquifer. Well MW-1 is generally hydraulically upgradient to the Site, and wells MW-2 and MW-3 are hydraulically downgradient.

4.3 Mining Impacts to Site Water Levels

The proposed mine will penetrate and remove the sand and gravel portion from Surficial Drift Aquifer at the Site. The sand and gravel excavated below the water table will be replaced by groundwater from the shallow aquifer, and precipitation during mining activities. The resulting lake level will be a direct manifestation of the water table, like the lake located in Maple Lakeshores subdivision, as well as lakes at the Meyer mine site and other nearby mines. The lake which will form as the material is excavated will have a water level dependent on the seasonably variable Site water table conditions, local precipitation, evaporation and recharge from stormwater runoff directed into the lake. Annual lake evaporation rates are reported to be roughly equal or slightly less than evapotranspiration rates of row crops or grasslands in the region, thereby balancing those particular losses (Roberts and Stall, 1967). Water level variation of the lake may occur depending on precipitation and normal seasonal water table fluctuations as previously discussed. Therefore, the elevation of water level of the lake is estimated to seasonally range between approximately 835 to 840 feet above mean sea level and will vary as the mine progresses.

The proposed mine is not expected to significantly impact the water levels or water quality of the shallow Surficial Drift Aquifer or negatively impact any local water wells. All the documented local water wells are constructed in deeper aquifer systems situated below and hydraulically isolated from the shallow Surficial Drift Aquifer at the Site and will be unaffected.

4.4 Sensitive Aquifer Recharge Area Requirements

The mine site is located in a Sensitive Aquifer Recharge Area as defined by McHenry County and as shown on Overlay Districts Map in Appendix B of the Sensitive Aquifer Recharge Area (§ 16.52.030) of the McHenry County Code of Ordinances. The site is not located in a Class III Special Resource Groundwater area.

Per the Ordinance, a permanent concrete batch plant shall meet the following conditions:

1. Comply with all State regulations and permit requirements, and
2. Perform quarterly groundwater sampling by Illinois licensed professional engineers or Illinois licensed professional geologists. The Zoning Enforcement Officer shall approve the groundwater monitoring plan. This criterion can be satisfied if the concrete batch plant is located within an earth extraction and/or mining site with an approved groundwater monitoring plan.

MVM is committed to complying with all State and County requirements and permit conditions and will perform the groundwater monitoring as detailed in this report and as required by Ordinance.

Development Standards for a property that includes a SARA Overlay District or any Class III Special Resource Areas Overlay District, are:

1. The maximum impervious surface coverage is limited to the lesser of the maximum impervious surface area allowed in the zoning district or fifty percent (50%), but in no case shall more than fifty percent (50%) of the SARA Overlay District area on site (110.7 acres) be made impervious. The planned mine will have less than 13% of the property considered impervious. (Conservatively, the impervious areas include the access road and office/scale (1.0 acre), haul road (1.0 acre-gravel), shop (0.1 acre), and aggregate processing area (11.4 acres-gravel).
2. When the property to be developed contains any Class III Special Resource Areas Overlay District, the property owner shall submit the proposed development plans to the Illinois Environmental Protection Agency prior to the site plan review process. The mine site is not located in a Class III Special Resource Overlay Area.

5.0 DRAINAGE

5.1 General

The Site is located in the Kishwaukee River Watershed, a major tributary to the Rock River. The Kishwaukee generally flows westerly in the region with its closest point to the Site situated about 4 miles north. The confluence of the Kishwaukee River with the Rock River is located approximately 25 miles to the southwest. The Site is situated within the Coon Creek Watershed, a subsection of the Kishwaukee River Watershed. Coon Creek is situated about 2 miles southwest of the Site and is tributary to the Kishwaukee River. The confluence of Coon Creek with the Kishwaukee River is approximately 10 miles northwest of the Site.

5.2 Site Drainage

Generally, surface drainage near the Site moves southwesterly from the uplands of the Marengo Moraine complex to Coon Creek. There is no well-defined surface drainage system at the Site. A small culvert, situated approximately 1,100 feet south of the northeastern property corner, directs stormwater runoff onto the Site. This stormwater originates from the ditches along Maple Street and from the upland Marengo Moraine north and east of the Site. The roadway ditch drainage moves southwesterly across the Site in a poorly developed, farmed swale. However, the swale is nearly indefinable within less than 1,000 feet of Maple Street. There is no well-defined drainage swale leaving the Site along the western margins of the property. Apparently, all stormwater entering the Site into this swale infiltrates into the permeable sand and gravel outwash sediments that dominate the near surface geology at the Site, recharging the groundwater system. Hoopole Silt Loam soils appear to have developed near the west-central portion of the Site where a large portion of the drainage from the swale may temporarily collect and infiltrate to groundwater. All other precipitation and storm runoff at the Site moves as sheet flow, evaporates, transpires, or infiltrates to the groundwater.

Historical farming practices at the Site have created slightly higher ground near the western property line. This high ground potentially interrupts a former swale that may have previously moved high intensity storm water flows off-site. If this is the case, Site stormwater may have

historically flowed westerly offsite in an ill-defined swale into yet another poorly-defined swale situated about 300 feet west of the property boundary. Apparently, that swale historically moved runoff southwesterly to Coon Creek. However, the Meyers' gravel pit lake has truncated that particular swale, now wholly capturing all water that flows from it.

Wetland Inventory mapping does not identify any wetland on the Site. However, a small area of occasionally-farmed, potential wetlands (less than 2 acres in size) was observed near the northwestern corner of the Site. This small, potential wetland is outside of any areas planned to be developed for the proposed mine and will not be disturbed. FEMA Flood Insurance Rate Mapping indicates approximately a one-acre area below the elevation of 839.5 feet centered along the southern property line may lie within the 100-year flood plain of Coon Creek. This area is designated as FEMA Floodplain Zone A, for which no Base Flood Elevation (BFE) has been established. Normally, the Site is routinely tilled for agricultural purposes, including this Flood Zone. The exceptions are the former sand and gravel pit, the extreme margins of the property and periodically the potential wetland area.

5.3 Mining Impacts to Surface Drainage

Apparently under normal conditions, practically no surface water leaves the Site. Nearly all available water either infiltrates, evaporates or transpires. A small amount may leave the Site as sheet (overland) flow near its margins. The proposed planned mining practices at the Site will continue this pattern. Nearly all stormwater runoff will be effectively captured or retained by on-Site drainage swales, ditches or landscape berms and directed to the process water ponds or the lake created during mining operations. The remainder of any excess will move off Site as sheet flow. There is no anticipated negative impact to the drainage system from the proposed mine. There will be no stormwater outfalls, therefore, no NPDES permit for non-coal surface mines will be required for the Site. However, a construction NPDES permit will be required under provisions of the General Stormwater Permit for the State. Erosion and sediment controls will be provided as required to comply with local and state/federal requirements. Permits necessary for the site to operate will be obtained prior to any earth extraction operations.

6.0 TRAFFIC IMPACTS

6.1 General

Currently, Valley Aggregates, a related company of MVM, operates mining and concrete production facilities in Woodstock. The proposed MVM facility is expected to generally mimic the combined operations of the existing facilities. Excavated material will be used in the production of concrete, by Gavers Asphalt Paving & Excavating in its operations, and by third-party entities. Estimates of the number of full-time employees and truck traffic for the proposed Conditional Use were derived from operational experience at the existing facilities coupled with current plans for the new facility. The Traffic Assessment for the proposed Conditional Use is summarized in this section and the complete report is presented in Appendix C.

6.2 Site Accessibility

Direct access to the development will be via one existing driveway situated along the west side of Maple Street. The MVM gravel pit access entrance driveway was originally proposed for the Site during the Conditional Use zoning process in 2003. The entrance was permitted by McHenry County in 2009 and constructed. Currently, no additional entrance pavement modifications are thought to be required for the proposed Conditional Use. A stop sign will be installed at the mine exit in accordance with McHenry County Division of Transportation requirements and the Manual of Uniform Traffic Control Devices.

Maple Street is under the jurisdiction of the McHenry County Division of Transportation and consists of two lanes of travel (one in each direction) in the vicinity of the proposed driveway. The speed limit along Maple Street is 55 mph. The surrounding land use of the subject site includes mining operations owned and operated by other companies, farmland, and scattered residential homes. Coral Road, located approximately 3,000 feet north of the proposed driveway, is an east-west route under the jurisdiction of the Illinois Department of Transportation that consists of two lanes of travel. Coral Road serves traffic from IL Route 23 on the west and US Route 20 on the east. At the intersection of Maple Street and Coral Road, Maple Street is under stop sign control.

6.3 Mining Impacts to Local Traffic

The traffic impact study of the proposed MVM facility indicates that no improvements along Maple Road are required at this intersection because of this development. The peak hour volumes generated by the gravel pit were applied to the existing PM peak hour to present the worst-case scenario.

- The total number of trips expected to be generated per day is 60 truck trips inbound and 60 truck trips outbound, as well as 7 employee trips inbound and outbound.

- For the purposes of this study, this development will generate a total of trips 10 entering and 10 exiting during the PM peak hour.

- Access to the proposed development will be from an existing entrance located along Maple Street approximately 3,000 feet south of Coral Road.

- 24-Hour Traffic Counts were taken during October of 2023, and the existing ADT volume is 1,543 vehicles per day along Maple Street and 1,612 along Coral Road.

- Sufficient stopping sight distance, over 1,000 feet (570 feet required), and intersection sight distance, over 1000 feet, is provided at the proposed mine pit entrance.

- Turn lanes are not warranted at the mine entrance.

7.0 MINE PLAN

7.1 General

MVM plans to extract sand and gravel at the Site for use as construction aggregate and to produce concrete. Approximately 95 to 97 acres of the property will be mined during the planned 20 to 25-year life of the mine. The planned operation will employ approximately seven full-time individuals (3 at the concrete plant and 4 at the mine; possibly more depending on specific daily operational requirements) to operate and maintain the equipment, direct the mining activities, batch concrete, record operate the scale weights, etc. The planned hours of operation for all activities other than maintenance functions will be between 7 a.m. and 7 p.m. weekdays and 7 a.m. to 3 p.m. Saturdays under normal conditions. Additional hours of operation may be required during the peak construction season. However, this exception will not exceed the requirements of the McHenry County Ordinance, which allows operations between 5 a.m. and 9 p.m. between April 1st and October 31st, and between 6 a.m. and 6 p.m. the rest of the year, and certain emergency situations. A detailed drawing to support the text in this section is presented as Exhibit 6, *Mine Plan*.

7.2 Site Preparation

All traffic activity related to the Site operation will use a single entrance to Maple Street, situated approximately 550 feet south of the northeastern property corner as shown on the Mine Plan (Exhibit 6). Approximately 6 acres of the northernmost portion of the Site south of the utility easements and right-of-ways will be developed to include the paved entrance driveway, office (with two ADA compliant (handicapped accessible) bathrooms), scales and equipment storage and a shop. A locked gate will be situated at the entrance to Maple Street to prevent unwanted traffic and access. A stop sign will be installed at the exit. A Maple Valley Materials sign will be installed on the south side of the entrance. (Sign will be 6 feet high by 8 feet wide and will be set back at least 10 feet from the ROW and will not be illuminated.) A septic field with tank, a parking area, and water supply well will be located near the office. The well will be located at least 75 feet from the septic field. Design of the septic field and parking area will be completed at the time of mine permitting. The area for the planned septic field was evaluated and found to be

suitable for the intended use. See the report in Appendix H. The parking area will be paved and will include 8 passenger vehicle spaces and one ADA compliant space. The parking area location and layout is shown on Exhibit 6.

Approximately 11 acres of the northwestern portion of the Site is set aside for the processing area and for the concrete batch plant. An additional 4 acres situated immediately south of the processing area will be used for a settling pond and clear processing water. Haul roads between the excavation and the processing area will typically extend along the western margins of the Site.

Landscaped berms will be constructed along the northern, eastern and south-easternmost 300 feet to the eastern edge of the FEMA Floodplain Zone A to shield the operation from the surrounding roads and properties as shown on the Mine Plan (Exhibit 6). A 25-foot buffer will be maintained between the berms and the Maple Street Right-of-Way, and along the 5-acre "exception" property. The remaining perimeter, without berms will include a farm fence of not less than 54-inches in height and of such a design to allow the free flow of wild animals but discourage trespassing by humans or farm animals.

The berms will be at least 8 feet high along the north and south perimeters and at least 8-feet high along the east perimeter, with side slopes no steeper than 1.5:1 as indicated by the Ordinance. The berms will be constructed of overburden material stripped from the processing area, processing water ponds and mine.

The berms and planting areas will be landscaped with appropriate prairie grasses, small trees and shrubs, dominated by conifers. The landscape plan provides for high-density planting of conifers on the eastern perimeter berms, and decorative plantings at the entrance. The high-density conifer plantings will include a double off-set (serpentine) line of trees, a minimum of 6-feet tall at planting, planted on 22-foot centers. The landscape plan, which includes suggested plant

species, cross sections and rendered perspectives at both 5-years and maturity, is provided in Appendix D.

All aggregate processing and stockpiling will be within the 10-acre processing area as shown on the Mine Plan (Exhibit 6). The stockpiles will occupy the eastern portion of the processing area for visual and sound buffers to the aggregate processing plant and the concrete batch plant.

7.3 Planned Mining Technique

The sand and gravel materials will be extracted by use of front-end loaders and excavators while above the water table. Once the water table is intersected, a dragline will be used to excavate the sand and gravel. The excavated materials will be temporarily stockpiled near the dragline and transferred into a hopper using front-end loaders. The hopper will distribute the aggregate onto a conveyor belt, which will transport the materials to the processing area. The processing area will include crushing, washing and screening to appropriate size gradations. The washed and graded materials will be transferred to stockpiles. Materials from the stockpiles will be loaded onto trucks using front-end loaders. Loaded trucks will proceed to the scales and then exit the Site. No blasting will be required to mine the sand and gravel.

It is anticipated that the reserves will be mined to a depth between 20 feet and 35 feet deep based on the Site geologic conditions. The excavated volume of the proposed mine would be approximately 4,500,000 cubic yards over the expected 20 to 25-year life of the mine. Process water and water for dust control will be pumped from the clear water pond located immediately south of the process area. Sediment-laden process water will be drained to the setting pond adjacent to the clear water pond. No process water will leave the Site by way of ditches. All process water will be allowed to seep back into the shallow water table aquifer.

The process-related settling ponds will generally be constructed in the area on the Site where Hoople Silt Loam soil has developed. This area of the Site is where much of the stormwater from the drainage swale currently infiltrates. The intended presence of the process ponds in this

general location is to mimic the current infiltration condition at the site. Provisions will be made to periodically clean the wash-fines out of the settling pond as needed. The wash-fines will be incorporated into the overburden materials and used during reclamation.

7.4 Concrete Batch Plant Operations

MVM plans to operate a concrete batching plant at the Site. The planned location of the operations is shown on Exhibit 6. The concrete batch plant will be a portable unit meeting IEPA emission requirements. Permits, as applicable, will be obtained for use prior to any batching operations.

7.5 Noise Levels

The Mining Plan includes the construction of vegetated berms to act in part as noise barriers. MVM plans to locate the heavy equipment associated with the processing of the construction aggregate and the concrete batching equipment in a 10-acre parcel situated along the western property boundary to minimize noise levels to residential areas east of the Site. The easternmost edge of the processing area will be located approximately 800 feet west of Maple Street. Aggregate stockpiles will be located east of the processing equipment in the 10-acre parcel to further shield noise.

A Noise Study was performed by Thunder Hearing & Sound LLC to assess the potential noise levels associated with proposed aggregate excavation and processing and concrete batching at the Site. The results of the noise study are contained in a separate report.

7.6 Dust Emission and Controls

Dust emissions at the Site will be controlled to meet the National Ambient Air Quality Standards (NAAQS) as established by the U.S.EPA under Subpart 000. This regulatory authority has been delegated to the Illinois EPA and is regulated under Title 35 of the Illinois Administrative Code: Environmental Protection; Subtitle B: Air Pollutions; Chapter I: Pollution Control Board. These standards are very strict regarding the amount of fugitive dust emissions allowed to escape from

a mine site. The Illinois standards have been found by the U.S.EPA to protect against health risks as well as nuisance effects. A mine operation must show it can meet these standards or a permit will not be issued. In addition, if the standards are violated, the permits can be revoked.

Certain equipment planned for use at the Site is currently in use at the Valley Aggregates facility in Woodstock. All the processing equipment there is currently operating under a Lifetime General Operating Permit for Aggregate Processing Plants (Air Permit). As the processing equipment gets moved to the proposed operation, new air permits will need to be granted because the equipment has been moved. However, because the processing equipment is currently permitted, it is expected that once realigned at the Site, a new operating air permit will be granted.

The proposed feedstock typically will be excavated by dragline from below the water table and be fully saturated with water. Therefore, the particulate matter emissions from processing the aggregate materials will be primarily controlled by natural surface moisture of the feedstock. Additional moisture may periodically be required during processing and will be controlled using sprayers on the processing equipment, as needed. Water for these sprayers will be pumped from the fresh water pond constructed on-site.

A Dust Control Plan will be developed and used by MVM to manage the dust at the Site. The plan will include best management practices for dust control during removal of overburden and sand and gravel, windblown dust from storage piles, dust from traffic on haul roads, dust from conveyors and transfer points, and dust from loading and dumping materials. The dust at the Site will be managed using vegetated berms and wetting of the aggregate materials as needed to reduce dust emissions. Wind speed and direction and soil moisture conditions will be considered during excavation. Water trucks will be used to reduce dust on haul roads generated during dry conditions. The approximately 1,000 feet of paved access roadway will be cleaned as required to reduce the potential for dust and tracking of loose soils onto Maple Street. A wash pad will be provided to allow trucks to be cleaned as needed prior to exiting the site. Aggregate stockpiles will be located near the western portion of the Site, away from property lines to reduce the potential for windblown material to leave the Site to the east.

7.7 Surface and Groundwater Pollution

The planned aggregate processing at the Site includes crushing, washing and grading (sorting) of the sand and gravel as needed. The process wash-water will be acquired from two ponds situated in the 10-acre processing area near the western property line. The ponds will be excavated below the water table and could have up to approximately 2.3 acres of surface area. A 0.5-acre pond will be used as a settling pond, which will flow into a 1.8-acre clear-water pond from which process water will be pumped. The fine-grained materials that collect in the process ponds will be periodically cleaned and used at the Site for reclamation or sold as product.

Initially, all surface runoff water from the Site will be discharged into the process ponds. Eventually, some of the surface runoff will be directed to the lake created by the mining extraction operations. All the water will be collected in the process ponds and/or Lake and diffused into the shallow groundwater system. It is expected that no surface water runoff from inside the berms will leave the property and no surface or process water will be directly discharged from the Site. Therefore, an NPDES permit for non-coal surface mines will not be required.

Groundwater levels and quality will be monitored at the Site in accordance the Conditional Use Permit. This will consist of using the three (3) existing monitoring wells (one upgradient and two downgradient groundwater monitoring wells) and quarterly groundwater sampling. In order to establish background concentrations of select constituents in groundwater at the site, groundwater samples were obtained from the three monitoring wells on December 14, 2023. The test results are provided in Appendix G.

To protect the groundwater resources at the Site from possible contamination by fuels, lubricants or other potentially hazardous materials used at the Site, a Spill Prevention, Control and Countermeasures (SPCC) Plan will be adopted by MVM as part of their best management practices. It is expected the mine will have one 1,200 gal above ground petroleum storage tank (AST) that will be located within a spill containment pad capable of containing the entire contents

of the tank plus 10% or the contents of the tank plus the 100-year, 24-hour storm event (whichever volume is greater) or the tank will be a double wall tank. The location and type of tank are to be determined prior to mine development, and the AST will be located at least 200 feet from the on-site well. The outlet to the secondary containment will have a locked valve to prevent unauthorized release of fuel from the containment area.

Oils and other petroleum fluids will be stored in drums in the Maintenance Building within a spill containment pad able to contain 110% of the drum capacity.

The equipment at the site will be refueled using a portable fuel truck having a total storage volume of 200 gallons. The fueling truck will have sorbent material that can be immediately used should there be any spill while fueling equipment. The fueling truck will not be left unattended while fueling.

The SPCC Plan is included in Appendix I.

8.0 MINE PHASING PLAN

8.1 General

The mine will progress in a systematic manner according to the demands of the market. As previously noted, MVM plans to operate the facility for 20 to 25 years. The initial phases of mining will include Site preparation, berm and roadway construction, processing plant installation, batch plant erection, construction of the office, scale, and maintenance/storage building. The sequencing of the mine is planned to proceed according to Exhibit 7, *Mine Phasing Plan*.

8.2 Phasing Sequence and Operations

The initial mine will begin in the southeastern corner of the Site. The overburden will be stripped and used for berm construction or stockpiled for use during reclamation. All the material down to the water table will be excavated using front-end loaders and backhoes, after which dragline equipment will be utilized. The mining will progress by excavating a series of cells. Each cell will initially be approximately 3-acres in size and excavated to the bottom depth of the sand and gravel deposit (Beverly Tongue of the Henry Formation). When one cell nears completion, the overburden will be stripped from the next cell in preparation for excavating that cell. The sequence will include excavating cells in a westerly manner to the western edge of the property, then move north (one cell width) and begin another sequence of westward-progressing cells beginning along the eastern side of the Site. Please refer to Exhibit 7, *Mine Phasing Plan* for the anticipated sequencing process throughout the projected life of the mine.

After approximately 14 years into the mining process, excavation will proceed northerly (cells 15 through 17) along Maple Street and then southerly through the north central portion of the Site. The final few years will include incorporating the settling and processing ponds into the lake and removing the reserves beneath the process area. Reclamation will occur simultaneously as described in the Mine Reclamation Plan section of this report.

9.0 MINE RECLAMATION PLAN

9.1 General

As the mine progresses as described in the Mining Plan, a lake will form and expand according to the excavation. The shoreline of the lake will be simultaneously reclaimed using the overburden material previously stripped and stockpiled. (The perimeter berms are planned to remain.) The final reclaimed Site will likely be utilized for residential housing as lakefront properties, like Maple Lakeshores subdivision to the east. During the years the mine is in operation, the vegetated berms and planting will grow to maturity. It is anticipated that the berms and mature vegetation may be altered minimally, dependent upon the final disposition of the property for reclamation. Please refer to Exhibit 8, *Mine Reclamation Plan* for additional detail.

9.2 Site Reclamation

Overburden material (including topsoil) will be used to backfill the shoreline of the lake after the reserves have been removed. Reclamation will likely lag approximately one to two cells behind the progress of the mine to allow enough room to work and to prevent interference with the mining operation. Generally, reclamation will proceed simultaneously according to the lag schedule.

The side slopes of the lakeshore will be backfilled to a slope no steeper than 8:1, graded with appropriate topsoil, and planted with naturally compatible prairie grasses. All final grades will be smoothly matched to the pre-existing ground surface along the margins of the property. Some of the berms and plantings may ultimately be modified to accommodate the final subdivision plans. The on-site building, such as the office/scale house and maintenance/storage facility, may be removed or modified to accommodate the planned final use. The on-site well, septic field, and parking area will be removed unless they are incorporated into the final use. All reclamation will be accomplished according to the McHenry County Mining Ordinance.

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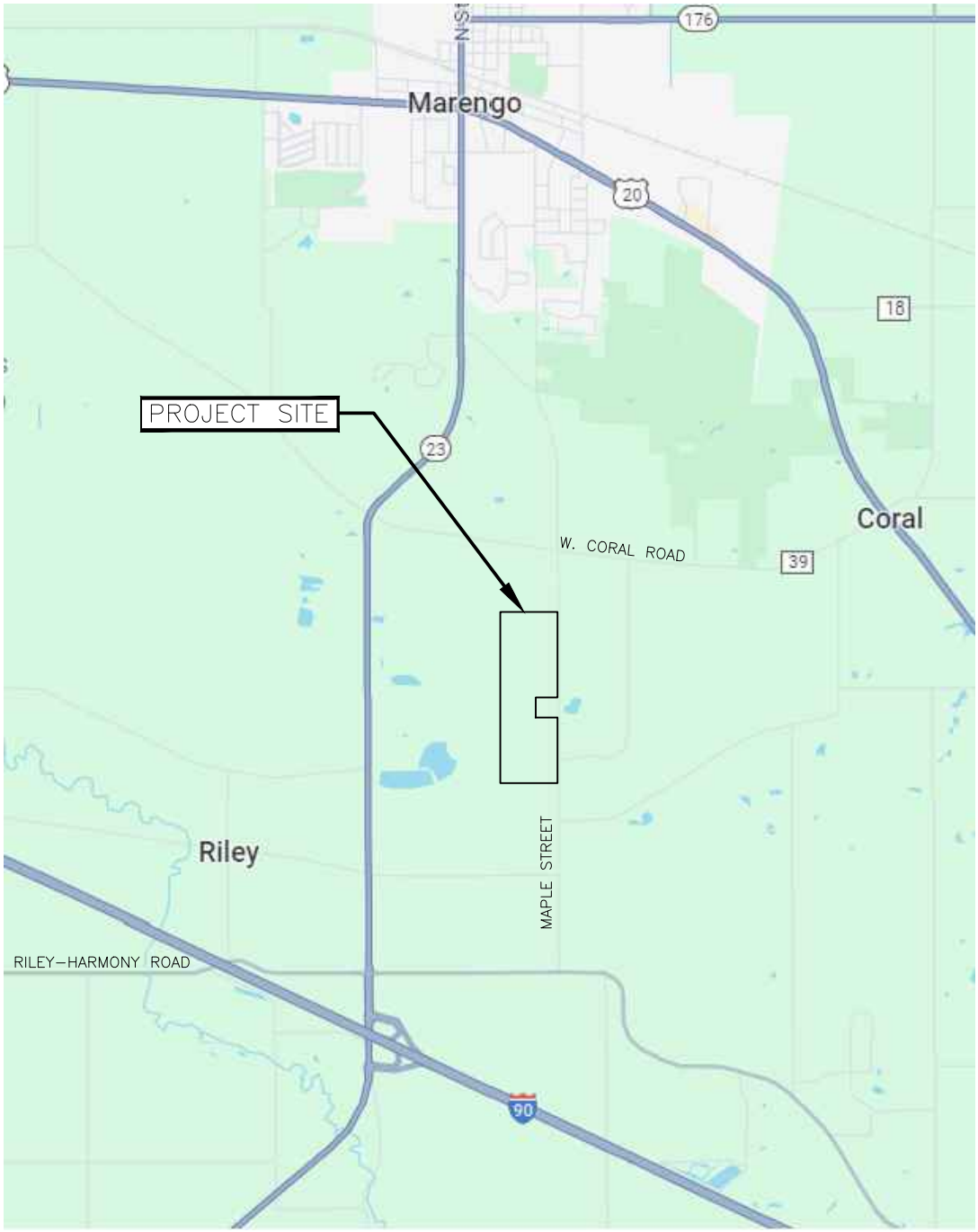
FIGURES

FIGURE 1

SITE VICINITY MAP



NOTE:
THIS DRAWING WAS PREPARED USING GOOGLE EARTH. (2024)

N

0 4000'

GRAPHIC SCALE

allprojects\Lisle\Maple Valley Materials\New Survey Maps\LOC–MAP.dwg

DATE: MARCH 2024	PROPOSED MARENGO QUARRY MAPLE VALLEY MATERIALS, L.L.C. MARENGO, ILLINOIS	PATRICK a RSR company
PROJ. NO.: 22353.043		
APP. BY: JCS	SITE VICINITY MAP	

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ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

TABLES

TABLE 1

SITE BORINGS / MONITORING WELLS

TABLE 1
SITE BORINGS / MONITORING WELLS
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick project No. 21353.032

BORING/ WELL I.D.	DATE DRILLED	GROUND SURFACE ELEVATION	TOTAL DEPTH	MONITORING WELL (Y/N)	TOP OF CASING ELEVATION	SCREENED INTERVAL (bgs)	WATER LEVELS*	DATE MEASURED
MW-1	10/31/2002	855.5	20.0	Y	857.97	4.8 - 19.8	10.10	11/5/2002
MW-2	10/31/2002	842.6	20.0	Y	845.05	4.8 - 19.8	6.74	11/5/2002
MW-3	10/31/2002	841.4	20.0	Y	843.67	4.8 - 19.8	9.92	11/5/2002
B-6	1980's**	853.0**	40.0	N	NA	NA	17bgs	1980's**
B-7	1980's**	843.0**	56.0	N	NA	NA	17bgs	1980's**
B-8	1980's**	844.5**	40.0	N	NA	NA	16bgs	1980's**
B-9	1980's**	845.5**	40.0	N	NA	NA	20bgs	1980's**
B-10	1980's**	856.5**	48.0	N	NA	NA	16bgs	1980's**

* Below Top of Casing Unless Otherwise Noted
** Estimated
bgs Below Ground Surface (in Feet)
NA Not Applicable
Unk Unknown

TABLE 2

PRIVATE WELL IDENTIFICATION
2014 CUP WELLS

TABLE 2
PRIVATE WELL IDENTIFICATION TABLE
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick Project No. 21353.032

U.S.G.S. TOWNSHIP /RANGE	U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER	PLOT	DEPTH	RECORD TYPE	WELL USE	WELL TYPE	AQUIFER TYPE	DRILLER	DATE DRILLED	STATIC LEVEL	PUMPING LEVEL	PUMPING GPM	PUMPING hours
43N 5E	11	98983			192	GR	DO	~~	~~	VAN HOOZEN	1943				
43N 5E	11	99028	*22544	8H	275	GR	DO	~~	~~	BOETSCH WATER SUPPLY	08/03/1975				
43N 5E	11	99027	*23296	1D	240	GR	DO	~~	~~	P BARKER	02/24/1977				
43N 5E	11	99028	*22758	3C	252	GR	DO	~~	~~	DARR SILVIUS	05/03/1976				
43N 5E	11	99029	23863	3C	77		DO	~~	~~	J STONE	05/27/1981				
43N 5E	11	99030	*22175	4G	255	RG	DO	~~	~~	DUPAGE PUMP	10/24/1974				
43N 5E	11	99031	*1714		100	O	DO	~~	~~	BOETSCH WATER SUPPLY	1973				
43N 5E	11	99032	*23298	7A	114	RG	DO	~~	~~	L LIVINGSTON	09/ /1977				
43N 5E	11	99033	*23294	4C	126	RG	DO	~~	~~	P BARKER	02/12/1977				
43N 5E	11	99034	*23295	5B	225	RG	DO	~~	~~	P BARKER	04/18/1978				
43N 5E	11	99035	*23297	4A	295	RG	DO	~~	~~	P BARKER	12/01/1978				
43N 5E	11	99036	25276	5A	125	RG	DO	~~	~~	M NICE	07/18/1988				
43N 5E	11	99038	*23535	6E	235	RG	DO	~~	~~	M NICE	08/17/1979				
43N 5E	11	188737	*631	5B	165	RG	DO	–	UN	SIGRIST	04/30/1989	17	87	16	1
43N 5E	11	188738	26825	3C	380	RG	DO	–	BR	NICE	08/09/1988	30	40	10	4
43N 5E	11	188739	29985	6F	280	RG	DO	–	BR	NICE	01/27/1990	60	70		4
43N 5E	11	233187			200	RG	DO	–	BR	BOETSCH	04/24/1973				
43N 5E	11		25088		77		DO		UN	GROSCH	5/12/1986	22		82	3
43N 5E	11		*705		192		DO		BR	LUCY VAN HOOZEN		60	60	10	4
43N 5E	11	233188			192	RG	DO	–	BR	LUCY VAN HOOZEN	1943	60		10	4
43N 5E	11	246584	32768	3D	92	RG	DO	–	UN	HUEMANN	01/11/1994	34	47		5
43N 5E	11	280230	34357	3A	116	RG	DO	DL	UN	KELLER	09/05/1995	19	24	10	24
43N 5E	11	309858	36198	4D	84	RG	DO	DL	UN	HUEMANN&SONS / TALLMAN	02/22/1999	34	47	25	8
43N 5E	11	322552	37406	1G	140	RG	DO	DL	UN	BINZ & SON	04/11/2000	53	78	15	2
43N 5E	11	325705	37681	5F	90	RG	DO	DL	UN	COUNTRY WELL & PUMP	07/19/2000	29	59	10	2
43N 5E	11	343848	40115	3D	260	RG	DO	DL	BR	MARENGO W&P/D. LESSMAN	2/14/2002	69	139	10	12
43N 5E	11	446895	43841	5B	220	RG	DO	DL	BR	M NICE	7/6/2009	39	99	10	2
43N 5E	12	98964	*707		265	GR	DO	~~	~~	VAN HOOZEN	1944				
43N 5E	12	99039	25277		295	RG	DO	~~	~~	M NICE	03/11/1987				
43N 5E	12	99040			280	RG	DO	~~	~~	W BOETSCH	10/19/1978				
43N 5E	12	99041	26063		303	GR	DO	~~	~~	M NICE	10/14/1987				
43N 5E	12	99042	24680	4H	385	RG	DO	~~	~~	M NICE	02/11/1986				
43N 5E	12	99043		1A	278	RG	DO	~~	~~	J LEBERG	10/01/1976				
43N 5E	12	99044	*1207	1A	311	GR	DO	~~	~~	P BARKER	09/15/1970				
43N 5E	12	99045	*22176	1A	283	RG	DO	~~	~~	P BARKER	03/09/1973				
43N 5E	12	99046	*1413	1A	210	RG	DO	~~	~~	P BARKER	05/11/1971				
43N 5E	12	99047	*22320	1B	255	RG	DO	~~	~~	K & K WELL DRLG	03/ /1975				
43N 5E	12	99048	*23300	1B	280	RG	DO	~~	~~	P BARKER	11/22/1978				
43N 5E	12	99049	*23307	1C	420	GR	DO	~~	~~	W BOETSCH LOT 5	03/17/1979				
43N 5E	12	99050	*23301	1F	415	RG	DO	~~	~~	P BARKER	08/08/1978				
43N 5E	12	99051		2A	262	RG	DO	~~	~~	P BARKER	07/28/1972				
43N 5E	12	99052		2A	200	RG	DO	~~	~~	K & K WELL DRLG	07/31/1984				
43N 5E	12	99053	25463	2B	144	RG	DO	~~	~~	W HUEMANN	02/27/1987				
43N 5E	12	99054		2E	330	RG	DO	~~	~~	P BARKER	10/27/1975				
43N 5E	12	99055	*22757	2G	415	RG	DO	~~	~~	W BOETSCH	10/20/1976				
43N 5E	12	99058	*22759	3A	298	RG	DO	~~	~~	P BARKER	06/07/1973				
43N 5E	12	99057	*23308	3H	415	RG	DO	~~	~~	P BARKER	10/23/1978				

TABLE 2
PRIVATE WELL IDENTIFICATION TABLE
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick Project No. 21353.032

U.S.G.S. TOWNSHIP /RANGE	U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER	PLOT	DEPTH	RECORD TYPE	WELL USE	WELL TYPE	AQUIFER TYPE	DRILLER	DATE DRILLED	STATIC LEVEL	PUMPING LEVEL	PUMPING GPM	PUMPING hours
43N 5E	12	99058	*1798	3E	389	RG	DO	~~	~~	D SILVIUS	07/20/1973				
43N 5E	12	99059	*23304	4H	307	RG	DO	~~	~~	P BARKER	10/31/1978				
43N 5E	12	99060	*23305	4H	370	RG	DO	~~	~~	A DENFFNER	08/27/1979				
43N 5E	12	99061	*22177	5H	399	RG	DO	~~	~~	P BARKER	09/25/1972				
43N 5E	12	99062	*23303	5H	438	RG	DO	~~	~~	W HUEMANN	09/22/1978				
43N 5E	12	99083	*1412	8D	288	RG	DO	~~	~~	P BARKER	04/20/1971				
43N 5E	12	99084	*22002	8A	273	RG	DO	~~	~~	BOETSCH WATER SUPPLY	03/19/1974				
43N 5E	12	99065	*23299	8B	315	RG	DO	~~	~~	P BARKER	11/09/1976				
43N 5E	12	99066	*23302	8C	310	RG	DO	~~	~~	P BARKER	10/31/1978				
43N 5E	12	188741	26537		350	RG	DO	--	BR	NICE	05/11/1988	100	120	10	4
43N 5E	12	188742	28341	1A	208	RG	DO	--	BR	PILGARD	04/ /1988	75	75	10	2
43N 5E	12	188743	26750	2A	430	RG	DO	--	BR	DUPAGE PUMP INC	07/07/1988		250	10	2
43N 5E	12	188744	29988	2B	380	RG	DO	--	BR	KNIERIM	10/11/1989	100	336		
43N 5E	12	188745	28634	2D	303	RG	DO	--	UN	HUEMANN	07/06/1988	150	180	25	3
43N 5E	12	188746	27043	3B	215	RG	DO	--	UN	NICE	09/20/1988	80	70	10	4
43N 5E	12	233189	*708	2C	350	BR	DO	--	BR	SILVIUS BROS.	1966	140	140	24	3
43N 5E	12	244900		8C	260	RG	DO	--	BR	NICE	10/01/1993	79	90		4
43N 5E	12	246931	32789	1C	420	RG	DO	--	BR	NICE	11/03/1993	139	150		4
43N 5E	12	253571	32818	1D	400	RG	DO	--	BR	NICE	02/21/1994	99	110		4
43N 5E	12	253572		4B	352	RG	DO	--	BR	ROSENQUIST	12/10/1993	59	75	15	2
43N 5E	12		31729		222		DO		BR	SNELTEN	9/14/1992	80	60		4
43N 5E	12		34708		385		DO		BR	HUEMANN & SONS	7/24/1996	140	190	10	6
43N 5E	12		*1842		282		DO		BR	P BARKER	6/8/1971	80	80	20	24
43N 5E	12		34918		260		DO		BR	NICE	8/21/1996	100	220	12	2
43N 5E	12		27276		340		DO		BR	NICE	11/10/1988	100	110		4
43N 5E	12		32575		260		DO		BR	NICE	6/3/1993	80	90		4
43N 5E	12		33959		320		DO		BR	NICE	6/9/1996	70	140	12	2
43N 5E	12		*23026		317		DO		BR	P BARKER	10/27/1976	184	215	15	2
43N 5E	12		26834		303		DO		UN	HUEMANN & SONS	3/1/1988	150	175		4
43N 5E	12		32815		352		DO		BR	HUEMANN & SONS	7/14/1993	60	75	15	2
43N 5E	12	301579	35403	2B	320	RG	DO	DL	BR	MARENGO W&P/KELLER	01/26/1998	119	199	20	4
43N 5E	12	305967	35798	7A	340	RG	DO	DL	BR	COUNTRY W&P/M. NICE	09/11/1998	79	199	10	2
43N 5E	12	306082	35795	3G	380	RG	DO	DL	BR	MARENGO W&P/KELLER	07/31/1998	164	174	12	24
43N 5E	12	312570	36815	1D	235	RG	DO	DL	BR	COUNTRY WELL & PUMP	09/20/1999	74	119	10	2
43N 5E	12	312849	36814	2D	380	RG	DO	DL	BR	MARENGO WELL & PUMP	07/31/1999	149	169	20	24
43N 5E	12	319612	37255	2B	277	RG	DO	DL	UN	HUEMANN & SONS	12/13/1999	89	104	20	6
43N 5E	12	319731	37519	4A	128	RG	DO	DL	UN	COUNTRY WELL & PUMP	11/24/1999	49	79	10	2
43N 5E	12	320291	37258	1C	350	RG	DO	DL	BR	COUNTRY WELL & PUMP	01/05/2000	169	239	10	2
43N 5E	12	343017	40151	4A	380	RG	DO	DL	BR	COUNTRYW&P/M NICE	8/21/2002	89	239	10	2
43N 5E	12	343441	27278	2E	340	RG	DO	DL	BR	C NICE	3/1/1989	99	109		4
43N 5E	13	99067	24995		145	RG	DO	~~	~~	M NICE	09/04/1986				
43N 5E	13	99068	25597		151	RG	DO	~~	~~	M NICE	05/30/1987				
43N 5E	13	99069	*23311		200	RG	DO	~~	~~	K & K WELL DRLG	09/30/1977				
43N 5E	13	99070	*23537		177	RG	DO	~~	~~	M NICE	11/10/1979				
43N 5E	13	99071	*23539		160	RG	DO	~~	~~	M NICE	10/15/1979				
43N 5E	13	99072	24680		175	RG	DO	~~	~~	M NICE	07/10/1986				
43N 5E	13	99073		4D	185	RG	DO	~~	~~	M NICE	03/05/1984				
43N 5E	13	99074	27422	1G	185	RG	DO	~~	~~	M NICE	08/30/1984				

TABLE 2
PRIVATE WELL IDENTIFICATION TABLE
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick Project No. 21353.032

U.S.G.S. TOWNSHIP /RANGE	U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER	PLOT	DEPTH	RECORD TYPE	WELL USE	WELL TYPE	AQUIFER TYPE	DRILLER	DATE DRILLED	STATIC LEVEL	PUMPING LEVEL	PUMPING GPM	PUMPING hours
43N 5E	13	99076		1D	32	R	DO	~~	~~	OWNER	07/ /1979				
43N 5E	13	99077	*22761	2G	220	RG	DO	~~	~~	K & K WELL DRLG	04/20/1976				
43N 5E	13	99078	*1414	3C	150	RG	DO	~~	~~	P BARKER	06/20/1971				
43N 5E	13	99079	*1412	1D	250	RG	DO	~~	~~	P BARKER	05/09/1971				
43N 5E	13	99080	*22536	1H	75	RG	DO	~~	~~	W F HUEMANN	09/13/1979				
43N 5E	13	99081	*23538	2E	134	RG	DO	~~	~~	P BARKER	07/01/1979				
43N 5E	13	99082	*22545	3C	220	RG	DO	~~	~~	K & K WELL DRLG	10/10/1975				
43N 5E	13	99083	23886	2D	260	RG	DO	~~	~~	K & K WELL DRLG	05/31/1983				
43N 5E	13	99085	23887	4F	320	RG	DO	~~	~~	K & K WELL DRLG	11/14/1979				
43N 5E	13	99086	23888	4H	320	RG	DO	~~	~~	K & K WELL DRLG	06/05/1979				
43N 5E	13	99087	*281	8H	206	RG	DO	~~	~~	P BARKER	09/02/1972				
43N 5E	13	99088	*1755	4G	283	RG	DO	~~	~~	F MATTHES	07/18/1973				
43N 5E	13	99089	*1843	2H	205	RG	DO	~~	~~	P BARKER	01/28/1973				
43N 5E	13	99090	*22760	2H	227	RG	DO	~~	~~	P BARKER	06/14/1973				
43N 5E	13	99091	*23310	2H	178	RG	DO	~~	~~	R STONE	07/28/1977				
43N 5E	13	99092	*23309	2F	200	RG	DO	~~	~~	K & K WELL DRLG	01/03/1978				
43N 5E	13	188747	*22457	1G	225	RG	DO	--	BR	MARTIN JURS & SON	06/26/1975	70	105	10	1
43N 5E	13	188748	29987	2D	156	RG	DO	--	BR	NICE	07/18/1989	20	25		4
43N 5E	13	188749	23885	3G	220	RG	DO	--	UN	KNIERIM	11/13/1979	30	120		
43N 5E	13	188750	26342	4E	350	RG	DO	--	BR	NICE	09/28/1988	40	50	10	4
43N 5E	13	188751	26343	4G	210	RG	DO	--	BR	NICE	09/20/1988	25	35		4
43N 5E	13	233191	27423		185	RG	DO	--	UN	MARVIN NICE	03/19/1984	89	100	10	4
43N 5E	13	233194		2D	156	RG	DO	--	BR	MARVIN NICE	04/27/1989	19	25		4
43N 5E	13	243013		4D	320	RG	DO	--	BR	NICE	03/05/1991	34	45		4
43N 5E	13	261032		2A	222	RG	DO	DL	BR	SNELTEN	11/18/1992	59	60		4
43N 5E	13	264518	33565	2G	80	RG	DO	DL	UN	HUTCHINGS	07/20/1994	20	40		24
43N 5E	13	264530	33405	2G	190	RG	DO	DL	BR	NICE	09/19/1994	49	59		4
43N 5E	13	264534	33404	2E	166	RG	DO	DL	UN	NICE	10/13/1994		30		4
43N 5E	13	288277	34526	2H	182	RG	DO	DL	UN	NICE	04/11/1996	39	49		4
43N 5E	13	291895	34877	4E	72	RG	DO	DL	UN	COUNTRY WELL & PUMP	11/18/1996	9	39	20	2
43N 5E	13	295249		2D	87	RG	DO	DL	UN	MARENGO W&P/L.KELLER	04/28/1997	30	33.5	12	3
43N 5E	13	295480		3B	205	RG	DO	DL	BR	COUNTRY W&P/M. NICE	04/21/1997	49	139	10	2
43N 5E	13	300355	35251	1E	88	RG	DO	DL	UN	MARENGO W&P/KELLER	10/24/1997	10	14	12	24
43N 5E	13		31187		320		DO		BR	NICE	7/16/1990	35	45		4
43N 5E	13	340322	39048		80		DO		UN	KELLER	9/17/2001	4	4	10	3
43N 5E	13	339051	39721		81		DO		UN	KELLER	7/24/2001	10	15	10	3
43N 5E	13		34919		75		DO		UN	HOWE	10/9/1996	25	43	18	
43N 5E	13		26342		350		DO		BR	NICE	10/1/1987	40	50	10	4
43N 5E	13		34920		205		DO		BR	NICE	9/27/1996	50	140	10	2
43N 5E	13	312064	36546	4C	70	RG	DO	DL	UN	MARENGO W&P/KELLER	02/18/1999	1	2	12	24
43N 5E	13	313121		4D	67	RG	DO	DL	UN	COUNTRY WELL & PUMP	11/23/1999	11	19	10	2
43N 5E	13	313122	36816	4D	67	RG	DO	DL	UN	COUNTRY WELL & PUMP	11/23/1999	11	19	10	2
43N 5E	13	322484	37471	4C	80	RG	DO	DL	UN	COUNTRY WELL & PUMP	03/20/2000	9	19	10	2
43N 5E	13	322486	37469	3C	80	RG	DO	DL	UN	COUNTRY WELL & PUMP	03/21/2000	9	19	10	2
43N 5E	13	322491	37464	3D	67	RG	DO	DL	UN	COUNTRY WELL & PUMP	03/21/2000	14	19	10	2
43N 5E	13	330053	38088	4D	85	RG	DO	DL	UN	MARENGO WELL & PUMP	03/30/2001	5	39	10	4
43N 5E	13	334156	39314	4D	67	RG	DO	DL	UN	COUNTRY WELL & PUMP	07/05/2001	4	19	10	2
43N 5E	13	345660	40328	2C	125	RG	DO	DL	UN	SUBURBAN WELL DLG/JABLONSKI	9/10/2002	13	43	10	1

TABLE 2
PRIVATE WELL IDENTIFICATION TABLE
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick Project No. 21353.032

U.S.G.S. TOWNSHIP /RANGE	U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER	PLOT	DEPTH	RECORD TYPE	WELL USE	WELL TYPE	AQUIFER TYPE	DRILLER	DATE DRILLED	STATIC LEVEL	PUMPING LEVEL	PUMPING GPM	PUMPING hours
43N 5E	13	346726	40580	3D	90	RG	DO	DL	UN	MARENGO	10/22/2002	7	49	10	3
43N 5E	13	348906	40930	3D	64	RG	DO	DL	UN	COUNTRY W&P/M. NICE	4/25/2003	19	59	10	2
43N 5E	13	355051	41063	3C	79	RG	DO	DL	UN	COUNTRY W&P/M. NICE	9/25/2003	9	59	10	2
43N 5E	13	361532	41483	6E	65	RG	DO	DL	UN	J. HUEMANN/M. HOLLINGSWORTH	5/3/2004	2	11	10	6
43N 5E	13	362585	41563	6D	76	RG	DO	DL	UN	COUNTRY W&P/M. NICE	6/22/2004	9	39	10	2
43N 5E	13	366275	41606	2F	101	RG	DO	DL	UN	COUNTRY W&P/M. NICE	10/14/2004	37	79	10	2
43N 5E	13	366430	41606	3D	75	RG	DO	DL	UN	JOS H. HUEMANN/M. SCHMITT	10/8/2004	19	24	10	6
43N 5E	13	366431	41607	3C	80	RG	DO	DL	UN	JOS H. HUEMANN/R. TALLMAN	10/7/2004	14	21	10	6
43N 5E	13	375245	42498	1D	76	RG	DO	DL	UN	MARENGO W&P/D. LESSMAN	8/26/2005	27	39	20	2
43N 5E	13	375258	42497	4D	77	RG	DO	DL	UN	COUNTRY W&P/M. NICE	10/3/2005	19	59	10	2
43N 5E	13	363194	42642	1A	97	RG	DO	DL	UN	COUNTRY W&P/M. NICE	4/26/2006	24	39	10	2
43N 5E	13	420765	42926	4C	150	RG	DO	DL	BR	M NICE	10/16/2006	17	119	10	2
43N 5E	13	422482	42996	2A	98	RG	DO	DL	UN	M NICE	10/20/2006	39.16	1.16		
43N 5E	13	422926	43025	4B	365	RG	DO	DL	BR	J JABLONSKI	11/12/2006	136			
43N 5E	13	431690	43380	4A	160	RG	DO	DL	BR	M NICE	7/12/2007	2	139	15	2
43N 5E	13	432226	43361	3D	90	RG	DO	DL	UN	M NICE	7/10/2007	19	39	10	2
43N 5E	13	434147	43514	4D	67	RG	DO	DL	UN	R TALLMAN	7/18/2007	5	9	10	6
43N 5E	13	442089	43691	1E	240	RG	DO	DL	BR	M NICE	9/17/2006	59	119	10	2
43N 5E	13	454191	44094	1C	150	RG	DO	DL	BR	M NICE	2/9/2009	5	119	10	2
43N 5E	14	99094	*23312	7C	120	RG	DO	~~	~~	P BARKER	05/09/1977				
43N 5E	14	166752	26979	5G	98	RG	DO	--	UN	NICE	08/11/1986	10	15	10	4
43N 5E	14	217249	29968	5E	90	GR	DO	--	BR	CRAIG A NICE	04/27/1990	14	25		4
43N 5E	14	243707	32576	4H	74	RG	DO	--	UN	HOWE	10/02/1992	16	21	20	
43N 5E	14	244861	32577	4D	60	RG	DO	--	BR	NICE	08/09/1993	14	25		4
43N 5E	14	248971		4B	42	RG	DO	--	UN	NICE	11/19/1993	5	15		
43N 5E	14	325022	37593	8A	260	RG	DO	DL	BR	MARENGO WELL & PUMP	05/10/2000	139	199	20	4
43N 5E	14	366265	41809	4D	100	RG	DO	DL	BR	COUNTRY W&P/M. NICE	10/27/2004	14	79	10	2
43N 5E	14	446251	43619	5D	65	RG	DO	DL	BR	M NICE	6/4/2009	6	19	10	2
43N 5E	23	99124	26539	3F	160	RG	DO	~~	~~	M NICE	12/17/1967				
43N 5E	23	99125	25413	4D	60	RG	DO	~~	~~	M NICE	09/29/1966				
43N 5E	23	99126		4E	191	RG	DO	~~	~~	J MACK	02/08/1979				
43N 5E	23		29321		32		DO			OWNER	8/16/1976				
43N 5E	23		37550		59		DO			GEORGE GAFFKE	5/20/1999	10		400	
43N 5E	23	99127		5D	280	RG	DO	~~	~~	F MACK	09/26/1979				
43N 5E	23	99126	*695	6E	80	R	DO	~~	~~	G FOWLER	06/01/1970				
43N 5E	23	99129	*22763	6E	120	RG	DO	~~	~~	P BARKER	08/08/1975				
43N 5E	23	99130	*657	8F	70	RG	DO	~~	~~	P BARKER	06/15/1970				
43N 5E	23	99131	23691	6F	63	RG	DO	~~	~~	M NICE	06/09/1960				
43N 5E	23	99132	*23030	6A	260	RG	DO	~~	~~	K & K WELL DRLG	12/22/1976				
43N 5E	23	99133	*23316	6D	120	RG	DO	~~	~~	P BARKER	09/04/1976				
43N 5E	23	233203			60	RG	DO	--	UN	GEORGE FOWLER	06/01/1970	19	22	15	6
43N 5E	23	322506	37460	1E	52	RG	DO	DL	UN	COUNTRY WELL/PUMP	05/03/2000	9	19	10	2
43N 5E	24	99134	*23543	2G	160	RG	DO	~~	~~	M NICE	09/01/1979				
43N 5E	24	99135	*22650	3B	160	RG	DO	~~	~~	K & K WELL DRLG	04/22/1976				
43N 5E	24	99136	23692	4A	190	RG	DO	~~	~~	M NICE	04/18/1960				
43N 5E	24	99137	29322	6A	24	R	DO	~~	~~	OWNER	09/ 07/1976				
43N 5E	24	325697	37761	6E	47	RG	DO	DL	UN	COUNTRY WELL & PUMP	06/26/2000	9	19	10	2
43N 5E	24	347474	40696	6E	56	RG	DO	DL	UN	COUNTRY WELL & PUMP	2/19/2003	19	39	10	2

TABLE 2
PRIVATE WELL IDENTIFICATION TABLE
MAPLE VALLEY MATERIALS, L.L.C.
Proposed Marengo Quarry
Patrick Project No. 21353.032

U.S.G.S. TOWNSHIP /RANGE	U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER	PLOT	DEPTH	RECORD TYPE	WELL USE	WELL TYPE	AQUIFER TYPE	DRILLER	DATE DRILLED	STATIC LEVEL	PUMPING LEVEL	PUMPING GPM	PUMPING hours
43N 5E	24	386491	41811	7E	58	RG	DO	DL	BR	MARENGO W&P/D. LESSMAN	12/11/2004	16	17	10	2
43N 5E	24	378804	42600	7D	60	RG	DO	DL	UN	MARENGO W&P/D. LESSMAN	11/23/2005	16	19	10	2
43N 6E	7	101020	25469		275	RG	DO	~~	~~	M NICE	10/10/1987				
43N 6E	7	101021		1E	300	RG	DO	~~	~~	K & K WELL DRLG	10/24/1983				
43N 6E	7		24723		272		DO		UN	NICE	10/7/1985	70	80	10	4
43N 6E	7	337512	29536		460		DO		BR	NICE	9/27/2000	120	300	25	2
43N 6E	7	101022		1H	300	RG	DO	~~	~~	K & K WELL DRLG	10/13/1977				
43N 6E	7	101023	23899	1H	253	RG	DO	~~	~~	G ROSENQUIST	12/18/1983				
43N 6E	7	101024	24723	3B	272	RG	DO	~~	~~	M NICE	10/19/1985				
43N 6E	7	101025	23900	4H	244	RG	DO	~~	~~	M NICE	07/28/1980				
43N 6E	7	189478	26914	3D	255	RG	DO	–	UN	NICE	08/18/1988	60	70	10	4
43N 6E	7	189481		4H	57	RG	DO	–	UN	HUEMANN	03/08/1989	15	15		2
43N 6E	7	233233	*1407		1020	RG	DO	–	BR	H. ABRAHAM	1928				
43N 8E	7	233234	*284		419	RG	DO	–	BR	SILVIUS BROTHERS	1959	89			
43N 6E	7	233237			149	RG	DO	–	BR	H. ABRAHAM					
43N 6E	7	233238			247	RG	DO	–	BR	H. ABRAHAM					
43N 6E	7	261932	32804	2D	247	RG	DO	DL	UN	NICE	10/28/1993	59	70		4
43N 6E	7	288245	34382	3A	340	RG	DO	DL	BR	NICE	02/06/1998	79	89		4
43N 8E	7	293335	34926	2B	245	RG	DO	DL	BR	COPUNTRY WELL & PUMP	02/12/1997	69	179	10	2
43N 8E	7	304688	35577	3A	260	RG	DO	DL	BR	MARENGO W&P/KELLER	08/28/1998	81	139	12	4
43N 6E	7	314609	36818	1B	460	RG	DO	DL	BR	COUNTRY WELL & PUMP	10/01/1999	199	399	10	2
43N 8E	7	337512	39538	8B	460	RG	DO	DL	BR	COUNTRY WELL & PUMP	9/17/2001	119	299	25	2
43N 8E	18	101075		3A	240	RG	DO	~~	~~	K & K WELL DRLG	10/09/1984				
43N 6E	18		34554		200		DO		BR	NICE	1/12/1996	70	80		4
43N 6E	18		34880		203		DO		BR	NICE	7/19/1996	40	180	12	10
43N 6E	18	101076	26065	3C	238	RG	DO	~~	~~	M NICE	07/13/1987				
43N 8E	18	101077		3C	47	A	DO	~~	~~	M NICE	1987				
43N 6E	18	101078	*23332	3C	280	RG	DO	~~	~~	M JUR AND SON	12/01/1977				
43N 6E	18	217050	30005	3B	170	GR	DO	–	UN	MARK E NICE	10/24/1990	39	50		4
43N 6E	18	233273			130	RG	DO	–	UN	H. ABRAHAM					
43N 6E	18	285956		2H	197	RG	DO	DL	UN	KELLER	1995	59	69		24
43N 8E	18	288256	34554	1H	200	RG	DO	DL	BR	NICE	05/09/1996	69	79		4
43N 8E	18	300357	35256	5H	240	RG	DO	DL	BR	COUNTRY W&P/M. NICE	09/11/1997	69	179	10	2
43N 6E	18	325707	37683	1F	190	RG	DO	DL	BR	COUNTRY WELL & PUMP	08/16/2000	59	119	10	2
43N 6E	18	344190	40182	6B	200	RG	DO	DL	BR	COUNTRY W&P/M. NICE	7/15/2002	39	139	22	2
43N 8E	19	101079	*22546	1H	398	RG	DO	~~	~~	K & K WELL DRLG	07/11/1975				
43N 6E	19	101080	*22109	2A	380	RG	DO	~~	~~	K & K WELL DRLG	06/ /1974				
43N 6E	19	101081	28208	3D	230	RG	DO	~~	~~	G ROSENQUIST	08/29/1987				
43N 6E	19	101082		3E	137	C	DO	~~	~~		1971				
43N 8E	19	101083	23868	3F	218	RG	DO	~~	~~	DUPAGE PUMP	08/13/1984				
43N 8E	19	101084	*23333	3H	280	RG	DO	~~	~~	P BARKER	06/15/1978				
43N 6E	19	101085		4G	280	RG	DO	~~	~~	K & K WELL DRLG	11/24/1984				
43N 6E	19	189499	30007	3A	300	RG	DO	–	BR	NICE	10/27/1989	50	60		4
43N 6E	19	189502	27115	3E	265	RG	DO	–	BR	DUPAGE PUMP	11/25/1988		80		2

*** Denotes County Number Instead of ISGS Number**

APPENDICES

APPENDIX A

Soil Borings
Monitoring Well Installation Reports

gravel under & around power line
NGPL
High Line
#10
110 A
#6
#5
#4
#3
Existing Mined Area
37 A
#9
5 Acre Exception
#1
#2
50'
should be square
#8
#7
Ralph Metcalf
20718 W. Coral Rd.
Marengo, Illinois

QUANTITIES

RALPH METCALF PROPERTY
20718 W. CORAL ROAD
MARENGO, ILLINOIS

Total Acreage of Farm - 152 acres

Acreage Needed to Preserve Property Line - 19.5

Area Previously Mined - 10 acres in area not depth

Total Minable Acreage - 122.5 acres

Total Amount of Overburden - 450,800 cubic yards

Total Amount of Minable Material - 5,751,375 cubic yards

Boring #4

0'-2'	- overburden
2'-8'	- fine sand - small gravel
8'-16'	- medium sand - trace of clay - some small to medium gravel
16'-24"	- fine clayey sand - some medium gravel - clay @ 20-22' - no sample
24'	- water
24'-32'	- medium sand - small gravel - some clay - no sample
32'-38'	- coarse, gray sand - small gravel - some clay
38'-48'	- gray clay

END OF BORING

Boring #5

0'-1'	- overburden
1'-8'	- fine silty sand - medium gravel - some fractured
8'-16'	- fine-medium brown sand and small to medium gravel
16'-24'	- fine brown sand - little medium gravel
24'	- water
24'-32'	- silt - trace of small gravel
32'	- clay
32'-40'	- gray clay

END OF BORING

Boring #6

0'-1'	- overburden
1'-8'	- fine silty sand - some small gravel
8'-16'	- fine sand - little small gravel
16'-24'	- silty clay - little small gravel - no sample
24'-32'	- silty sand - little small gravel - no sample
32'	- clay
32'-40'	- gray clay

END OF BORING

Boring #7

0'-2'	- overburden
2'-9'	- medium gravel and fine sand
8'-16'	- fine and medium gravel - little coarse sand
16'-17'	- same
17'	- water
17'-24'	- gray, fine sand and medium gravel; gray and sharp
24'-32'	- coarse gray sand and fine gray gravel - angular grains some fine sand @ 28'

Boring #7 (continued)

32'-40' - angular fine and medium gravel (gray) - trace of coarse sand - clay seam @ 33' - no sample
40'-48' - gray clay
44'-48' - brown, dry peat
48'-52' - peat
52'-56' - gray clay

END OF BORING

Boring #8

0'-4' - overburden
4'-8' - coarse sand with medium angular gravel
8'-16' - coarse sand with medium gravel (sharp)
16' - water
16'-20' - coarse brown sand - medium brown gravel
20'-24' - gray fine and medium gravel - trace of sand
24'-30' - gray fine and medium gravel - little sand
30' - trace of clay
30'-40' - clay

END OF BORING

Boring #9

0'-2' - overburden
2'-8' - fine sand - with fine and medium gravel
8'-16' - fine and medium brown, round gravel - little coarse sand
16'-20' - same
20'-24' - gray coarse sand with fine gray gravel
24'-28' - gray coarse sand with fine gray gravel
28'-30' - fine gray sand - trace of medium gray gravel
30'-40' - gray clay

END OF BORING

Boring #10 overburden is probably nearly the same as above.

0'-8' - overburden (on a hill)
8'-12' - same
12'-16' - fine sand with fine gravel - round - brown
16'-24' - fine-medium gray sand - trace of medium gray gravel
24'-28' - gray clay
28'-32' - fine gray silty sand
32'-36' - coarse gray silty sand - medium gray gravel
36'-40' - gray clay
40'-48' - gray clay

END OF BORING

This boring was taken on top of an old gravel pit that had been filled in less than ½ acre in size.

property has been filled since test was made — some tile as deep as 10-12 ft.

BORING #	DEPTH OF OVERBURDEN	DEPTH AT WATER	DEPTH AT CLAY	TOTAL DEPTH OF MATERIAL
1	0	34	34	34
2	1	26	26	25
3	2	16	38	36
4	2	24	38	36
5	1	24	32	31
6	1	17	32	31
7	2	17	40	38
8	4	16	30	26
9	2	20	30	28
10	8	16	36	28

misleading

34 probably should be

Average Depth of Overburden - 2.3 feet

Average Depth of Material Above Water - 18.7 feet

Average Depth of Material Below Water - 11.6 feet

Total Average Depth of Material - 31.3 feet

DESCRIPTIVE TERMS

Particle Sizes

Boulders		Over 8" diameter
Cobbles		3" - 8"
Gravel	- Coarse	1" - 3"
	Medium	3/8" - 1"
	Fine	2mm (#10) - 3/8"
Sand	- Coarse	.6mm (#30) - 3/8"
	Medium	.2mm (#80) - #30
	Fine	#200 - #30
Silt		.06mm - ,002mm
Clay		Smaller than .002mm

Relative Proportions

Trace	1% - 10%
Little	10% - 20%
Some	20% - 35%
And	25% - 50%
With	No Estimate

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Seeman, Guy Well No. _____
Address 6103 Fairfield Dr. Union IL
Well address 20419 Demings Dr. Marengo, IL
Lot 4 Subd Maple Lake Shores ISWS P# 313122
Driller Nice, Mark E. License No. 102-3209
Permit No. 111-G9946-99 Date 03/12/1999
Water from gravel County McHenry
at depth 63 to 67 ft.
Screen: Diam. 4 in.
Length: 4 ft. Slot 15
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____

NW NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	63

Size hole below casing: _____ in.
Static level 12 ft. below casing top which is 1 ft.
above ground level. Pumping level 20 ft. when pumping at 10
gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	28	30
clay	33	63
gravel	4	67

Household - Private

McHenry 12-111-36816-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Timber Construction, LTD Well No. _____
Address 8702 Maple St. Marengo IL
Well address 20505 Demming Marengo, IL
Lot 2 Subd Maple Lake Shores ISWS P# 330053
Driller Keller, Larry License No. 092-7210
Permit No. H-4610 Date 12/20/2000
Water from sand/gravel County McHenry
at depth 72 to 76 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 15
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____

NW NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	72
5	STAINLESS STL SCREEN	72	76

Size hole below casing: _____ in.
Static level 6 ft. below casing top which is 1 ft.
above ground level. Pumping level 40 ft. when pumping at 10
gpm for 4 hours.

Formations passed through	Thickness	Bottom
sand/gravel	35	35
brown stony clay	20	55
brown peat	5	60
gray stony clay	9	69
sand/gravel	16	85

Household - Private

McHenry 12-111-38088-00 13-43N-5E

PATRICK ENGINEERING INC.

BORING NUMBER **MW-1** SHEET **1** OF **1**
CLIENT **Maple Valley Materials, LLC**
PROJECT & NO. **Permitting 9418.A0**
LOCATION **NE side of site**

LOGGED BY **BMS**
GROUND ELEVATION **855.5**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □ ○ △ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
855.5	0.0		Black silty clay topsoil	AU-1 0.0-1.0			
855.0	0.5		OH				
			Tan coarse to medium sand, little coarse to fine gravel, moist, dense	SS-2 3.5-5.0 13" R	11 19 30		N=49
			SP				
849.4	6.1						
848.3	7.2		▼				
846.5	9.0		▼ Tan coarse sand, little fine gravel, trace silt, wet, medium dense	SS-3 8.5-10.0 15" R	3 11 13		N=24
			SP				
			Wet to saturated	SS-4 13.5-15.0 18" R	23 17 8		3' blow in Water added to borehole N=25
839.5	16.0		Gray to pinkish gray silty clay, little coarse to medium sand, stiff, medium plasticity, moist				Water introduced to Augers to prevent blow in
			CL	SS-5 18.5-20.0 18" R	4 8 10	✳	
835.5	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4 1/4" ID HSA 3" O.D. SS**
DRILLING EQUIPMENT **CME 75 ATV**
DRILLING STARTED **10/31/02** ENDED **10/31/02**

REMARKS
Set monitoring well at 20.0'. 15' of screen

WATER LEVEL (ft.)
▽ **9**
▼ **9**
▼ **7.2** BGS

PATRICK ENGINEERING INC.

BORING NUMBER **MW-2** SHEET **1** OF **1**
CLIENT **Maple Valley Materials, LLC**
PROJECT & NO. **Permitting 9418.A0**
LOCATION **W side of property**

LOGGED BY **BMS**
GROUND ELEVATION **842.6**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
842.6	0.0		Black silty clay topsoil	AU-1 0.0-1.0			
841.6	1.0						
838.4	4.2		Tan coarse to medium sand, little fine gravel, trace silt, moist, medium dense SP	SS-2 3.5-5.0 11" R	5 10 16		N=26
837.8	4.8						
834.1	8.5		Tan coarse to medium sand, little silt, trace fine gravel, wet to saturated, dense SP-SM	SS-3 8.5-10.0 18" R	10 23 25		N=48
831.4	11.2		Gray medium to fine gravel, little sand, saturated, dense GP-SP	SS-4 13.5-15.0 10" R	13 16 18		N=34
826.6	16.0		Tan medium sand, trace silt, saturated, dense SP	SS-5 18.5-20.0 18" R	17 23 21		N=44
822.6	20.0		End of Boring at 20.0'				2' blow in Water added for head pressure (sample possible blow in)

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4 1/4" ID HSA 3" O.D. SS**
DRILLING EQUIPMENT **CME 75 ATV**
DRILLING STARTED **10/31/02** ENDED **10/31/02**

REMARKS
Set monitoring well at 20.0' with 15' of screen

WATER LEVEL (ft.)
▽ **8.5**
▼ **4.81**
▼ **4.20** BGS

PATRICK ENGINEERING INC.

BORING NUMBER **MW-3** SHEET **1** OF **1**
CLIENT **Maple Valley Materials, LLC**
PROJECT & NO. **Permitting 9418.A0**
LOCATION **SW corner**

LOGGED BY **BMS**
GROUND ELEVATION **841.4**

ELEVATION	DEPTH (FT)	STRATA	SOIL/ROCK DESCRIPTION	SAMPLE TYPE & NO. DEPTH (FT) RECOVERY(IN)	BLOW COUNTS	Water Content PL □---○---△ LL (10 20 30 40 50) / Unconfined Compressive Strength (TSF) ✳ (1 2 3 4 5)	NOTES & TEST RESULTS
841.4	0.0		Black silty clay topsoil	AU-1 0.0-1.0			
839.3	2.1						
			Tan coarse to medium sand, little to trace fine gravel, moist, very dense SP	SS-2 3.5-5.0 12" R	9 29 35		N=64
834.2	7.2		▼				
831.9	9.5		▽ Very dense to dense, moist to saturated	SS-3 8.5-10.0 10" R	8 16 20		N=36
							Water added to borehole for head pressure
				SS-4 13.5-15.0 14" R	5 18 17		N=35
825.1	16.3						Water added to borehole
			Tan and gray fine gravel, some coarse to medium sand, medium dense, saturated GP-SP	SS-5 18.5-20.0 14" R	7 11 13		N=24
821.4	20.0		End of Boring at 20.0'				

DRILLING CONTRACTOR **Patrick Drilling**
DRILLING METHOD **4 1/4" ID HSA 3" O.D. SS**
DRILLING EQUIPMENT **CME 75 ATV**
DRILLING STARTED **10/31/02** ENDED **10/31/02**

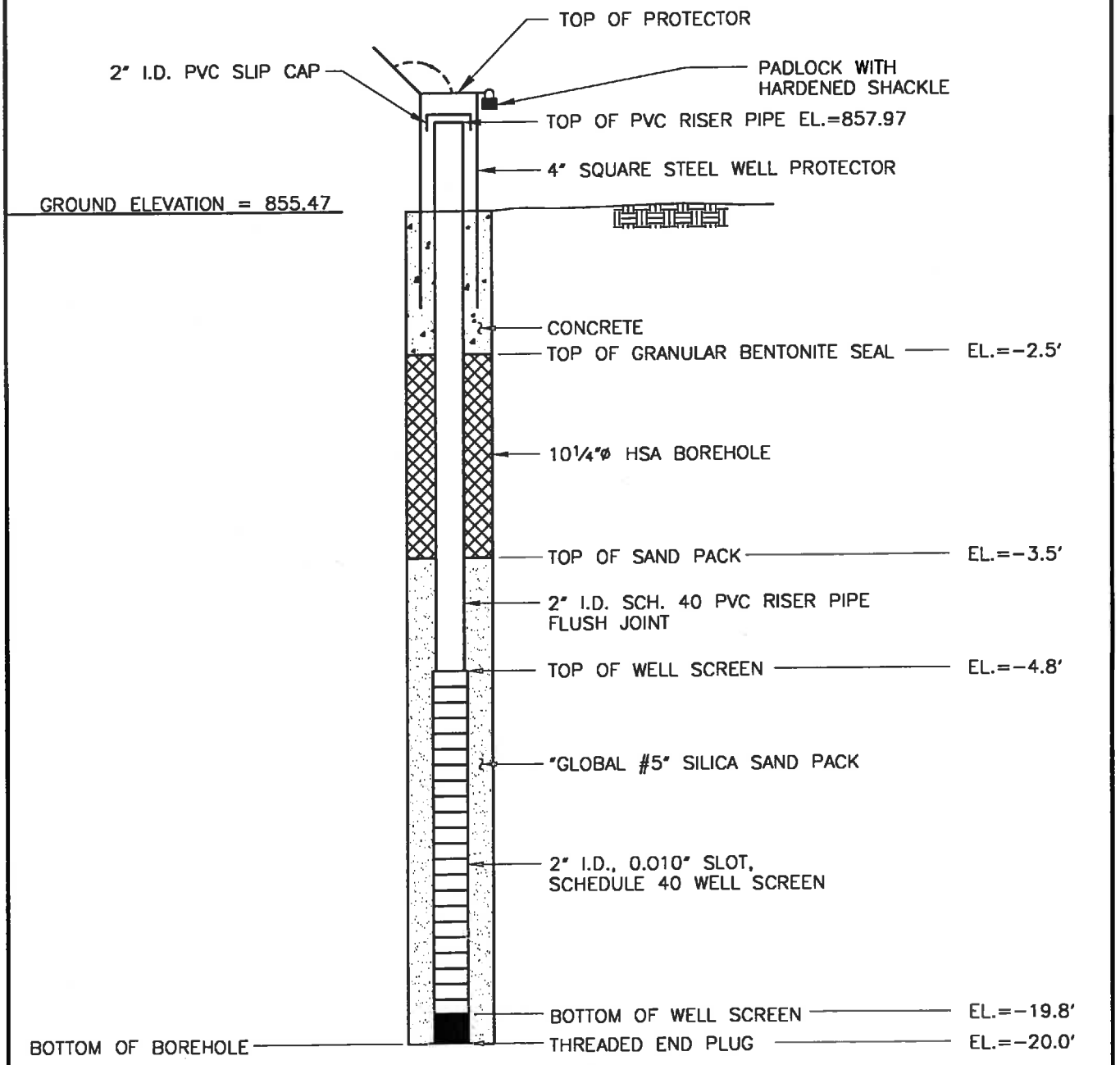
REMARKS
Set monitoring well at 20.0' with 15' screen

WATER LEVEL (ft.)
▽ **9.5**
▼ **7.2**
▼ **7.31** BGS

PATRICK ENGINEERING INC.	MONITORING WELL INSTALLATION REPORT	MW NO. MW-1 PROJ. NO. 9418.A0-2

PROJECT MARENGO GRAVEL PIT PERMITTING
LOCATION MARENGO, ILLINOIS
CLIENT MAPLE VALLEY MATERIALS, L.L.C.
GEOLOGIST BRIAN SNELTEN
DRILLER KEVIN SHAMWAY

MW NO. MW-1
LOCATION NE SIDE OF PROPERTY
INSTALLATION DATE 10/31/02
WEATHER CLEAR, LOW 40'S

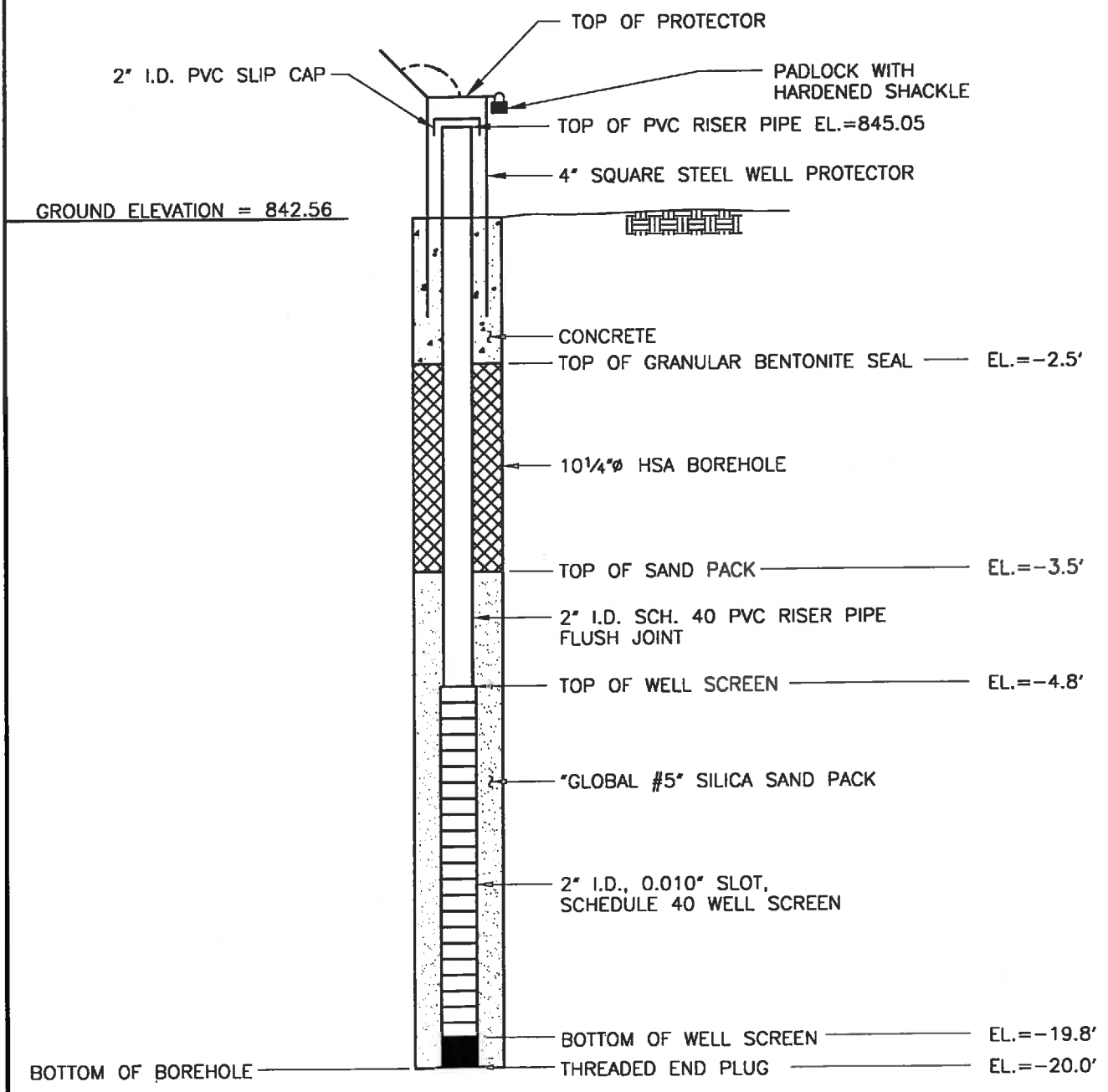


G/GEO/9418/MON-WELLS/MW-1.DWG WRM 11/20/02

PATRICK ENGINEERING INC.	MONITORING WELL INSTALLATION REPORT	MW NO. MW-2 PROJ. NO. 9418.A0-2

PROJECT MARENGO GRAVEL PIT PERMITTING
LOCATION MARENGO, ILLINOIS
CLIENT MAPLE VALLEY MATERIALS, L.L.C.
GEOLOGIST BRIAN SNELTEN
DRILLER KEVIN SHAMWAY

MW NO. MW-2
LOCATION WEST SIDE OF PROPERTY
INSTALLATION DATE 10/31/02
WEATHER CLEAR, LOW 40'S

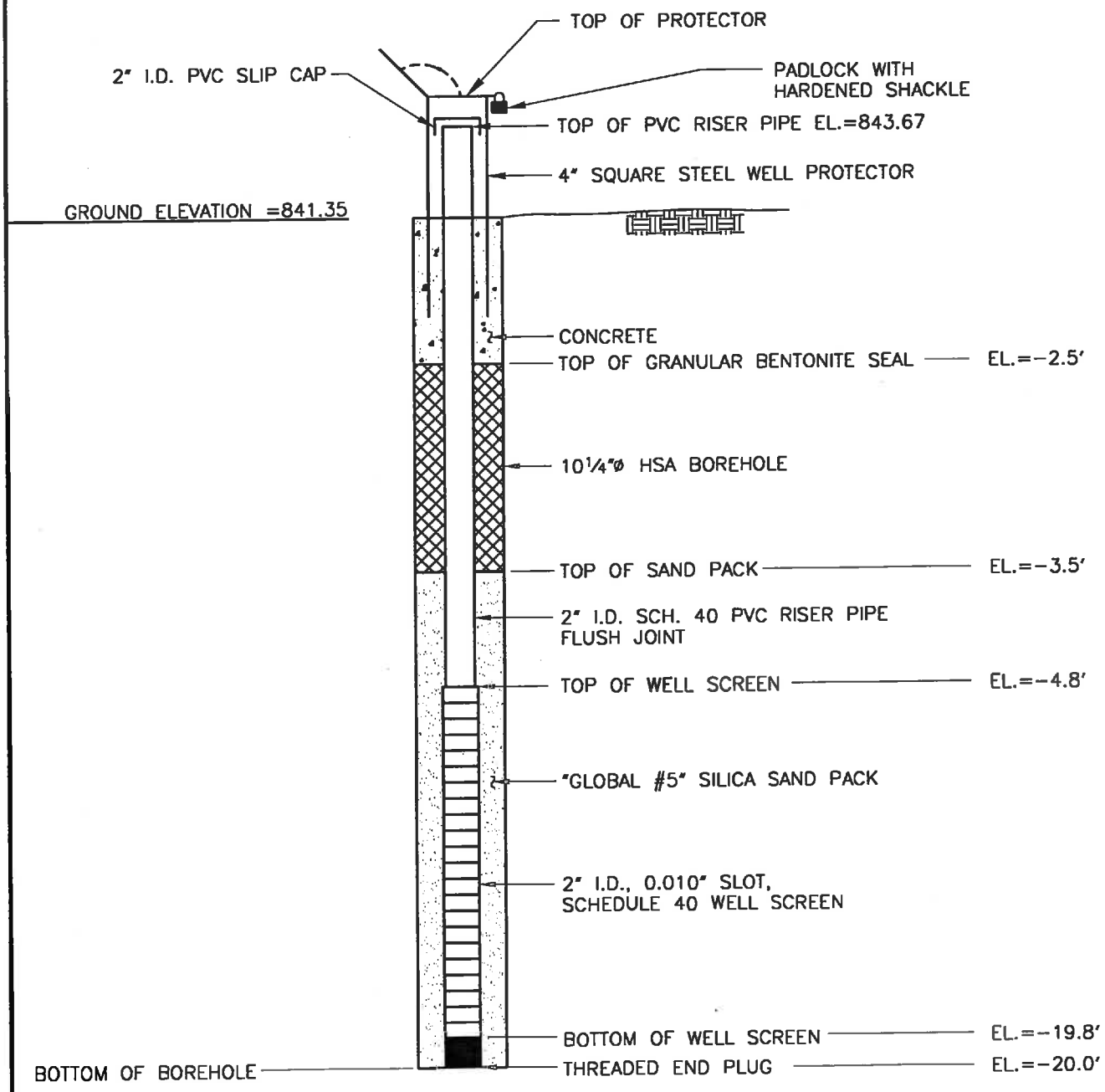


G/GEO/9418/MON-WELLS/MW-2.DWG WRM 11/20/02

PATRICK ENGINEERING INC.	MONITORING WELL INSTALLATION REPORT	MW NO. MW-3 PROJ. NO. 9418.A0-2

PROJECT MARENGO GRAVEL PIT PERMITTING
LOCATION MARENGO, ILLINOIS
CLIENT MAPLE VALLEY MATERIALS, L.L.C.
GEOLOGIST BRIAN SNELTEN
DRILLER KEVIN SHAMWAY

MW NO. MW-3
LOCATION SW CORNER OF PROPERTY
INSTALLATION DATE 10/31/02
WEATHER CLEAR, LOW 40'S



G/GEO/9418/MON-WELLS/MW-3.DWG WRM 11/20/02

APPENDIX B1

PRIVATE WATER WELL LOGS
ONE-MILE RADIUS
NEW WELLS 2023

SECTION 7

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
drift	0	268
rock	268	274
Total Depth		**274**

Driller's Log filed

Permit Date: **Permit #:**

COMPANY

FARM Stephan, William

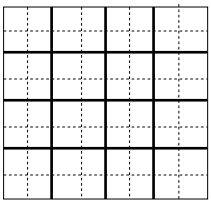
DATE DRILLED **NO.**

ELEVATION 943DM **COUNTY NO.** 00719

LOCATION SW SW SW

LATITUDE 42.212193 **LONGITUDE** -88.587666

COUNTY **McHenry** **API 121110071900** **7 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Water Well	Top	Bottom
red clay	0	90
sand & gravel (dirty)	90	110
gray clay	110	142
good sand & gravel	142	150
Total Depth		**150**

Casing: 5" PVC SDR 21 from 0' to 147'
5" SCREEN from 147' to 150'

Screen: 3' of 5" diameter 30 slot

Grout: BENTONITE from 0 to 147.

Water from gravel at 147' to 150'.
Static level 70' below casing top which is 2' above GL
Pumping level 120' when pumping at 15 gpm for 2 hours

Permanent pump installed at 120'
on October 18, 1993, with a capacity of 15 gpm

Owner Address: ,

Address of well: 7878 Somerset
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on November 6, 2012.

Permit Date: **Permit #:** 111-F60

COMPANY Binz, David Joseph

FARM Walters, Bruce

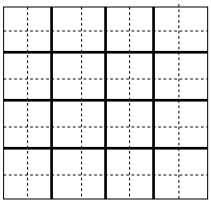
DATE DRILLED October 15, 1993 **NO.**

ELEVATION **COUNTY NO.** 44864

LOCATION SW NE SE

LATITUDE 42.215516 **LONGITUDE** -88.574051

COUNTY McHenry **API 121114486400** **7 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
brown stoney clay	0	112
black peat	112	128
sand/gravel	128	141
Total Depth		**141**

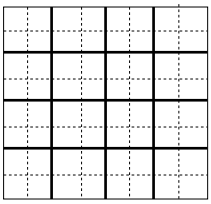
Casing: 5" PVC from 0' to 136'
5" SS SCREEN from 136' to 140'
Screen: 4' of 5" diameter 25 slot
Grout: BENTONITE from 0 to 100.

Water from gravel at 136' to 140'.
Static level 73' below casing top which is 1' above GL
Pumping level 80' when pumping at 20 gpm for 3 hours
Permanent pump installed at 120'
on October 7, 2002, with a capacity of 20 gpm
Remarks: driller's est well yield 70 gpm

Owner Address: 18570 Stevens Rd. Marengo, IL
Address of well: 19303 West Coral Rd.
Marengo, IL
Location source: Aerial Photograph verified Verified by: VJA on August 16, 2010.

Permit Date: May 30, 2002 **Permit #:** H-8657

COMPANY Keller, Larry
FARM Volkening, Bruce & Vicki
DATE DRILLED October 4, 2002 **NO.**
ELEVATION **COUNTY NO.** 40329
LOCATION SW SE SE
LATITUDE 42.212993 **LONGITUDE** -88.5741
COUNTY **McHenry** **API 121114032900** **7 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
brown stoney clay	2	66
sand gravel	66	71
brown stoney clay	71	150
brown peat	150	160
sand gravel	160	168
brown stoney clay	168	268
limestone	268	330
Total Depth		**330**

Casing: 5" PVC from 0' to 247'
5" STEEL from 247' to 268'

Grout: BENTONITE from 0 to 100.

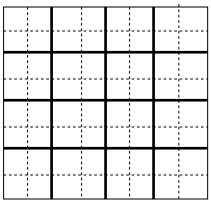
Water from limestone at ' to '.
Static level 108' below casing top which is 1' above GL
Pumping level 160' when pumping at 20 gpm for 3 hours
Permanent pump installed at 240'
on November 18, 2003, with a capacity of 20 gpm
Remarks: driller's est well yield 20 gpm

Owner Address: 584 Sleeping Bear Tr. Gilberts, IL
Address of well: 7566 Somerset Drive
Marengo, IL
Add'l loc. info: Lot: 11 Subdivision: Somerset Woods

Location source: Aerial Photograph verified Verified by: VJA on August 16, 2010.

Permit Date: June 6, 2001 **Permit #:** H-5639

COMPANY Keller, Larry
FARM Sanford, Charles & Maribeth
DATE DRILLED October 31, 2002 **NO.**
ELEVATION **COUNTY NO.** 40931
LOCATION SE SW NE
LATITUDE 42.219177 **LONGITUDE** -88.575923
COUNTY **McHenry** **API 121114093100** **7 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Irrigation Well	Top	Bottom
topsoil	0	2
clay	2	315
limestone	315	680
Total Depth		**680**

Casing: 8" STEEL from 0' to 315'

Grout: BAROID from 0 to 315.

Water from limestone at 315' to 680'.
Static level 100' below casing top which is 1' above GL
Pumping level 440' when pumping at 40 gpm for 2 hours

Permanent pump installed at 440'
on May 14, 2003, with a capacity of 40 gpm

Remarks: driller's est well yield 100 gpm

Owner Address: 31 W 060 Bartlett Rd. Bartlett, IL

Address of well: 19919 Coral Rd.
Union, IL

Location source: Location from permit

Permit Date: April 16, 2003 **Permit #:**

COMPANY Nice, Mark E.

FARM Sebert Landscaping Co.

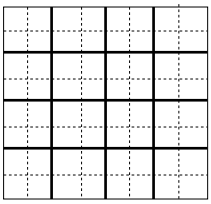
DATE DRILLED May 7, 2003 **NO.**

ELEVATION 0 **COUNTY NO.** 41194

LOCATION SE SW SW

LATITUDE 42.212206 **LONGITUDE** -88.585279

COUNTY McHenry **API** 121114119400 **7 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
brown clay	0	15
gray clay	15	120
gray clay & gravel	120	141
yellow gravel	141	147
Total Depth		**147**

Casing: 5" PVC from 0' to 143'
5.625" STAINLESS STL SCREEN from 143' to 147'

Screen: 4' of 5.6" diameter 25 slot

Grout: WYOBEN from 0 to 120.

Water from yellow gravel at 141' to 147'.
Static level 90' below casing top which is 1' above GL
Pumping level 105' when pumping at 10 gpm for 6 hours

Permanent pump installed at 120'
on September 20, 2005, with a capacity of 10 gpm

Remarks: driller's est. well yield 15 gpm

Owner Address: 2012 Red Barn Rd. Woodstock, IL

Address of well: 7901 Somerset
Marengo, IL

Add'l loc. info: Lot: 2 Subdivision: Hamilton

Location source: Tax record verified Verified by: VJA on August 16, 2010.

Permit Date: February 10, 2005 **Permit #:** 111-007

COMPANY Huemann, Joseph J.

FARM Meranda, Forrest & Penny

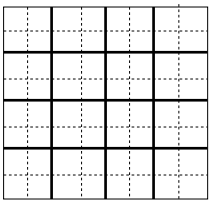
DATE DRILLED September 20, 2005 **NO.**

ELEVATION **COUNTY NO.** 42309

LOCATION NW SE SE

LATITUDE 42.214497 **LONGITUDE** -88.573669

COUNTY McHenry **API 121114230900** **7 - 43N - 6E**



SECTION 11

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
sandy clay	2	173
dark shale	173	200
white limestone	200	380
Total Depth		**380**

Casing: 5" PVC from 0' to 179'
5" STEEL from 179' to 190'

Grout: BENTONITE from 0 to 189.

Water from limestone at 200' to 380'.
Static level 120' below casing top which is 1' above GL
Pumping level 180' when pumping at 15 gpm for 2 hours
Permanent pump installed at 260'
on September 13, 2018, with a capacity of 10 gpm
Remarks: Driller's Estimated Well Yield 20 gpm

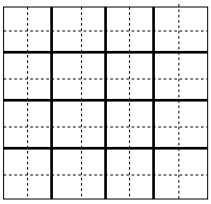
Owner Address: 1550 W. Bartlett Rd. Marengo, IL
Address of well: 21215 Rosewood Dr.
Marengo, IL 60152
Add'l loc. info: Lot: 1 Subdivision: Wildwood

Location source: Global Positioning System verified

Verified by: VJA on February 5, 2019.

Permit Date: December 8, 2016 **Permit #:** 111-295

COMPANY Nice, Mark E.
FARM Sebert, Jeff
DATE DRILLED September 12, 2018 **NO.**
ELEVATION **COUNTY NO.** 45437
LOCATION SW NE SE
LATITUDE 42.21665 **LONGITUDE** -88.613267
COUNTY **McHenry** **API 121114543700** **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
br stoney clay	2	142
sand/gravel	142	147
brown stoney clay	147	244
limestone	244	365
Total Depth		**365**

Casing: 5" PVC from 0' to 230'
5" STEEL from 230' to 245'

Grout: BENTONITE from 0 to 245.

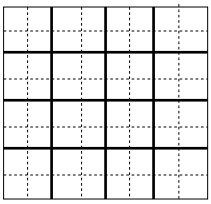
Water from limestone at 245' to 365'.
Static level 120' below casing top which is 1' above GL
Pumping level 140' when pumping at 10 gpm for 3 hours
Permanent pump installed at 200'
on September 1, 2017, with a capacity of 10 gpm
Remarks: Driller's Estimated Well Yield 20 gpm

Owner Address: 7 N. Meadow Ct. South Barrington, IL
Address of well: 7211 S. Rt. 23
Marengo, IL 60152
Location source: Global Positioning System verified

Verified by: VJA
on July 16, 2018.

Permit Date: August 15, 2017 **Permit #:** 111-021

COMPANY Keller, Larry
FARM Boyle, John
DATE DRILLED August 25, 2017 **NO.**
ELEVATION **COUNTY NO.** 45687
LOCATION NE NE NE
LATITUDE 42.224483 **LONGITUDE** -88.6103
COUNTY McHenry **API** 121114568700 **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay & gravel	2	20
clay & gravel	20	65
clay	65	88
sand & gravel	88	96
Total Depth		**96**

Casing: 5" PVC SDR 21 ASTM from 0' to 92'
5" SCREEN/SS from 92' to 96'

Screen: 92' of 5" diameter 96 slot

Grout: BENTONITE/SLURRY from 0 to 89.

Water from gravel at 92' to 96'.
Static level 33' below casing top which is 1' above GL
Pumping level 37' when pumping at 20 gpm for 3 hours

Permanent pump installed at 40'
on May 11, 2020, with a capacity of 10 gpm

Remarks: Drillers Estimated Well Yield 20 gpm

Owner Address: 206 E Jefferson Ave Hampshire, IL

Address of well: 7619 Acorn Lane
Marengo, Il

Location source: Global Positioning System verified

Verified by: VJA on December 11, 2020.

Permit Date: August 16, 2019 **Permit #:** S201907

COMPANY Huemann, Joseph J.

FARM Iamirand, Kevin

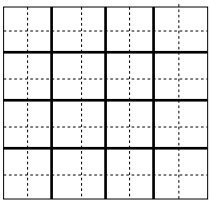
DATE DRILLED April 30, 2020 **NO.**

ELEVATION 15 **COUNTY NO.** 46017

LOCATION NE NW SE

LATITUDE 42.217765 **LONGITUDE** -88.614232

COUNTY McHenry **API 121114601700** **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Irrigation Well	Top	Bottom
fine to coarse gravel	0	10
brown clay	10	15
fine to coarse gravel	15	56
brown clay	56	58
embedded clay	58	77
Total Depth		**77**

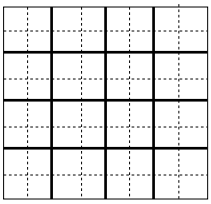
Casing: 12" PLAIN STEEL from 0' to 52'
12" STEEL SCREEN from 52' to 77'
Screen: 25' of 12" diameter 50 slot
Grout: BENTONITE from 0 to 2.

Static level 22' below casing top which is ' above GL
Pumping level ' when pumping at 823 gpm for hours

Owner Address: 801 Clinton Palace River Forest, IL
Location source: Location from permit

Permit Date: May 12, 1986 **Permit #:** 123618

COMPANY Grosch, Wayne A.
FARM O'Brien, Dan
DATE DRILLED May 14, 1986 **NO.**
ELEVATION **COUNTY NO.** 25086
LOCATION SW NE SW
LATITUDE 42.215965 **LONGITUDE** -88.621865
COUNTY **McHenry** **API 121112508600** **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	132
dark gray shale	132	170
limestone	170	220
Total Depth		**220**

Casing: 5" PVC F480 from 0' to 125'
5" STEEL A53B from 125' to 146'

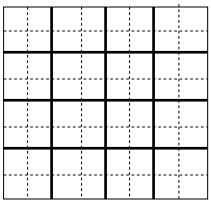
Grout: BAROID from 0 to 145.

Water from limestone at 170' to 220'.
Static level 60' below casing top which is 1' above GL
Pumping level 140' when pumping at 10 gpm for 2 hours
Permanent pump installed at 140'
on September 21, 2004, with a capacity of 10 gpm
Remarks: driller's est well yield 10-15 gpm

Owner Address: 21610 Pleasant Grove Rd. Marengo, IL
Address of well: same as above
Location source: Digital Orthophoto Quad Verified by: VJA on September 24, 2009.

Permit Date: September 14, 2004 **Permit #:** 111-078

COMPANY Nice, Mark E.
FARM Fodor, Mike
DATE DRILLED September 16, 2004 **NO.**
ELEVATION **COUNTY NO.** 41805
LOCATION SE SE NW
LATITUDE 42.218567 **LONGITUDE** -88.619057
COUNTY **McHenry** **API 121114180500** **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	3
brown stoney clay	3	18
sand & gravel	18	70
brown stoney clay	70	95
sand & gravel	95	101
brown stoney clay	101	162
green stoney clay	162	170
brown stoney clay	170	181
gray stoney clay	181	185
limestone	185	237
Total Depth		**237**

Casing: 5" PVC from 0' to 164'
5" STEEL from 165' to 185'

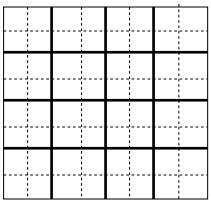
Grout: BENTONITE from 0 to 80.

Water from limestone at 185' to 237'.
Static level 64' below casing top which is 1' above GL
Pumping level 69' when pumping at 12 gpm for 3 hours
Permanent pump installed at 100'
on September 19, 2006, with a capacity of 10 gpm
Remarks: Driller's Estimated Well Yield 75 gpm

Owner Address: 1012 Kishwaukee St. Marengo, IL
Address of well: 21813 Pleasant Grove Rd.
Marengo, IL
Location source: Global Positioning System verified — Verified by: VJA on April 5, 2010.

Permit Date: November 2, 2005 **Permit #:** 111-082

COMPANY Keller, Larry
FARM Kantor, Jane & Michael
DATE DRILLED September 15, 2006 **NO.**
ELEVATION **COUNTY NO.** 42995
LOCATION SE SW NW
LATITUDE 42.220183 **LONGITUDE** -88.624317
COUNTY McHenry **API** 121114299500 **11 - 43N - 5E**



SECTION 12

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
br stoney clay	0	10
sand/gravel	10	20
br stoney clay	20	110
sand/gravel	110	117
br peet	117	128
sand/gravel	128	136
Total Depth		**136**

Casing: 5" PVC from 0' to 132'
5" SCREEN from 132' to 136'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 100.

Water from sand/gravel at 132' to 136'.
Static level 66' below casing top which is 1' above GL
Pumping level 80' when pumping at 10 gpm for 2 hours

Permanent pump installed at 100'
on December 15, 2009, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 40 gpm

Owner Address: 21018 Coral Rd. Marengo, IL

Address of well: same as above

Add'l loc. info: Lot: 1 Subdivision: Rockwood

Location source: Global Positioning System verified — Verified by: VJA on February 5, 2019.

Permit Date: December 14, 2009 **Permit #:** 111-417

COMPANY Keller, Larry

FARM Webster, Jeff`

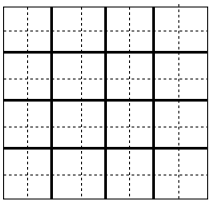
DATE DRILLED December 14, 2009 **NO.**

ELEVATION **COUNTY NO.** 45763

LOCATION SW NW SW

LATITUDE 42.21601 **LONGITUDE** -88.60828

COUNTY McHenry **API 121114576300** **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
brown clay	2	21
gray clay w/ sand seams	21	141
gray sand w/ gravel	141	154
Total Depth		**154**

Casing: 5" SDR 21 F 480 from 0' to 150'
5" SCREEN from 150' to 154'

Screen: 4' of 5" diameter .02 slot

Grout: BENTONITE from 0 to 150.

Water from sand w/ gravel at 150' to 154'.
Static level 84' below casing top which is 1' above GL
Pumping level 98' when pumping at 35 gpm for 1 hour
Permanent pump installed at 120'
on May 19, 2022, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 35 gpm

Owner Address: 9014 Voss Rd Marengo, IL

Address of well: 20720 W Coral Rd
Marengo, IL

Location source: Global Positioning System verified — Verified by: VJA on October 1, 2022.

Permit Date: February 2, 2021 **Permit #:** 111-21-

COMPANY Smith, Allen E.

FARM Ringwood Holdings/Grismer

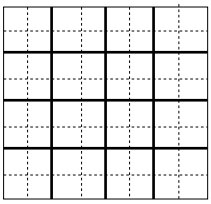
DATE DRILLED April 19, 2022 **NO.**

ELEVATION **COUNTY NO.** 46330

LOCATION SW NE SW

LATITUDE 42.215656 **LONGITUDE** -88.602303

COUNTY **McHenry** **API 121114633000** **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
brown stoney clay	2	58
sand fine gravel	58	74
gray clay	74	108
sand/gravel	108	118
Total Depth		**118**

Casing: 5" PVC CERTILOK from 0' to 114'
5" SCREEN from 114' to 118'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 80.

Water from sand/gravel at 114' to 118'.
Static level 66' below casing top which is 1' above GL
Pumping level 66' when pumping at 15 gpm for 2 hours
Permanent pump installed at 100'
on October 24, 2022, with a capacity of 15 gpm

Remarks: Driller's Estimated Well Yield 30 gpm

Owner Address: 20120 Coral Rd Marengo, IL

Address of well: same as above

Location source: Global Positioning System verified — Verified by: VJA on August 1, 2023.

Permit Date: October 19, 2022 **Permit #:** 111-22-

COMPANY Keller, Larry

FARM Luedtke, Kevin

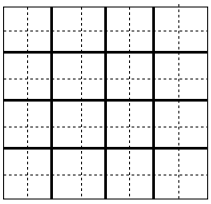
DATE DRILLED October 21, 2022 **NO.**

ELEVATION **COUNTY NO.** 46479

LOCATION NE SE SE

LATITUDE 42.214444 **LONGITUDE** -88.590833

COUNTY **McHenry** **API 121114647900** **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	17
sand gravel	17	24
clay	24	110
sand gravel	110	135
clay	135	170
sand gravel	170	190
rock	190	208
shale	208	220
Total Depth		**220**

Casing: 5" PLASTIC from 0' to 190'

Size hole below casing: 5"

Water from shale at 50' to 220'.
Static level 50' below casing top which is 1' above GL
Pumping level 147' when pumping at 40 gpm for 4 hours

Permanent pump installed at 147'
on , with a capacity of gpm

Driller's Log filed

Owner Address: Rilev, IL

Address of well: 20307 Coral Rd.
Marengo, IL

Add'l loc. info: Lot: 43 Subdivision: Coral Woods

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: October 6, 1975 **Permit #:** 41824

COMPANY Knierim, James

FARM Sarko, James

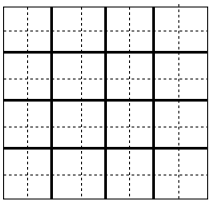
DATE DRILLED April 20, 1976 **NO.**

ELEVATION **COUNTY NO.** 22761

LOCATION NW SE SE

LATITUDE 42.213429 **LONGITUDE** -88.593453

COUNTY McHenry **API 121112276100** **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay	0	50
gravel	50	75
Total Depth		**75**

Casing: 5" 200# PVC from 0' to 71'

Screen: 4' of 5" diameter 20 slot

Size hole below casing: 7.87"

Water from gravel at 50' to 75'.
Static level 57' below casing top which is 1' above GL
Pumping level 60' when pumping at 15 gpm for 3 hours

Permanent pump installed at 71'
on , with a capacity of gpm

Owner Address: Kishwaukee Vallev Rd. Woodstock, IL

Address of well: 7702 Hill Rd.
Marengo, IL

Add'l loc. info: Lot: 8 Subdivision: Coral Woods

Location source: Aerial Photograph verified Verified by: VJA on August 20, 2012.

Permit Date: May 15, 1979 **Permit #:** 85626

COMPANY Huemann, William F.

FARM Brokaw, Warren

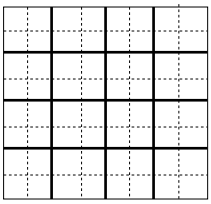
DATE DRILLED September 13, 1979 **NO.**

ELEVATION **COUNTY NO.** 23536

LOCATION NE NE SE

LATITUDE 42.217287 **LONGITUDE** -88.590537

COUNTY McHenry **API 121112353600** **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay	0	200
shale	200	205
rock	205	260
Total Depth		**260**

Casing: 5" PLASTIC from 0' to 202'

Grout: CUTTINGS from 0 to 0.

Size hole below casing: 5"

Water from rock at 70' to 260'.
Static level 70' below casing top which is 1' above GL
Pumping level 140' when pumping at gpm for hours

Permanent pump installed at 140'
on June 16, 1983, with a capacity of gpm

Remarks: owner to sample, well chlorinated

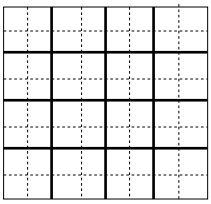
Driller's Log filed

Owner Address: 9220 Fairway Lane Marengo, IL
Add'l loc. info: Lot: 10 Subdivision: Coral Woods

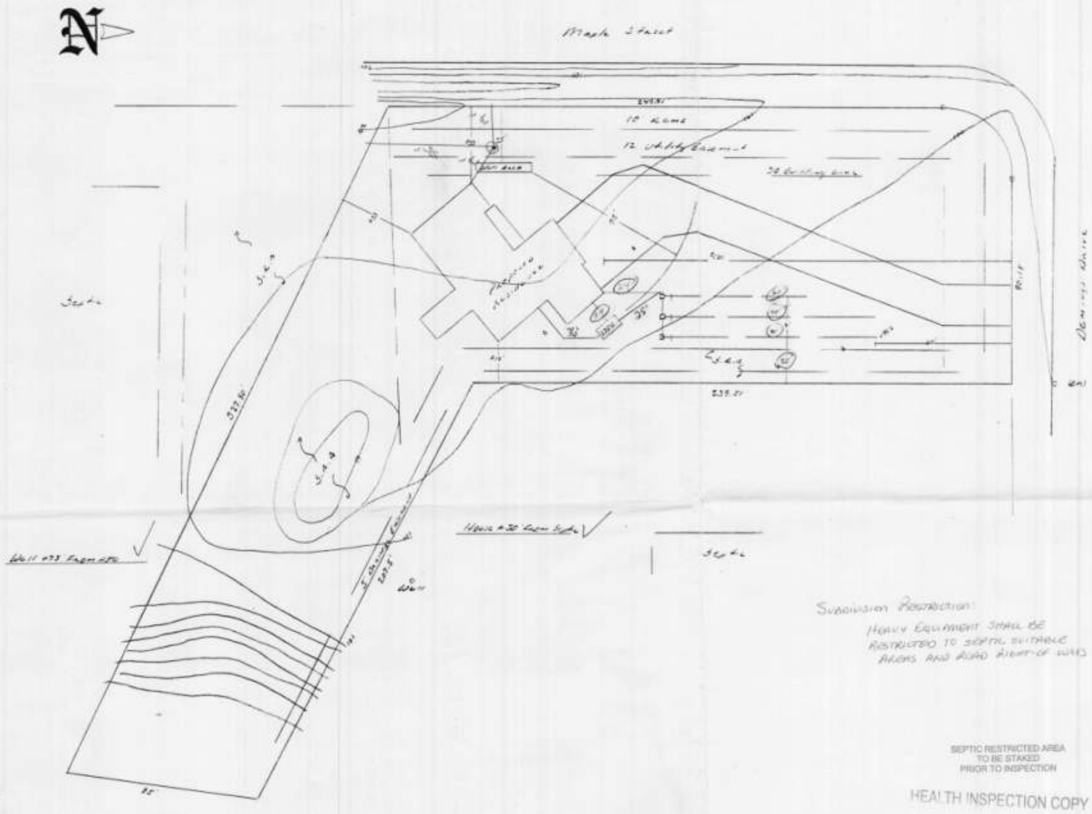
Location source: Platbook verified Verified by: VJA on September 30, 2009.

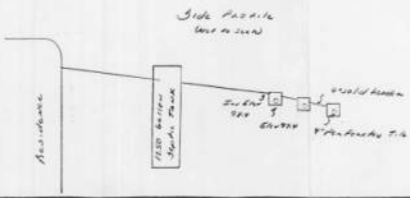
Permit Date: April 8, 1983 **Permit #:** 106714

COMPANY Knierim, Phil
FARM Carmichael Const.
DATE DRILLED May 31, 1983 **NO.**
ELEVATION **COUNTY NO.** 23886
LOCATION SE NE SE
LATITUDE 42.215748 **LONGITUDE** -88.590114
COUNTY **McHenry** **API 121112388600** **12 - 43N - 5E**



SECTION 13





Subdivision Restriction:

Heavy Equipment Shall Be Restricted To Septic Suitable Areas And Road Right-of-Ways

ALL CONSTRUCTION/MATERIALS SHALL CONFORM TO THE MCHENRY COUNTY PUBLIC HEALTH ORDINANCE

DESIGN CRITERIA/MATERIALS

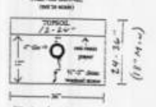
1. ✓ Trench System: 200 sq.ft./bedroom X 3 bedrooms = 200 lineal feet of three foot wide septic trench required; 240 lineal feet of three foot wide septic trench provided. designed for hot tub: yes ___ no ✓; ____ gallons per day
2. N/A Seepage Bed: ____ sq.ft/bedroom X ____ bedrooms X 1.5= ____ sq.ft. of seepage area required; ____ sq.ft. of seepage area provided.
3. ✓ Septic Tank: 1250 gallons required; 1250 gallons provided. provide access riser to ground surface. designed for garbage disposal: yes ___ no ✓
4. N/A Aeration Unit: ____ gallon class I
5. N/A Lift Station: ____ gallon septic tank; dose ____ gallons: force main 2" Schedule 40 PVC pitched back to tank; provide 90 degree elbow at d-box with anti-siphon hole drilled in top; pipe fittings shall be long socket solvent weld pressure type; provide quick disconnect device in discharge piping; utilize 1/3 hp effluent pump; provide audio/visual alarm; set alarm float to provide ____ gallons reserve capacity; provide access riser to extend six inches above the ground surface; provide corrosion resistant rope or cable affixed to pump.
6. ✓ Drop Boxes: 3 - 6" plastic drop boxes required. 3" solid header required between each drop box and seepage tile.
7. N/A Distribution Box: ___ plastic distribution box required. 3" solid header required between distribution box and seepage tile.
8. Sewer Line: 4" PVC schedule 40 or cast iron.
9. Header Lines: 4" PVC schedule 40 ~~or SDR-35~~.
10. Seepage Tile: 4" perforated ASTM 2729 or greater.
11. Fill, if proposed, as indicated will not negatively affect surface water runoff from/to neighboring properties. Proposed fill to be 6" topsoil, remainder coarse graded sand or porous earth fill meeting ordinance requirements as determined by a certified soil classifier.
12. Septic out of Flood Hazard

GENERAL NOTES

1. The septic system installer shall contact the designer prior to onset of construction to resolve any discrepancies if identified.
2. The area in which the septic system is to be installed shall be identified and shall not be cut, excavated, filled, or otherwise altered in any way except as specified in the approved plan. The area shall be protected from construction traffic and activities that might compact the soil.
3. The proposed seepage area shall have a barrier of substantial quality to prevent trafficking or disturbances of the seepage area prior to release of permit, and until the seepage system is approved and backfilled.
4. Any removal of trees greater than or equal to six inches in diameter shall be by cutting near the surface. Stumps may be removed by grinding or cutting, but shall not be uprooted.
5. All sewer lines/header lines shall be bedded prior to backfilling.
6. Unless specified, no cesspools, stormwater drywells, or leach pits were identified within required ordinance setbacks.

VARIANCE REQUESTS:

TRENCH DETAIL



Detail ok

SEPTIC RESTRICTED AREA
TO BE STAKED
PRIOR TO INSPECTION

HEALTH INSPECTION COPY

APPROVED
McHenry County Dept. of Health
Staff: KF
Date: 11-12-04
Permit #: 04-0967
Comp. #: 3004672

INVERT ELEVATION TABLE

T/O FOUNDATION	103.0	TRENCH A	97.9
BUILDING SEWER	99.5	TRENCH B	97.7
SEPTIC TANK INLET	99.0	TRENCH C	97.5
SEPTIC TANK OUTLET	[illegible]	TRENCH D	
AERATION UNIT INLET		TRENCH E	
AERATION UNIT OUTLET		TRENCH F	
LIFT STATION INLET		TRENCH G	
LIFT STATION OUTLET		TRENCH H	
DISTRIBUTION BOX OUTLET		TRENCH I	

SEPTIC SYSTEM DESIGNER: JOHN M. RABER
LICENSED ENVIRONMENTAL HEALTH PRACTITIONER
LICENSE NUMBER: 0183-000258 EXPIRATION DATE 5/1/06
DESIGN DATE: 9-21-04 REVISION 1: REVISION 2:
DRAWING NUMBER:
PROPERTY LOCATION: Deming Drive, Marengo
LEGAL DESCRIPTION: Lot 1 Maple Lake Shores
PROPERTY INDEX NUMBER:
CLIENT: [illegible]
SCALE 1: 30
BENCHMARK (BM) ELEVATION 100.0 LOCATION:
Painted X on Pavement

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay sand gravel	0	10
sand gravel	10	40
clay	40	62
black dirt	62	64
sand gravel	64	75
Total Depth		**75**

Casing: 5" BLK 15# ASTM A53B from -3' to 72'
Screen: 3' of 4" diameter 15 slot
Grout: CASING SEAL from 0 to 72.

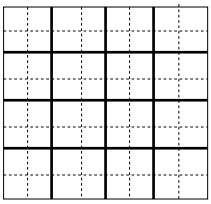
Water from sand & gravel at 72' to 75'.
Static level 25' below casing top which is 3' above GL
Pumping level 43' when pumping at 18 gpm for hours

Owner Address: 5815 Willow Ct. Crystal Lake, IL
Address of well: 20302 Demings Dr.
Marengo, IL
Add'l loc. info: Lot: 12 Subdivision: Maple Lake Shores

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: October 9, 1996 **Permit #:** 111-G43

COMPANY Howe, Robert E. Jr.
FARM Moen, Roger
DATE DRILLED April 4, 1997 **NO.**
ELEVATION **COUNTY NO.** 34919
LOCATION NE NW SE
LATITUDE 42.203948 **LONGITUDE** -88.594113
COUNTY McHenry **API 121113491900** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	2
sand & gravel	2	20
clay	20	35
clay & boulders	35	50
gravel	50	60
Total Depth		**60**

Casing: 5" PVC SDR 21 GLUE from 0' to 56'
5" K PACKER from 56' to 56'
4" SCREEN from 56' to 60'

Screen: 4' of 4" diameter .02 slot

Grout: BENTONITE from 0 to 50.

Water from gravel at 50' to 60'.
Static level 30' below casing top which is 1' above GL
Pumping level 33' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on March 3, 2020, with a capacity of 10 gpm

Remarks: Drillers Estimated Well Yield 10 gpm

Owner Address: 9003 S High Rd Marengo, IL

Address of well: same as above

Location source: Global Positioning System verified

Verified by: VJA on December 11, 2020.

Permit Date: October 24, 2019 **Permit #:** 111-19-

COMPANY Nice, Mark E.

FARM Kushner, Brian

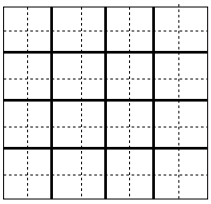
DATE DRILLED February 12, 2020 **NO.**

ELEVATION **COUNTY NO.** 46014

LOCATION NW SE SE

LATITUDE 42.19907 **LONGITUDE** -88.592974

COUNTY **McHenry** **API 121114601400** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sticky gray clay	47	66
coarse sand, gravel and cobble	0	67
coarse gray sand w/ gravel	66	82
Total Depth		**82**

Casing: 5" SDR 21 ASTM from 0' to 78'
5" SCREEN from 78' to 82'
Screen: 4' of 5" diameter .02 slot
Grout: BENTONITE from 0 to 78.

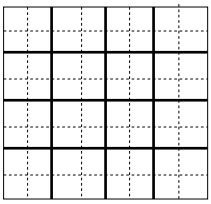
Water from coarse sand at 78' to 82'.
Static level 15' below casing top which is 1' above GL
Pumping level 23' when pumping at 35 gpm for 1 hour
Permanent pump installed at 40'
on April 15, 2022, with a capacity of 15 gpm
Remarks: Driller's Estimated Well Yield 35 gpm

Owner Address: 1522 Jarvis Ave Elk Grove Village, IL
Address of well: 20419 Delks Dr
Marengo, IL
Location source: Global Positioning System verified

Verified by: VJA
on October 1, 2022.

Permit Date: April 19, 2021 **Permit #:** 111-21-

COMPANY Smith, Allen E.
FARM Tucci, Carmine
DATE DRILLED April 12, 2022 **NO.**
ELEVATION 859GL **COUNTY NO.** 46331
LOCATION NW SW SE
LATITUDE 42.200528 **LONGITUDE** -88.596536
COUNTY McHenry **API** 121114633100 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	1
brown clay	1	3
sand/gravel	3	34
gray clay	34	58
sand/gravel	58	67
Total Depth		**67**

Casing: 5" PVC CERTILOK SDR 17 from 0' to 63'
5" SCREEN from 63' to 67'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 50.

Water from sand/gravel at 63' to 67'.
Static level 2' below casing top which is 1' above GL
Pumping level 2' when pumping at 10 gpm for 2 hours
Permanent pump installed at 20'
on February 8, 2023, with a capacity of 15 gpm

Remarks: Driller's Estimated Well Yield 60 gpm

Owner Address: 6516 Fairfax Ct C'ville, IL

Address of well: 9206 S Hill Rd
Marengo, IL

Location source: Global Positioning System verified Verified by: VJA on August 1, 2023.

Permit Date: September 7, 2021 **Permit #:** 111-025

COMPANY Keller, Larry

FARM J Novalinski Trust

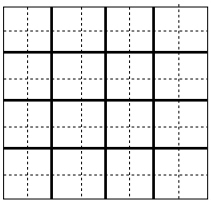
DATE DRILLED November 29, 2022 **NO.**

ELEVATION **COUNTY NO.** 46480

LOCATION SW SW SE

LATITUDE 42.197778 **LONGITUDE** -88.597222

COUNTY **McHenry** **API** **121114648000** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay	0	50
gravel	50	55
clay	55	80
sand	80	115
hard clay	115	150
broken limestone/limestone	150	169
Total Depth		**169**

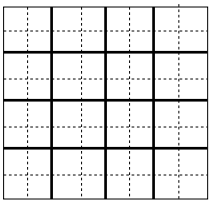
Casing: 5" ASTM 53 T/C from -1' to 153'

Water from limestone at 153' to 169'.
Static level 30' below casing top which is 1' above GL
Pumping level 47' when pumping at 15 gpm for 4 hours
Permanent pump installed at 80'
on February 16, 2023, with a capacity of 10 gpm
Remarks: Driller's Estimated Well Yield 40+ gpm

Owner Address: 10800 Alleghany Pass Huntley, IL
Address of well: 8909 S Hill Rd
Marengo, IL 60152
Location source: Aerial Photograph verified Verified by: VJA on August 1, 2023.

Permit Date: February 9, 2022 **Permit #:** 111-21-

COMPANY Jason Jablonski
FARM Weinberg, Ryan
DATE DRILLED February 10, 2023 **NO.**
ELEVATION **COUNTY NO.** 46481
LOCATION NW SE SE
LATITUDE 42.199477 **LONGITUDE** -88.592257
COUNTY **McHenry** **API 121114648100** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	3
coarse gravel	3	50
hard clay	50	60
gravel	60	64
Total Depth		**64**

Casing: 5" SDR 21 CERTA LOK from -1' to 60'
4" SCREEN from ' to '

Screen: 4' of 4" diameter slot

Grout: BENTONITE from to .

Water from sand/gravel at 60' to 64'.
Static level 15' below casing top which is 1' above GL
Pumping level 58' when pumping at 12 gpm for 4 hours
Permanent pump installed at 55'
on March 3, 2023, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 12 gpm

Owner Address: 821 E Grant Hwy #F Marengo, IL

Address of well: 20411 Delks Dr
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on October 1, 2023.

Permit Date: August 30, 2022 **Permit #:** 111-239

COMPANY Jason Jablonski

FARM Brackmann Construction

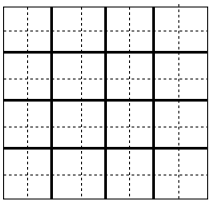
DATE DRILLED February 18, 2023 **NO.**

ELEVATION **COUNTY NO.** 46547

LOCATION NW SW SE

LATITUDE 42.200804 **LONGITUDE** -88.595911

COUNTY **McHenry** **API 121114654700** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	6
gravel,boulders,sand	6	14
clay	14	176
broken limestone	176	208
Total Depth		**208**

Casing: 5" PVC 2.87 from 0' to 165'
5" GALV. 15 from 165' to 208'

Size hole below casing: 5"

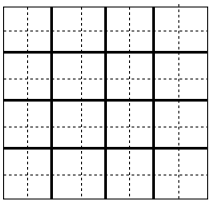
Water from limestone at ' to 208'.
Static level 75' below casing top which is 1' above GL
Pumping level 75' when pumping at 10 gpm for 2 hours
Permanent pump installed at 120'
on May 30, 1988, with a capacity of 10 gpm
Remarks: well capacity 50 gpm

Owner Address: S. Hill Rd. Marengo, IL
Add'l loc. info: Lot: 18 Subdivision: Coral Woods

Location source: Tax record verified Verified by: VJA on September 24, 2009.

Permit Date: October 1, 1987 **Permit #:** 135920

COMPANY Pilgard, Peter
FARM Bittenbender, Dan L.
DATE DRILLED April 30, 1988 **NO.**
ELEVATION **COUNTY NO.** 26341
LOCATION SE NE NE
LATITUDE 42.209621 **LONGITUDE** -88.590115
COUNTY **McHenry** **API 121112634100** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
red clay- gravel	0	40
red clay	40	138
hardpan	138	145
Total Depth		**145**

Casing: 5" PVC 200 LBS from -1' to 145'

Grout: BENTONITE from 0 to 45.

Size hole below casing: 5"

Water from hardpan at 138' to 145'.
Static level 30' below casing top which is 1' above GL
Pumping level 50' when pumping at 10 gpm for 1 hour

Permanent pump installed at 80'
on September 9, 1994, with a capacity of 10 gpm

Owner Address: 935 Sandpiper Bartlett, IL

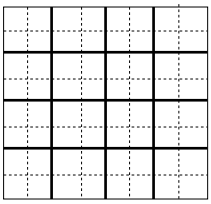
Address of well: 8718 Hill Road
Marengo, IL

Add'l loc. info: Lot: 27 Subdivision: Bartletts Coral Wood

Location source: Aerial Photograph verified Verified by: VJA on November 6, 2012.

Permit Date: May 13, 1994 **Permit #:** 111-F84

COMPANY Efflandt, Robert
FARM Carter, Richard
DATE DRILLED September 2, 1994 **NO.**
ELEVATION **COUNTY NO.** 44865
LOCATION SE NE SE
LATITUDE 42.20172 **LONGITUDE** -88.589767
COUNTY **McHenry** **API 121114486500** **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
brown stoney clay	0	62
sand / gravel	62	65
brown stoney clay	65	92
gray clay	92	151
limestone	151	363
Total Depth		**363**

Casing: 5" PVC from 0' to 141'
5" STEEL from 141' to 151'

Grout: BENTONITE from 0 to 100.

Water from limestone at 151' to 363'.
Static level 94' below casing top which is 1' above GL
Pumping level 180' when pumping at 20 gpm for 2 hours
Permanent pump installed at 240'
on June 6, 2014, with a capacity of 20 gpm
Remarks: Driller's Estimated Well Yield 20 gpm

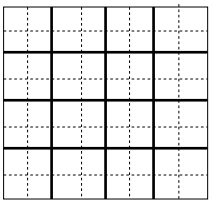
Owner Address: 924 Brookside Ct. Marengo, IL
Address of well: 8902 S. Hill Rd.
Marengo
Add'l loc. info: Lot: 25 Subdivision: Riley Creek

Location source: Aerial Photograph verified Verified by: VJA on May 13, 2015.

Image viewing help: New users please read this.
GET FILE Related File -

Permit Date: October 15, 2013 **Permit #:** 111-023

COMPANY Keller, Larry
FARM Burns, Mike
DATE DRILLED June 4, 2014 **NO.**
ELEVATION **COUNTY NO.** 45281
LOCATION NE SE SE
LATITUDE 42.199822 **LONGITUDE** -88.591302
COUNTY McHenry **API** 121114528100 **13 - 43N - 5E**



SECTION 14

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel	2	30
sandy clay	30	85
broken limestone	85	87
Total Depth		**87**

Casing: 5" STEEL from 0' to 87'

Grout: BENTONITE from 0 to 80.

Water from limestone at 85' to 87'.
Static level 10' below casing top which is 1' above GL
Pumping level 12' when pumping at 12 gpm for 2 hours

Permanent pump installed at 20'
on September 11, 2017, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 20 gpm

Owner Address: 8 Prosper Ct. Lake in the Hills, IL

Address of well: 8920 Rt. 23
Marengo, IL 60152

Location source: Global Positioning System verified — Verified by: VJA on February 5, 2019.

Permit Date: May 22, 2017 **Permit #:** 111-199

COMPANY Nice, Mark E.

FARM Consolidated Material

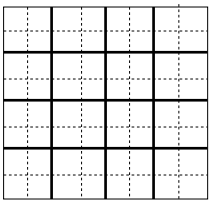
DATE DRILLED June 19, 2017 **NO.**

ELEVATION **COUNTY NO.** 45764

LOCATION NW SW NE

LATITUDE 42.20654 **LONGITUDE** -88.6129

COUNTY McHenry **API 121114576400** **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
gravel	0	3
sandy clay	3	11
sand and gravel	11	59
gray clay w/ gravel seams	59	87
limestone	87	100
Total Depth		**100**

Casing: 5" SDR 21 PVC from 0' to 88'

Grout: BENTONITE from 0 to 88.

Water from limestone bedrock at 88' to 100'.
Static level 20' below casing top which is 1' above GL
Pumping level 26' when pumping at 25 gpm for 2 hours

Permanent pump installed at 40'
on July 1, 2022, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 25 gpm

Owner Address: 8 Prosper Court Lake in the Hills, IL

Address of well: 8920 IL Route 23
Marengo, IL

Location source: Global Positioning System verified Verified by: VJA on August 1, 2023.

Permit Date: November 30, 2022 **Permit #:** 111-16-

COMPANY Smith, Allen E.

FARM Consolidated Materials

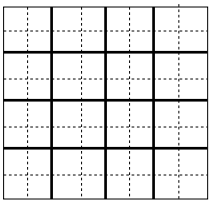
DATE DRILLED June 20, 2022 **NO.** 2

ELEVATION 836GL **COUNTY NO.** 46482

LOCATION NW SW NE

LATITUDE 42.206989 **LONGITUDE** -88.616761

COUNTY McHenry **API 121114648200** **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Business	Top	Bottom
black dirt	0	2
tan clay	2	8
sand & gravel	8	48
Total Depth		**48**

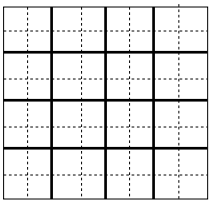
Casing: 5" STEEL 15# from 0' to 40'
Screen: 8' of 5" diameter 20 slot
Grout: BENTONITE/SLRY from 0 to 40.

Water from gravel at 40' to 48'.
Static level 14' below casing top which is 1' above GL
Pumping level 25' when pumping at 44 gpm for 6 hours
Permanent pump installed at 40'
on November 7, 1993, with a capacity of 30 gpm

Owner Address: 8800 S. Rt. #23 Marengo, IL
Address of well: 8808 Rt. 23
Marengo, IL
Location source: Tax record verified

Permit Date: November 1, 1993 **Permit #:** 111-F75

COMPANY Keller, Larry
FARM Pork King
DATE DRILLED November 6, 1993 **NO.**
ELEVATION **COUNTY NO.** 32771
LOCATION SW NW SE
LATITUDE 42.201523 **LONGITUDE** -88.616935
COUNTY McHenry **API 121113277100** **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
topsoil	0	2
brown clay	2	5
sand - gravel	5	60
Total Depth		**60**

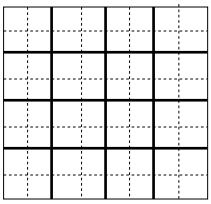
Casing: 12" STEEL 49.6# ASTM from 0' to 40'
Screen: 20' of 12" diameter 60 slot
Grout: BENTONITE from 0 to 30.

Water from sand - gravel at 40' to 60'.
Static level 11' below casing top which is 1' above GL
Pumping level 30' when pumping at 600 gpm for 3 hours

Owner Address: 8800 Rt. 23 Marengo, IL
Address of well: same as above
Location source: Location from permit

Permit Date: August 20, 1997 **Permit #:**

COMPANY Keller, Larry
FARM Pork King
DATE DRILLED September 30, 1999 **NO.**
ELEVATION 0 **COUNTY NO.** 37343
LOCATION SW SW SE
LATITUDE 42.197916 **LONGITUDE** -88.616915
COUNTY McHenry **API** 121113734300 **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Noncommunity - Public Water Well	Top	Bottom
topsoil	0	2
clay	2	5
gravel	5	60
clay	60	82
limestone	82	140
shale & limestone	140	250
limestone	250	410
mix limestone & sandstone	410	510
sandstone	510	540
Total Depth		**540**

Casing: 10" STEEL from 0' to 87'
8" STEEL from 0' to 400'

Grout: BAROID from 0 to 399.

Water from limestone at 82' to 540'.
Static level 100' below casing top which is 1' above GL
Pumping level 380' when pumping at 230 gpm for 2 hours

Permanent pump installed at 380'
on August 9, 2003, with a capacity of 230 gpm

Remarks: PICS 11104795, est. yield 400+ gpm

Owner Address: P.O. Box 253 8808 S Rt. 23 Marengo, IL

Address of well: same as above

Location source: Tax record verified

Permit Date: June 10, 2003 **Permit #:** 111-049

COMPANY Nice, Mark E.

FARM Pork King Packing

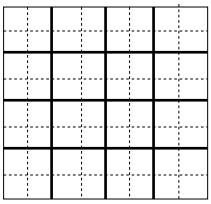
DATE DRILLED July 14, 2003 **NO.**

ELEVATION **COUNTY NO.** 42307

LOCATION SE NW SE

LATITUDE 42.201539 **LONGITUDE** -88.614511

COUNTY McHenry **API 121114230700** **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Semi-Private Water Well	Top	Bottom
topsoil	0	2
clay	2	5
gravel	5	55
clay	55	70
gravel	70	74
clay	74	79
limestone	79	90
dark shale	90	155
limestone	155	340
Total Depth		**340**

Casing: 5" PVC F480 from 0' to 60'
5" STEEL A53B from 60' to 81'

Grout: BAROID from 0 to 81.

Water from limestone at 79' to 340'.
Static level 60' below casing top which is 1' above GL
Pumping level 180' when pumping at 10 gpm for 2 hours

Permanent pump installed at 180'
on April 9, 2009, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 10-15 gpm

Owner Address: 602 Bauman St Marengo, IL

Address of well: 8910 S IL Route 23
Marengo, IL

Add'l loc. info: FALSE
township office

Location source: Tax record verified Verified by: VJA on August 10, 2011.

Image viewing help: New users please read this.

GET FILE Related File -

Permit Date: August 1, 2008 **Permit #:** 111-025

COMPANY Nice, Mark E.

FARM Riley Township Rd District

DATE DRILLED March 18, 2009 **NO.**

ELEVATION **COUNTY NO.** 43364

LOCATION NW SW SE

LATITUDE 42.199474 **LONGITUDE** -88.617252

COUNTY McHenry **API** 121114336400 **14 - 43N - 5E**

ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
sand & gravel	0	21
clay	21	53
gravel & sand	53	55
clay	55	56
gravel	56	57
clay	57	106
clay & gravel	106	123
limestone & shale	123	140
soft brown shale	140	168
limestone	168	320
Total Depth		**320**

Casing: 5" PVC from 0' to 103'
5" BLACK STEEL from 103' to 124'

Grout: WYOBEN GROUT 20% from 0 to 120.

Water from limestone at 168' to 320'.
Static level 30' below casing top which is 1' above GL
Pumping level 65' when pumping at 10 gpm for 6 hours

Permanent pump installed at 100'
on November 4, 2009, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 10 gpm

Owner Address: 7601 West 79th St Bridgeview, IL

Address of well: 8293 Rt 23
Marengo, IL

Location source: Global Positioning System verified — Verified by: VJA on October 4, 2012.

Permit Date: September 30, 2009 **Permit #:** 111-035

COMPANY Huemann, Joseph J.

FARM VCNA Prairie Aggreg Ill

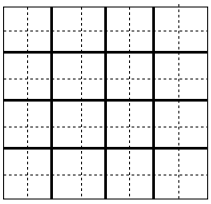
DATE DRILLED November 4, 2009 **NO.**

ELEVATION **COUNTY NO.** 43890

LOCATION NE NE NW

LATITUDE 42.209917 **LONGITUDE** -88.618944

COUNTY McHenry **API 121114389000** **14 - 43N - 5E**



SECTION 18

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	95
gravel	95	105
clay	105	200
limestone	200	203
Total Depth		**203**

Casing: 5" PVC ASTM F480 from 0' to 180'
5" STEEL ASTM 15#/FT from 180' to 201'

Grout: BENTONITE from 0 to 201.

Water from limestone at 200' to 203'.
Static level 40' below casing top which is 1' above GL
Pumping level 180' when pumping at 12 gpm for 10 hours

Owner Address: 711 Linden Ave. Elgin, IL

Address of well: 8211 S. Coral Rd.
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: July 19, 1996 **Permit #:** 111-G35

COMPANY Nice, Craig

FARM Kellenberg, Darryl Builders

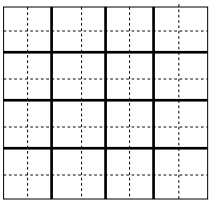
DATE DRILLED December 7, 1996 **NO.**

ELEVATION **COUNTY NO.** 34880

LOCATION SE NE NE

LATITUDE 42.209403 **LONGITUDE** -88.570286

COUNTY **McHenry** **API 121113488000** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
sandy gray clay	0	17
gravel	17	26
sandy gray clay & gravel	26	155
gravel	155	165
soft shale	165	186
gravel	186	192
white rock	192	225
shale	225	270
gray shale rock	270	300
Total Depth		**300**

Casing: 5" PVC 200 from 0' to 160'
5" PVC 250 from 160' to 195'

Grout: BENTONITE from 0 to 195.

Water from rock at 270' to 300'.
Static level 90' below casing top which is 1' above GL
Pumping level 200' when pumping at 25 gpm for 1 hour

Permanent pump installed at 200'
on August 26, 2003, with a capacity of 12 gpm

Remarks: driller's est well yield 25 gpm

Owner Address: P.O. Box 760 Hampshire, IL

Address of well: 8902 Voss Road
Marengo, IL

Add'l loc. info: Lot: 4

Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: April 24, 2003 **Permit #:** 111-030

COMPANY Stinnett, David

FARM Embassy Builders, Inc.

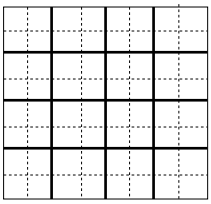
DATE DRILLED August 22, 2003 **NO.**

ELEVATION **COUNTY NO.** 41065

LOCATION NW SE SE

LATITUDE 42.199856 **LONGITUDE** -88.574178

COUNTY McHenry **API 121114106500** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	258
shale	258	280
limestone	280	380
Total Depth		**380**

Casing: 5" PVC F480 from 0' to 238'
5" STEEL A53B from 238' to 259'

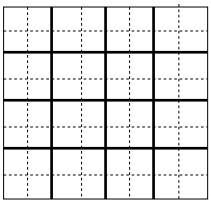
Grout: BAROID from 0 to 258.

Water from limestone at 280' to 380'.
Static level 50' below casing top which is 1' above GL
Pumping level 240' when pumping at 10 gpm for 2 hours
Permanent pump installed at 240'
on April 28, 2004, with a capacity of 10 gpm
Remarks: driller's est well yield 10 gpm

Owner Address: 8732 Deer Run Drive Belvidere, IL
Address of well: 9115 Voss Road
Marengo, IL
Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: September 3, 2003 **Permit #:** 111-03-

COMPANY Nice, Mark E.
FARM Hall, Todd & Kelly
DATE DRILLED April 22, 2004 **NO.**
ELEVATION **COUNTY NO.** 41420
LOCATION NE SW SE
LATITUDE 42.199211 **LONGITUDE** -88.575176
COUNTY **McHenry** **API 121114142000** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
brown stoney clay	0	170
gray stoney clay	170	180
brown stoney clay	180	240
sand/gravel	240	252
brown stoney clay	252	275
yellow/green clay	275	285
limestone	285	460
Total Depth		**460**

Casing: 5" PVC from 0' to 264'
5" STEEL from 264' to 285'

Grout: BENTONITE from 0 to 285.

Water from limestone at 285' to 460'.
Static level 159' below casing top which is 1' above GL
Pumping level 180' when pumping at 20 gpm for 3 hours

Permanent pump installed at 240'
on May 5, 2004, with a capacity of 20 gpm

Remarks: driller's est well yield 30 gpm

Owner Address: P.O. Box 734 Huntlev, IL

Address of well: 19463 Beck Road
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: October 27, 2003 **Permit #:** 111-094

COMPANY Keller, Larry

FARM Brettman, Derik & Gina

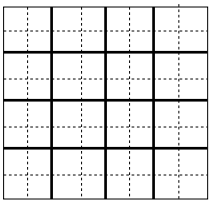
DATE DRILLED April 29, 2004 **NO.**

ELEVATION **COUNTY NO.** 41565

LOCATION NW SW SE

LATITUDE 42.198899 **LONGITUDE** -88.577753

COUNTY McHenry **API 121114156500** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	208
limestone	208	232
shale	232	235
Total Depth		**235**

Casing: 5" PVC F480 from 0' to 211'
5" STEEL A53B from 211' to 232'

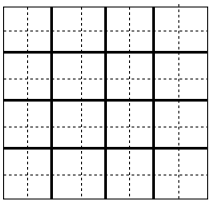
Grout: BAROID from 0 to 231.

Water from limestone at 208' to 235'.
Static level 55' below casing top which is 1' above GL
Pumping level 200' when pumping at 10 gpm for 2 hours
Permanent pump installed at 200'
on December 20, 2004, with a capacity of 10 gpm
Remarks: driller's est well yield 15-20 gpm

Owner Address: 525 Maple Street Marengo, IL
Address of well: 8610 Voss Road
Marengo, IL
Location source: Location from permit

Permit Date: May 18, 2004 **Permit #:** 111-04-

COMPANY Nice, Mark E.
FARM Grismer, Michael
DATE DRILLED December 16, 2004 **NO.**
ELEVATION **COUNTY NO.** 41812
LOCATION SE SE SE
LATITUDE 42.197846 **LONGITUDE** -88.570985
COUNTY McHenry **API 121114181200** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
sand/gravel	2	25
brown stoney clay	25	90
gray clay	90	100
sand/gravel	100	110
Total Depth		**110**

Casing: 5" PVC from 0' to 101'
5" SS SCREEN from 101' to 105'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 60.

Water from sand/gravel at 101' to 105'.
Static level 38' below casing top which is 1' above GL
Pumping level 40' when pumping at 20 gpm for 3 hours

Permanent pump installed at 80'
on June 4, 2004, with a capacity of 20 gpm

Remarks: driller's est well yield 40 gpm

Owner Address: PO Box 1144 Huntley, IL

Address of well: 19217 Beck Rd.
Marengo, IL

Add'l loc. info: Lot: 5

Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: December 22, 2003 **Permit #:** 111-112

COMPANY Keller, Larry

FARM Hennig, Jim

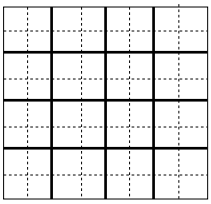
DATE DRILLED June 3, 2004 **NO.**

ELEVATION **COUNTY NO.** 41878

LOCATION SW NE SE

LATITUDE 42.201047 **LONGITUDE** -88.572487

COUNTY McHenry **API 121114187800** **18 - 43N - 6E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	193
limestone	193	218
shale	218	220
Total Depth		**220**

Casing: 5" PVC F480 from 0' to 172'
5" STEEL A53B from 172' to 193'

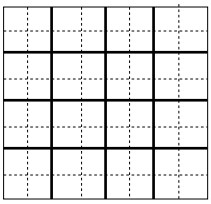
Grout: BAROID from 0 to 192.

Water from limestone at 193' to 220'.
Static level 50' below casing top which is 1' above GL
Pumping level 180' when pumping at 10 gpm for 2 hours
Permanent pump installed at 180'
on January 4, 2005, with a capacity of 10 gpm
Remarks: driller's est well yield 10-15 gpm

Owner Address: 185 Pauline Dr. Elgin, IL
Address of well: 8914 Voss Road
Marengo, IL
Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

Permit Date: August 28, 2003 **Permit #:** 111-069

COMPANY Nice, Mark E.
FARM Osborn, David
DATE DRILLED December 28, 2004 **NO.**
ELEVATION **COUNTY NO.** 41932
LOCATION NW SE SE
LATITUDE 42.199147 **LONGITUDE** -88.573881
COUNTY **McHenry** **API 121114193200** **18 - 43N - 6E**



SECTION 19

ILLINOIS STATE GEOLOGICAL SURVEY

Irrigation Well	Top	Bottom
topsoil	0	2
brown stoney clay	2	92
brown peat	92	100
gray clay	100	107
sand / gravel	107	121
Total Depth		**121**

Casing: 5" PVC from 0' to 113'
5" STAINLESS STL SCREEN from 113' to 121'

Screen: 8' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 60.

Water from sand / gravel at 113' to 121'.
Static level 65' below casing top which is 1' above GL
Pumping level 80' when pumping at 30 gpm for 3 hours

Permanent pump installed at 100'
on January 24, 2007, with a capacity of 30 gpm

Remarks: Driller's Estimated Well Yield 50 gpm

Owner Address: PO Box 175 Marengo, IL

Address of well: 9200 Voss Rd
Marengo, IL

Location source: Global Positioning System verified — Verified by: VJA on October 4, 2012.

Permit Date: December 4, 2006 **Permit #:** 111-073

COMPANY Keller, Larry

FARM Parks, Martin

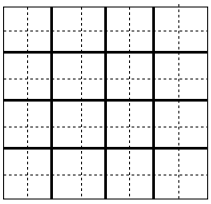
DATE DRILLED January 24, 2007 **NO.**

ELEVATION **COUNTY NO.** 43781

LOCATION SE NE NW

LATITUDE 42.1947 **LONGITUDE** -88.57845

COUNTY McHenry **API 121114378100** **19 - 43N - 6E**



SECTION 23

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
no record	0	32
Total Depth		**32**

Remarks: permit issued for driven point

Owner Address: 21313 Anthony Rd. Marengo, IL

Address of well: 21103 Anthony Rd.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 5, 2009.

Permit Date: August 16, 1978 **Permit #:** 78228

COMPANY owner

FARM Butenschoen, James

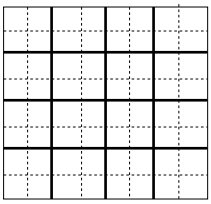
DATE DRILLED **NO.**

ELEVATION **COUNTY NO.** 29321

LOCATION NE NE SE

LATITUDE 42.189311 **LONGITUDE** -88.609009

COUNTY McHenry **API 121112932100** **23 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Semi-Private Water Well	Top	Bottom
driveway base (broken brick, gravel)	0	3
black dirt	3	6
sand & gravel	6	51
sandy blue clay	51	59
Total Depth		**59**

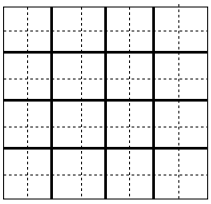
Casing: 8" BLACK STEEL from -1' to 41'
Screen: 20' of 6" diameter 20 slot
Grout: BENTONITE from 0 to 40.

Water from sand & gravel at 41' to 59'.
Static level 10' below casing top which is 1' above GL
Pumping level 0' when pumping at 400 gpm for 0 hours

Owner Address: 580 Wolf Road Des Plaines, IL
Address of well: 9204 South IL Rte. 23
Marengo, IL
Location source: Location from permit

Permit Date: May 20, 1999 **Permit #:**

COMPANY Gaffke, George E.
FARM Meyer Material Company
DATE DRILLED November 9, 1999 **NO.**
ELEVATION 0 **COUNTY NO.** 37550
LOCATION NW NE NE
LATITUDE 42.196132 **LONGITUDE** -88.612055
COUNTY McHenry **API** 121113755000 **23 - 43N - 5E**



SECTION 24

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
red clay	0	8
gravel	8	32
colored clay	32	62
blue clay	62	68
clay & gravel	68	95
fine grave	95	98
Total Depth		**98**

Casing: 5" PVC SDR 21 from -2' to 94'
5" SCREEN from 94' to 98'

Screen: 4' of 5" diameter 30 slot

Grout: 20% WYOBEN from 0 to 88.

Water from gravel at 94' to 98'.
Static level 20' below casing top which is 2' above GL
Pumping level 60' when pumping at 15 gpm for 2 hours

Permanent pump installed at 60'
on July 12, 2019, with a capacity of 15 gpm

Remarks: Drillers Estimated Well Yield 40 gpm

Owner Address: 10402 Oakdale Dr Huntley, IL

Address of well: 20106 Beck Rd
Marengo, IL

Location source: Global Positioning System verified — Verified on . by: VJA

Permit Date: January 29, 2018 **Permit #:** 111-012

COMPANY Binz, David Joseph

FARM Rock Creek Homes

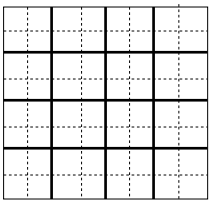
DATE DRILLED August 3, 2018 **NO.**

ELEVATION **COUNTY NO.** 45945

LOCATION NE NE NE

LATITUDE 42.196172 **LONGITUDE** -88.589514

COUNTY McHenry **API 121114594500** **24 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
top soil	0	1
stoney brown clay	1	7
sand/gravel	7	20
gray clay	20	47
sand/gravel	47	61
Total Depth		**61**

Casing: 5" PVC SDR 17 from 0' to 57'
5" SCREEN from 57' to 61'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 50.

Water from sand/gravel at 57' to 61'.
Static level 10' below casing top which is 1' above GL
Pumping level 14' when pumping at 2 gpm for 2 hours
Permanent pump installed at 40'
on February 17, 2022, with a capacity of 20 gpm

Remarks: Driller's Estimated Well Yield 30 gpm

Owner Address: 3521 Blue Ridge Ct C'ville, IL

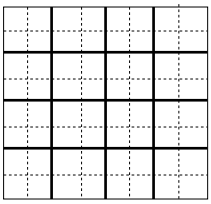
Address of well: 20318 Halverson Dr
Marengo, IL

Location source: Global Positioning System verified

Verified by: VJA
on October 1, 2022.

Permit Date: September 7, 2021 **Permit #:** 111-251

COMPANY Keller, Larry
FARM Noyalinski, D
DATE DRILLED February 8, 2022 **NO.**
ELEVATION **COUNTY NO.** 46332
LOCATION NE NW NE
LATITUDE 42.195833 **LONGITUDE** -88.595
COUNTY **McHenry** **API 121114633200** **24 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
gravel	0	1
clay & gravel	1	5
gravel	5	40
clay & gravel	40	59
gravel	59	70
Total Depth		**70**

Casing: 5" PVC SDR 21 from 0' to 66'
5" SCREEN/SS from 66' to 70'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE/SLURRY from 0 to 66.

Water from gravel at 66' to 70'.
Static level 16' below casing top which is ' above GL
Pumping level 18' when pumping at 25 gpm for 5 hours
Permanent pump installed at 60'
on October 19, 2022, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 25 gpm

Owner Address: 606 Blackhawk Lane Marengo, IL

Address of well: 20218 Halverson Dr
Marengo, IL

Location source: Global Positioning System verified — Verified by: VJA on April 2, 2023.

Permit Date: November 8, 2021 **Permit #:** 111-21-

COMPANY Huemann, Joseph J.

FARM Timke, Eric & Ally

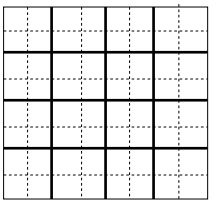
DATE DRILLED October 11, 2022 **NO.**

ELEVATION **COUNTY NO.** 46381

LOCATION NW NE NE

LATITUDE 42.196342 **LONGITUDE** -88.5919

COUNTY **McHenry** **API 121114638100** **24 - 43N - 5E**



APPENDIX B2

PRIVATE WATER WELL LOGS
ONE-MILE RADIUS
2014 CUP WELLS

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
brown stoney clay	2	82
sand gravel	82	90
brown stoney clay	90	160
black rock & shale	160	180
gray limestone	180	260
Total Depth		**260**

Casing: 5" PVC from 0' to 159'
5" STEEL from 159' to 180'

Grout: BENTONITE from 0 to 100.

Water from limestone at 180' to 260'.
Static level 70' below casing top which is 1' above GL
Pumping level 140' when pumping at 10 gpm for 12 hours
Permanent pump installed at 200'
on February 15, 2002, with a capacity of 10 gpm
Remarks: driller's est. well yield 15 gpm

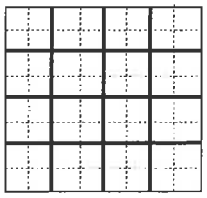
Additional location info: Lot: 13 Subdivision: Coral Woods

Address of well: 7612 Corral Oaks Lane
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 24, 2009.

Permit Date: July 19, 2001 **Permit #:** 111-H63

COMPANY Keller, Larry
FARM Weck, Daniel
DATE DRILLED February 14, 2002 **NO.**
ELEVATION **COUNTY NO.** 40115
LOCATION NE NW SE
LATITUDE 42.217861 **LONGITUDE** -88.615185
COUNTY McHenry **API** 121114011500 **11 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Water Well for Commercial Operation	Top	Bottom
topsoil	0	2
gravel	2	5
clay	5	120
shale & limestone	120	175
limestone	175	220
Total Depth		**220**

Casing: 5" PVC F480 from 0' to 103'
5" STEEL A53B from 103' to 124'

Grout: BAROID from 0 to 124.

Water from limestone at 120' to 220'.
Static level 40' below casing top which is 1' above GL
Pumping level 100' when pumping at 10 gpm for 2 hours

Permanent pump installed at 100'
on July 9, 2009, with a capacity of 10 gpm

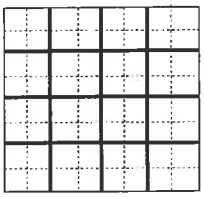
Remarks: Driller's Estimated Well Yield 20 gpm

Address of well: 7515 S Rt 23
Marengo, IL

Location source: Location from permit

Permit Date: November 19, 2008 **Permit #:** 111-046

COMPANY Nice, Mark E.
FARM Pace Construction / Griebel
DATE DRILLED July 6, 2009 **NO.**
ELEVATION **COUNTY NO.** 43841
LOCATION NE SE SW
LATITUDE 42.213333 **LONGITUDE** -88.62
COUNTY McHenry **API** 121114384100 **11 - 43N - 5E**



GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Engel, Ed Well No. _____
Address 8001 South Rt. #23 Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 125262 Date 07/16/86
12. Water from limestone 13. County McHenry
at depth 116 to 125 ft. Sec. 11
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. 845

15. Casing and Liner Pipe 550' N 2500' E SWc

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	116

16. Size hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & gravel	16	18
clay	35	53
sand	4	57
clay	59	116
limestone	9	125

McHenry 12-111-25276-00 11-43N-05E

UMER HEALTH PROTECTION, 535 WEST
. DO NOT DETACH GEOLOGICAL/WATER
PROPE LOCAT

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed April 18, 1978

10. Property owner Edward Engel Sr. Well No. _____
Address 404 Washington St. Yorkville Ill.
Driller Paul Barker License No. 92-563
11. Permit No. _____ Date _____
12. Water from Limestone (Formation) 13. County _____
at depth 172 to 225 ft. Sec. 11
14. Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Blk. 15 per Ft.	0	125

SHOW LOCATION IN SECTION PLAT
75'NL 60'EL
NE SE SW
(permit)

16. Size Hole below casing: 5 in.
17. Static level 42 ft. below casing top which is 8 inches ft. above ground level. Pumping level 105 ft. when pumping at 6-8 gpm for 3 hours. Sub pump @ 153'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Topsoil	0	2
Sand and Gravel	2	15
Clay and Sandy	15	60
Gravel and Clay	60	75
Clay and some Gravel	75	95
Clay hard	95	115
Clay and Gravel	115	125
Shale	125	172
Limestone	172	225

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 6-1-78

COUNTY No 23295

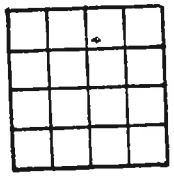
1 MCHENRY 11-43N-5E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 10-24-74

1. Property owner Leo Higgins Well No. ____
Address 7413 South Rt. 23, Marengo, Ill.
Driller DuPage Pump, Inc. License No. 102-3
1. Permit No. 30531 Date 6-13-74
2. Water from Limestone Formation 13. County McHenry
at depth ____ to ____ ft.
4. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 11
Twp. 43N
Rge. 5E
Elev. ____



SHOW LOCATION IN SECTION PLAT
SW NW NE
(permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Steel 14.98	0	205'

16. Size Hole below casing: 5 in.
17. Static level ____ ft. below casing top which is 8 ft.
above ground level. Pumping level 80 ft. when pumping at 12
gpm for 2 hours. Sub. pump set at 140'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Drift	205'	205'
Limestone	50'	255'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Roger Yeoman DATE 10-29-74

COUNTY No. 22175

3
MC HENRY

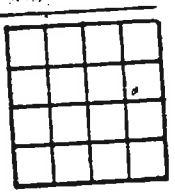
11-43N-5E

HEALTH PROTECTION, 535 WEST
O NOT DETACH GEOLOGICAL/WATER
PER WELL LOCATION

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 8-17-1979

Property owner [illegible] Well No. ____
Address [illegible] License No. [illegible]
Driller [illegible] Date [illegible]
Permit No. ____
Water from [illegible] 13. County [illegible]
Formation
at depth ____ to ____ ft.
Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 11
Twp. [illegible]
Rge. [illegible]
Elev. ____



SHOW LOCATION IN SECTION PLAT
SW SE NW
(permit)

. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	[illegible]	0	179
	[illegible]		

6. Size Hole below casing: 5 in.
7. Static level [illegible] ft. below casing top which is [illegible] ft.
above ground level. Pumping level [illegible] ft. when pumping at [illegible]
gpm for ____ hours. Sub pump set at 100'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Sand & Gravel	15	20
Clay & Gravel	116	136
Gray Clay	43	179
Limestone	56	235

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [illegible] DATE [illegible]/79

MCHENRY

COUNTY No. 23535

11-43N-5E

4

...TATE OFFICE BUILDING, SPRINGFIELD, WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 5-3-76

. Property owner _____ Well No. _____

Address _____

Driller _____ License No. _____

. Permit No. _____ Date _____

. Water from _____ 13. County _____
Formation

at depth _____ to _____ ft. Sec. _____

1. Screen: Diam. _____ in. Twp. _____

Length: _____ ft. Slot _____ Rge. _____

Elev. _____

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

SHOW LOCATION IN SECTION PLAT
300'NL, 300'EL
NE NW SE
(permit)

.6. Size Hole below casing: _____ in.

.7. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED _____ DATE _____

COUNTY No. 22758

5 MC HENRY

11-43N-5E

...MER HEALTH PROTECTION, 535 WEST
. DO NOT DETACH GEOLOGICAL/WATER
PROP ...ELL LOCAT...

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed February 24, 1977

10. Property owner Matt Kanen Well No. _____

Address 21106 W. Coral Rd. Marengo Ill.

Driller Paul Barker License No. 92-563

11. Permit No. 56747 Date February 10 1977

12. Water from Rock 13. County McHenry
Formation

at depth 220 to 240 ft. Sec. 11

14. Screen: Diam. _____ in. Twp. 43 N

Length: _____ ft. Slot _____ Rge. ~~6~~ 5 E

Elev. ~~696~~

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per ft.	0	188

SHOW LOCATION IN SECTION PLAT
80'SL 100'EL
NE NE SE
(permit)

16. Size Hole below casing: 5 in.

17. Static level 60 ft. below casing top which is 10 inches ft. above ground level. Pumping level 100 ft. when pumping at 20 gpm for 1 hours. Sub pump @ 126'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
~~Gravel~~	0	20
Clay	20	188
~~Rock~~	~~188~~	~~195~~
shale	195	220
Rock	220	240

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 3-8-77

COUNTY No. 23296

MCHENRY

11-43N-5E

UMER HEALTH PROTECTION, 535 WEST
1. DO NOT DETACH GEOLOGICAL/WATER
PROPER WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed December 1, 1978

10. Property owner Stephen Kostner Well No. _____
Address 7905 Rt 23 Marengo, Illinois
Driller Paul Barker License No. 92 563
11. Permit No. 74990 Date 6/1/78
12. Water from Limestone Formation 13. County McHenry
at depth 172 to 295 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 11
Twp. 43N
Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Black Steel	0	171
	15 lbs per ft		

SHOW LOCATION IN SECTION PLAT
100'SL 110' WL SE (permit)

16. Size Hole below casing: 5 in.
17. Static level 190 ft. below casing top which is 1 ft. above ground level. Pumping level 210 ft. when pumping at 10 gpm for 4 hours. Sub pump @ 231'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Sand	55	60
Shale	111	171
Limestone	124	295

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 2/6/79

7 MCHENRY COUNTY No 23297 11-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Landwehr, Dave Well No. _____
Address 629 Maple St. Marengo IL
Driller Stone, James R. License No. 102-2524
11. Permit No. 98646 Date 03/09/81
12. Water from gravel 13. County McHenry
at depth _____ to _____ ft.
14. Screen: Diam. .8 in.
Length: 4 ft. Slot 15
Sec. 11
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe SE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PVC	-1	77

16. Size hole below casing: _____ in.
17. Static level 30 ft. below casing top which is 1 ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
no record	77	77

McHenry 12-111-23863-00 11-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Lopez, Angel Well No. _____
Address 3731 W. Shakespeare Chicago IL
Driller Keller, Larry License No. 092-7210
11. Permit No. 111-G1372-95 Date 08/03/95
12. Water from sand / gravel 13. County McHenry
at depth 112 to 116 ft. Sec. 11
14. Screen: Diam. 5 in. Twp. 43 N
Length: 4 ft. Slot 20 Rge. 5 E
Elev. _____

SE SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 21 ASTM	0	112

16. Size hole below casing: _____ in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at 10 gpm for 24 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
brown clay	108	110
sand & gravel	6	116

Household - Private

McHenry 12-111-34357-00 11-43N-05E

MER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER WELL LOCATIO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 8/3/75

10. Property owner Robert Madonia Well No. _____
Address 1339 N. Thatcher River Forest, Ill. 60305
Driller Boetsch Water Supply License No. 92-436
11. Permit No. 39067 Date 7/5/75
12. Water from Limestone (Formation) 13. County MCHenry
at depth 255 to 275 ft. Sec. 11
14. Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. _____

SHOW LOCATION IN SECTION PLAT
NW NW NW
(permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	PVC	1	255

16. Size Hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 160 ft. when pumping at 12 gpm for 2 hours. Sub. pump set at 200'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top soil	1	1
Red clay	17	18
Sand and gravel	4	22
Pink clay	178	200
Shell rock and shale	55	255
Limestone	20+	275+

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm Boetsch DATE 2/2/76

COUNTY No. 22574

MC HENRY 11-43N-5E

TOWN Marengo TOWNSHIP Riley R. 5E

COMPANY Lucy H. Van Hoozen NO. T. SEC.

FARM Markison, Henry NO. 43N 11

DATE DRILLED 1943

AUTHORITY Lucy H. Van Hoozen

COLLECTOR ELEVATION 862 TM

600' S. line, 1300' W. line, of NW

Cc# 715

Strata	Thickness Feet	Thickness In.	Depth Feet	Depth In.
Gravel	12		12	
Red clay	8		20	
Hardpan	11		31	
Redclay	38		69	
Hardpan	9		78	
Black sand	5		83	
Sand	17		100	
Sand, gravel	18		118	
Blue clay	14		132	
Sand	9		141	
Blue clay	17		158	
Black dirt	11		169	
Rock	23		192	

Finished in rock at 169' to 192'
6" galv steel casing from 0 to 169'
Hole below casing 6"
Static level from surface 60'
Tested capacity 10 g.p.m.
Water not lowered
Test 4 hrs.

NO ENVELOPE

COUNTY Mc Henry 11-43N-5E

SAMPLE SET NO.

(84107—20M—6-45) 2

ILLINOIS GEOLOGICAL SURVEY, URBANA

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Miller, Reggie Well No. ____
Address 7719 Edwardville German Vly IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 016538 Date 01/08/90
12. Water from limestone 13. County McHenry
at depth 182 to 280 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 11
Twp. 43 N
Rge. 5 E
Elev. ____

NW SE NW

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	182

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 70 ft. when pumping at ____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & gravel	48	50
clay	132	182
limestone	98	280

Household - Private

McHenry 12-111-29985-00 11-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner O'Brien, Dan Well No. _____
Address 801 Clinton Palace River Forest IL
Driller Grosch, Wayne A. License No. 102-2557
11. Permit No. 123618 Date 05/12/86
12. Water from _____ 13. County McHenry
at depth _____ to _____ ft. Sec. 11
14. Screen: Diam. 12 in. Twp. 43 N
Length: 25 ft. Slot .05 Rge. 5 E
Elev. _____

15. Casing and Liner Pipe SW NE SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
12	PLAIN STEEL	0	52
12	STEEL SCREEN	52	77

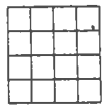
16. Size hole below casing: _____ in.
17. Static level 22 ft. below casing top which is 0 ft. above ground level. Pumping level _____ ft. when pumping at 823 gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
fine to crs gravel	10	10
brown clay	5	15
fine to crs gravel	41	56
brown clay	2	58
embedded clay	19	77

McHenry 12-111-25086-00 11-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Munro, Shane & Wendy Well No. _____
Address 214 Adams St. Marengo IL
Well address 7510 Oak Creek Dr. Marengo, IL
Lot 7 Subd Coral Woods ISWS P# 322552
Driller Binz, David Joseph License No. 102-2680
Permit No. H1562 Date 09/24/1999
Water from gravel County McHenry
at depth 137 to 140 ft. Sec. 11
Screen: Diam. 5 in. Twp. 43 N
Length: 3 ft. Slot 25 Rge. 5 E
Elev. _____



Casing and Liner Pipe SE NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	137
5	STAINLESS STL SCREEN	137	140

Size hole below casing: _____ in.
Static level 55 ft. below casing top which is 2 ft. above ground level. Pumping level 80 ft. when pumping at 15 gpm for 2 hours.

Formations passed through	Thickness	Bottom
red clay	2	2
gravel	12	14
gray clay	31	45
gravel	5	50
gray clay	50	100
gravel	40	140

Household - Private

McHenry 12-111-37406-00 11-43N-5E

SUMER HEALTH PROTECTION, 535 WEST
1. DO NOT DETACH GEOLOGICAL/WATER
PROP L LOCA' N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Russ Schrader Well No. 17377
Address Marengo
Driller Livingston License No. 102-146
11. Permit No. 60144 Date May 5-77
12. Water from drift 13. County McHenry
Formation
at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 11
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	A-53	0	114

SHOW LOCATION IN SECTION PLAT
SE SW SW
(permit)

16. Size Hole below casing: ____ in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 73 ft. when pumping at 10 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	2	
red clay & gravel	40	42
" " "J" Sand	60	102
sand & gravel	6	108
gravel	6	114

(CONTINUE ON SEPARATE SHEET IF NECESSARY)
SIGNED Lowell Livingston DATE 10-10-77
COUNTY No. 23298
9 MCHENRY 11-43N-5E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 4-30-69

0. Property owner Lillian C. Petersen Well No. ____
Address North east st. Marengo Ill.
Driller Charlie Sigrist License No. 92-135
1. Permit No. NE-59031 Date april 1969
2. Water from Sand gravel 13. County McHenry
Formation
at depth 121 to 165 ft.
.4. Screen: Diam. none in.
Length: ____ ft. Slot ____
Sec. 11
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	youngstown 15 lb. per. ft.	0	123

SHOW LOCATION IN SECTION PLAT
NE SE SW
(Permit)

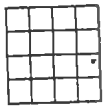
16. Size Hole below casing: 5 in.
17. Static level 17 ft. below casing top which is 1 1/2 ft. above ground level. Pumping level 67 ft. when pumping at 16 gpm for 1 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
0 To 50 ft. pink sandy clay		
50 To 55 ft. gravel		
55 To 70 Black shale		
70 To 80 gray shale		
80 To 90 sand		
90 To 105 sand and shale		
105 To 118 shale		
118 To 121 limestone		
121 To 155 Brown limestone		
155 To 165 Shale		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)
SIGNED Charles F. Sigrist DATE ____
COUNTY No. 631
McHENRY 11-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Georgieff, Jim & Cathy Well No. _____
Address 7702 N. Hill Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-F7099-93 Date 09/17/93
12. Water from limestone 13. County McHenry
at depth 320 to 400 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



NE NE SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL	0	330

16. Size hole below casing: 5 in.
17. Static level 100 ft. below casing top which is 1 ft. above ground level. Pumping level 110 ft. when pumping at _____ gpm for 4 hours.

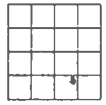
18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	318	320
limestone	80	400

Household - Private

McHenry 12-111-32816-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Garza, Mario Well No. _____
Address 4 N 830 Chaffield Dr. St. Charles IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 004287 Date 08/01/88
12. Water from gravel 13. County McHenry
at depth 210 to 215 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



NE SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	215

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 70 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	8	10
sandy clay	199	209
clay	1	210
gravel	5	215

Household - Private

McHenry 12-111-27043-00 12-43N-05E

QUESTED AND MAIL ORIGINAL TO STATE
OF ENVIRONMENTAL HEALTH, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER LOCATIO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed April 24, 1973

0. Property owner Larry Stankus Well No. _____
Address 5.3 Acres in the NE¼ of the SW¼ of the NE¼
Driller Boetsch Water Supply, Inc License No. 92-436
1. Permit No. NE 16582 Date _____
2. Water from shale (Formation) 13. County McHenry
at depth 200 to _____ ft. Sec. 11
14. Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. S.L.

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

SHOW LOCATION IN SECTION PLAT
NE SW NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
top soil	1	1
light brown clay	4	5
light pink clay	20	25
pink clay	10	35
sand and gravel	5	40
pink clay	20	60
dark gray shale	60	120
green shale	20	140
broken rock & shale	25	165
soft br. dry rock	5	180
hd. green shale, rock, water	20	200

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Boetsch Water Supply Inc DATE July 25, 1973
Mary A. Boetsch Huemann

COUNTY No. 7714

12

MC HENRY 11-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Unbehaun, Dennis Well No. _____
Address 5710 Marietta Crystal Lake IL
Driller Huemann, William F. License No. 102-1427
11. Permit No. 111-F7554-93 Date 11/01/93
12. Water from gravel 13. County McHenry
at depth 86 to 92 ft. Sec. 11
14. Screen: Diam. 5.62 in. Twp. 43 N
Length: 4 ft. Slot 15 Rge. 5 E
Elev. _____

NE NW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PVC	0	88

16. Size hole below casing: 9 in.
17. Static level 35 ft. below casing top which is 1 ft. above ground level. Pumping level 47 ft. when pumping at _____ gpm for 5 hours.

18. Formations passed through	Thickness	Bottom
frost	2	2
big boulders	1	3
clay	2	5
fine gravel & sand	10	15
fine gravel & clay	5	20
soft sandy clay	30	50
clay	36	86
fine gravel & sand	6	92

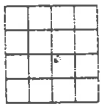
Household - Private

McHenry 12-111-32768-00 11-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Weck, Daniel Well No. _____
Address 119 S. Main St. Algonquin IL
Well address 21508 Coral Rd. Marengo, IL
Lot #1 Subd Coral Woods ISWS P# 309856
Driller Huemann, John J. License No. 092-7780
Permit No. G 8790 Date 08/25/1998
Water from gravel County McHenry
at depth 76 to 84 ft.
Screen: Diam. 5.62 in.
Length: 4 ft. Slot 15

Sec. 11
Twp. 43 N
Rge. 5 E
Elev. ____



Casing and Liner Pipe NW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PSI PVC 1120	0	80

Size hole below casing: _____ in.
Static level 35 ft. below casing top which is 1 ft. above ground level. Pumping level 48 ft. when pumping at 25 gpm for 8 hours.

Formations passed through	Thickness	Bottom
clay & gravel	1	1
black dirt	2	3
clay	73	76
gravel	8	84

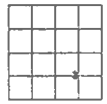
Household - Private

McHenry 12-111-36198-00 11-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Weck, John Well No. _____
Address 609 West Main St. West Dundee IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 001864 Date 05/12/88
12. Water from limestone 13. County McHenry
at depth 152 to 380 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 11
Twp. 43 N
Rge. 5 E
Elev. ____



15. Casing and Liner Pipe SE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	152

16. Size hole below casing: 5 in.
17. Static level 30 ft. below casing top which is 1 ft. above ground level. Pumping level 40 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sandy clay	150	152
hard shale	18	170
limestone	210	380

Household - Private

McHenry 12-111-26825-00 11-43N-05E

ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROP WELL LOCAT N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed February 22, 1977

0. Property owner Richard E, Dana Well No. _____
Address Coral Oaks, Rd. Marengo, Ill.
Driller Paul Barker License No. 92-563
11. Permit No. 51528 Date August 27,77
12. Water from Rock (Formation) 13. County McHenry
at depth 120 to 126 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 11
Twp. 43 N
Rge. 5 E
Elev. _____

SHOW LOCATION IN SECTION PLAT

L 16 Coral Woods Sd.
SW NW SE
(permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15 # per ft.	0	120

16. Size Hole below casing: 5 in.
17. Static level 30 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 10 gpm for 4 hours. Sub pump @ 84'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ DEP	DEPTH OF BOTTOM
Clay	0	120
Rock	120	126

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 3-21-77

COUNTY NO 23294

MCHENRY

11-43N-5E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	265
shale	265	270
limestone	270	380
Total Depth		**380**

Casing: 5" PVC F480 from 0' to 249'
5" STEEL A53B from 249' to 270'

Grout: BAROID from 0 to 269.

Water from limestone at 270' to 380'.
Static level 90' below casing top which is 1' above GL
Pumping level 240' when pumping at 10 gpm for 2 hours

Permanent pump installed at 240'
on June 24, 2002, with a capacity of 10 gpm

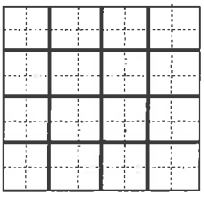
Remarks: driller's est. well yield 15 gpm

Address of well: 8018 Maple St.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 28, 2009.

Permit Date: April 2, 2002 **Permit #:** 111-H80

COMPANY Nice, Mark E.
FARM Gallaugher, Gary
DATE DRILLED June 21, 2002 **NO.**
ELEVATION **COUNTY NO.** 40151
LOCATION SW SW SE
LATITUDE 42.212139 **LONGITUDE** -88.597323
COUNTY McHenry **API** 121114015100 **12 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	270
limestone & shale	270	340
Total Depth		340

Casing: 5" BLACK STEEL 15#/FT from 0' to 270'

Grout: CUTTINGS from 0 to 270.

Size hole below casing: 5"

Water from limestone & shale at 270' to 340'.
Static level 100' below casing top which is 1' above GL
Pumping level 110' when pumping at gpm for 4 hours

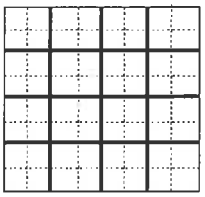
Permanent pump installed at 280'
on March 8, 1989, with a capacity of 20 gpm

Address of well: 7503 Hill Rd.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 28, 2009.

Permit Date: November 10, 1988 **Permit #:** 007685

COMPANY Nice, Craig
FARM Nazimek, Andrew
DATE DRILLED March 1, 1989 **NO.**
ELEVATION **COUNTY NO.** 27276
LOCATION SW SE NE
LATITUDE 42.219959 **LONGITUDE** -88.592691
COUNTY McHenry **API** 121112727600 **12 - 43N - 5E**



LOG OF WATER WELL

perty owner ______ Well No. ______

lled by ______ Year ______

Formations passed through	Thick-ness	Depth of Bottom
COUNTY No. 707		

[Continue on back if necessary]

'inished in ______ at ______ to ______ ft.

Cased with ______ inch ______ from 0 to ______ ft.

and ______ inch ______ from ______ to ______ ft.

Size hole below casing ______ inch. Static level from surf. ______ ft.

Tested capacity ______ gal. per min. Temperature ______ °F.

Water lowered to ______ ft. ______ in. in ______ hrs. ______ min.

Length of test ______ hrs. ______ min. Screen ______

Slot ______ Diam. ______ Length ______ Bottom set at ______ ft.

[Show location in Section Plat]

Township name Riley Elev. 930 Sec. 12

Description of location ______ Twp. 43N

SE ______ Rge. 5E

Signed ______ County McHenry

Copy for Illinois State Geological Survey Index: 12-43N-5E

ILLINOIS GEOLOGICAL SURVEY, URBANA

rmit #53812	Thickness	Top	Bottom
p soil		0	1
d clay		1	160
een shale		160	200
ite shale		200	260
ue shale		260	310
own and white limestone		310	415 TD

ater from limestone 310'-370'

asing: 5" black steel 1'-310'

ize of hole below casing: 5"

tatic level 150' below casing top which is 1' above ground level. Pumping level 250' when pumping at 5 gpm for 2 hours.

ubmersible pump set at 200'

amma log filed

OMPANY	Boetsch Well Drilling
FARM	Witek, Jerome P. NO. 1
DATE DRILLED	October 20, 1976 COUNTY NO. 22757
AUTHORITY	Company
ELEVATION	951' T.M.
LOCATION	1000' N line, 800' E line NE
COUNTY	MC HENRY

12-43N-5E

...STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 7-20-73

0. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
1. Permit No. _____ Date _____
2. Water from _____ (Formation) 13. County _____
at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot _____

Sec. ____
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
6	[illegible]	[illegible]	280

SHOW LOCATION IN SECTION PLAT

100'NL, 200'EL OF SE SW NE (permit)

16. Size Hole below casing: 6 in.
17. Static level [illegible] ft. below casing top which is _____ ft. above ground level. Pumping level 185 ft. when pumping at 12 gpm for [illegible] hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
CLAY	[illegible]	100
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
SHALE	30	319
LIMESTONE	7[illegible]	329

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Dan Silvius DATE July 22-73
John [illegible]

COUNTY No. 1798

MCHENRY 22 12-43N-5E

LOG OF WATER WELL

Property owner EARL WHITE Well No. _____
Drilled by SILVIUS BROS Year 66
Permit #1366

Formations passed through	Thickness	Depth of Bottom
RED CLAY	50	50
SANDY CLAY	140	190
SANDY GRAVEL	5	195
GRAY CLAY	105	300
SHALE	25	325
LIMESTONE	25	350

COUNTY No. 706

Received 4-3-67.

[Continue on back if necessary]

Finished in LIMESTONE at 325 to 350 ft.
Cased with 5 inch from 0 to 325 ft.
and ____ inch from ____ to ____ ft.
Size hole below casing 5 inch. Static level from surf. 140 ft.
Tested capacity 24 gal. per min. Temperature ____ °F.
Water lowered to 140 ft. ____ in. in 3 hrs. ____ min.
Length of test 3 hrs. ____ min. Screen _____
Slot ____ Diam. ____ Length ____ Bottom set at ____ ft.
[Show location in Section Plat]

Township name RILEY Elev. ____
Description of location 220'S 975'W NE SW NE SE

Sec. 12
Twp. 43N
Rge. 5E

Signed Dan Silvius County McHENRY

MCHENRY 12-43N-5E

Copy for Illinois State Geological Survey 33 Index:

18. Formations passed through (continued)	Thickness	Bottom
broken limestone w/paste	6	216
soft shaley creviced limestone bedrock	6	222

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Waite Group, The Well No. #1
Address 203 Meadow Ln Cary IL
Driller Snelton, Stephen A. License No. 102-3167
11. Permit No. 111-F-5136 Date 09/14/92
12. Water from limestone 13. County McHenry
at depth 222 to 224 ft.
14. Screen: Diam. 5 in.
Length: 4 ft. Slot 25
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____

SW SE SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	22	201
5	A53 BLK STL	201	222

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at ____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
black dirt	2	2
yellow clay	5	7
sand & heavy gravel	2	9
red clay	91	100
blue-green shale	15	115
red sand	12	127
red clay	73	200
grey clay	8	208
red clay	2	210

Household - Private

McHenry 12-111-31729-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Tracy Homes Well No. _____
Address % Gordon Schmabel 2793 Stone Quarry Belvidere IL
Well address N. Hill Rd. Marengo, IL
Lot 7 Subd Coral Woods ISWS P# 320291
Driller Nice, Mark E. License No. 102-3209
Permit No. H1117 Date 08/02/1999
Water from limestone County McHenry
at depth 343 to 350 ft.
Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____

Casing and Liner Pipe SE NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	322
5	STEEL ASTM A53B	322	343

Size hole below casing: _____in.
Static level 170 ft. below casing top which is 1 ft.
above ground level. Pumping level 240 ft. when pumping at 10
gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	341	343
limestone	7	350

Household - Private

McHenry 12-111-37256-00 12-43N-5E

CONSUMER HEALTH PROTECTION, 535 WEST
61. DO NOT DETACH GEOLOGICAL/WATER
E PROP LL LOCA N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed March 17, 1979

10. Property owner Leo R. Waeghe Well No. _____
Address 36 Sunnybrook Drive, Doylestown, PA
Driller William M. Boetsch License No. 92-436
11. Permit No. 80842 Date 10/17/78
12. Water from limestone (Formation) 13. County McHenry
at depth 360 to 420 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot_____
Sec. 12
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	pvc	1	318

SHOW LOCATION IN SECTION PLAT
L 5 Robert Bartlett's Coral Woods

16. Size Hole below casing: 5 in. Sd. 180'SL 80'WL SE NE
17. Static level 150 ft. below casing top which is 1 SE (permit) above ground level. Pumping level 250 ft. when pumping at 10 gpm for 2 hours. Sub pump @ 300'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
brown clay	60	60
pink clay	210	270
pink clay with gravel	39	309
broken rock and pink clay	22	331
green shale	29	360
limestone	60	420

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm. M. Boetsch DATE 4/9/79

COUNTY No 23307

21 MCHENRY 12-43N-5E

ESTED AND MAIL ORIGINAL TO STATE DE-
STATE OFFICE BUILDING, SPRINGFIELD,
L/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7-26-72

10. Property owner Mabel M. Thomas Well No. 1
Address Hill Rd. Marengo, Ill.
Driller Paul Barker License No. 92-563
11. Permit No. 12942 Date June 8, 1971
12. Water from Limestone (Formation) 13. County McHenry
at depth 219 to 263 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 12
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Galv. 15#	0	219

SHOW LOCATION IN SECTION PLAT
80'SL 80'WL of SE SE (permit)

16. Size Hole below casing: 5" in.
17. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at 20 gpm for 24 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	0-5	
Yellow Clay	5-45	
Red Clay	45-55	
Red Clay	55-110	
Blue Clay	110-136	
Fine Sand	136-160	
Gravel & Clay	160-180	
Gravel & Sand	180-195	
Hard Pan	195-219	
Rock	219-262	

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE July 26, 1972

20
MC HENRY

COUNTY No. 16.42..

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Tierney, Mike & Rebecca Well No. ____
Address 7712 N. Hill Rd. Marengo IL
Driller Huemann, John J. License No. 092-7780
11. Permit No. 111-G3879-96 Date 07/24/96
12. Water from limestone 13. County McHenry
at depth 328 to 385 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____

15. Casing and Liner Pipe NW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PVC SDR 21 ASTM	0	328

16. Size hole below casing: ____ in.
17. Static level 140 ft. below casing top which is 1 ft. above ground level. Pumping level 190 ft. when pumping at 10 gpm for 6 hours.

18. Formations passed through	Thickness	Bottom
clay	68	68
gravel	5	73
clay & gravel	255	328
limestone	57	385

Household - Private

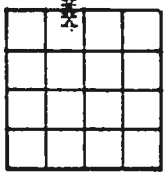
McHenry 12-111-34708-00 12-43N-05E

5, STATE OFFICE BUILDING, SPRINGFIELD,
CAL / WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 9-25-72

10. Property owner Martin Smith Well No. 1
Address Ratfield Road & Mapel St. Marengo
Driller Paul Barker License No. 92-563
11. Permit No. 15619 Date July 14, 1972
12. Water from Rock Formation 13. County McHenry
at depth 299 to 399 ft. Sec. 12
14. Screen: Diam. ____ in. Twp. 43N
Length: ____ ft. Slot ____ Rge. 5 E
Elev. 955



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15 # Per. Ft.	o	299

SHOW LOCATION IN SECTION PLAT
80'NL 70'EL of NE NENNW (permit)

16. Size Hole below casing: 5 in.
17. Static level 170 ft. below casing top which is 1 ft. above ground level. Pumping level 190 ft. when pumping at 15 gpm for 4 hours. Sub. pump set at 250'

18. FORMATIONS PASSED THROUGH		THICKNESS	DEPTH OF BOTTOM
Top Soil	Clay	0	20
Clays	Gravel	20	90
Gravel	Blue Clay	90	126
Blue Clay	Shale	126	299
~~Shales~~ Shale	Rock	299	399

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE Sept. 30, 1972

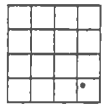
19
MC HENRY

COUNTY No. 22177

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Spears, John Well No. ____
Address % Quality Construction 5118 Hill Rd. Marengo IL
Driller Huemann, William F. License No. 102-1427
11. Permit No. 127496 Date 10/23/86
12. Water from gravel 13. County McHenry
at depth 133 to 141 ft. Sec. 12
14. Screen: Diam. 5 in. Twp. 43 N
Length: 4 ft. Slot 25 Rge. 5 E
Elev. ____



15. Casing and Liner Pipe NW SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PVC	0	137

16. Size hole below casing: 7.87 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at 15 gpm for 3 hours.

18. Formations passed through	Thickness	Bottom
top soil	3	3
clay	130	133
gravel	11	144

McHenry 12-111-25463-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Scholl, John Well No. _____
Address 9210 Conestoga Trail Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 132656 Date 06/15/87
12. Water from gravel 13. County McHenry
at depth 279 to 303 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	303

16. Size hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 90 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	277	279
gravel	24	303

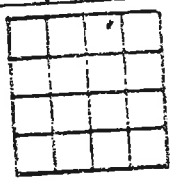
McHenry 12-111-26063-00 12-43N-05E

UNDER HEALTH PROTECTION, 535 WEST
1. DO NOT DETACH GEOLOGICAL WATER
PRO WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed October 23, 1978

10. Property owner Howard Seedorf Well No. _____
Address Beth Court Marengo, Ill
Driller Paul Barker License No. 92 563
11. Permit No. 75257 Date 6/8/78
12. Water from Limestone 13. County McHenry
Formation
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43N
Rge. 5E
Elev. 869



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Black Steel	0	316
	15 lbs per ft		

SHOW LOCATION IN SECTION PLAT
L 4 Little Creek Sd. 100'NL 110'

16. Size Hole below casing: 5 in. EL NW NE (permit) 1 ft.
17. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours. Sub pump @ 280'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	4	4
Clay & Sand	216	220
Shale	96	316
Limestone	99	415

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE ~~23~~ 12/15/78

MCHENRY COUNTY No. 23306

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Rizzo, Vince Well No. _____
Address 1323 Sebring Cir. Elgin IL
Well address 20218 Coral Rd. Marengo, IL
Lot 45 Subd Bartlett's Coral Wds ISWS P# 301579
Driller Keller, Larry License No. 092-7210
Permit No. G-6299 Date 08/03/1997
Water from limestone County McHenry
at depth 237 to 320 ft.
Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

NW SE SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	226
5	STEEL ASTM A53B 15#	226	237

Size hole below casing: _____ in.
Static level 120 ft. below casing top which is 1 ft.
above ground level. Pumping level 200 ft. when pumping at 20
gpm for 4 hours.

Formations passed through	Thickness	Bottom
brown stony - sandy clay	35	35
sand & gravel	5	40
brown stony - sandy clay	98	138
dark brown peat	5	143
dark gray sticky clay	2	145
gray - green stony - clay	7	152
brown stony clay	85	237
limestone	83	320

Household - Private

McHenry 12-111-35403-00 12-43N-5E

ONSUMER HEALTH PROTECTION, 535 WEST
62761. DO NOT DETACH GEOLOGICAL/WATER
IDE PRO[illegible]ELL LOC ON.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed August 27, 1979

10. Property owner [illegible] Well No. _____
Address [illegible]
Driller [illegible] License No. [illegible]
11. Permit No. [illegible] Date 5-16-79
12. Water from [illegible] 13. County [illegible]
Formation
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43N
Rge. 5E
Elev. [illegible]

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	STEEL 14#		237

SHOW LOCATION IN SECTION PLAT
L 6 Little Creek Sd.
NW NW NE (permit)

16. Size Hole below casing: 5 in.
17. Static level _____ ft. below casing top which is _____ ft.
above ground level. Pumping level 200 ft. when pumping at 20
gpm for 2 hours. Sub pump @ 260'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
DIRT	35	35
LIMESTONE	85	320

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [illegible] DATE 5/31/79

MCHENRY COUNTY No. 23305 12-43N-5E

17

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Peck, Bill Well No. _____
Address 605 E. Grant Hwy. Marengo IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G4012-96 Date 08/21/96
12. Water from limestone 13. County McHenry
at depth 240 to 260 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

SE NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	220
5	STL ASTM A53B 15#/FT	220	241

16. Size hole below casing: _____ in.
17. Static level 100 ft. below casing top which is 1 ft. above ground level. Pumping level 220 ft. when pumping at 12 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
sandy clay	238	240
limestone	20	260

Household - Private

McHenry 12-111-34918-00 12-43N-05E

SUMER HEALTH PROTECTION, 525 WEST
61. DO NOT DETACH GEOLOGICAL/WATER
E PRL WELL LOC ON.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed October 31, 1978

10. Property owner Anthony Render Well No. _____
Address 255 E. Palatine Rd Palatine, Ill
Driller Paul Barker License No. 92 563
11. Permit No. 78390 Date 8/21/78
12. Water from Limestone (Formation) 13. County McHenry
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43N
Rge. 5E
Elev. 495

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Black Steel	0	295
	15 lbs per ft		

SHOW LOCATION IN SECTION PLAT
L 5 Little Creek Sd.
100'NL 75'EL

16. Size Hole below casing: 5 in. NW NW NE (permit)
17. Static level 230 ft. below casing top which is 1 ft. above ground level. Pumping level 210 ft. when pumping at 10 gpm for 5 hours. Sub pump @ 200'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	4	4
Clay & Gravel	161	165
Gravel	8	173
Clay & Gravel	122	295
Limestone	12~~5~~	307

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 12/15/78

MCHENRY COUNTY No 23309

12-43N-5E

ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROP L LOCA

Completed September 22, 1978

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property: Lot 1 Little Creek Sub, Marengo

10. Property owner Donald Nash Well No. _____
Address 121 Aberdeen St., Hoffman Estates, IL
Driller Wm. Huemann License No. 102-142
11. Permit No. 73598 Date 4/27/78
12. Water from Limestone Formation 13. County McHenry
at depth 353 to 438 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 1/2
Twp. 43N
Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	200 lb P.V.C.	0	353
5	Black	353	438

SHOW LOCATION IN SECTION PLAT
L 1 Little Creek Sd.
NE NE NW
(permit)

16. Size Hole below casing: 7-7/8 in.
17. Static level 175 ft. below casing top which is 2 ft. above ground level. Pumping level 180 ft. when pumping at 10 gpm for 12 hours. Sub pump @ 320'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	70ft	70ft
Sand	8ft	78ft
Clay	107ft	185ft
Clay & Sand	50ft	235ft
Clay & Gravel	105ft	340ft
Gravel, Sand & Clay	13ft	353ft
Limestone	85ft	438ft

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED William Huemann DATE 10-30-78

COUNTY No. 23303

MCHENRY

12-43N-5E

15

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Nazimek, Andrew Well No. _____
Address 203 Acorn Lane Lake in the Hills IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 007685 Date 11/10/88
12. Water from limestone & shale 13. County McHenry
at depth 270 to 340 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. [illegible]

15. Casing and Liner Pipe SW SE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	270

16. Size hole below casing: 5 in.
17. Static level 100 ft. below casing top which is 1 ft. above ground level. Pumping level 110 ft. when pumping at _____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	268	270
limestone & shale	70	340

Household - Private

McHenry 12-111-27276-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Metcalf, Ralph Well No. _____

Address 20718 West Coral Rd. Marengo IL

Well address same as above

Lot _____ Subd _____ ISWS P# 305967

Driller Nice, Mark E. License No. 102-3209

Permit No. G-8826 Date 08/31/1998

Water from limestone County McHenry

at depth 265 to 340 ft.

Screen: Diam. _____ in.

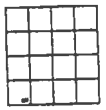
Length: _____ ft. Slot _____

Sec. 12

Twp. 43 N

Rge. 5 E

Elev. _____



Casing and Liner Pipe SE SW SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC/ASTM F480	0	244
5	STEEL/ASTM A53B	244	265

Size hole below casing: _____ in.

Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 200 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	263	265
limestone	75	340

Household - Private

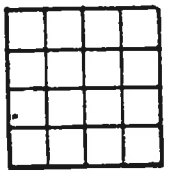
McHenry 12-111-35796-00 12-43N-5E

REQUESTED AND MAIL ORIGINAL TO STATE
CONSUMER HEALTH PROTECTION, 535 WEST
761. DO DETACH G LOGICAL/WATER
E PROP WELL LOC. N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed October 31, 1978

10. Property owner Larry Mortimer Well No. 1
Address Coral Rd., Marengo, Ill.
Driller Paul Barker License No. 92-563
11. Permit No. 72707 Date April 7, 1978
12. Water from Limestone (Formation) 13. County McHenry
at depth 270 to 310 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43N
Rge. 5E
Elev. _____



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Galvanized	0	248'

SHOW LOCATION IN SECTION PLAT
100' NL 75' WL
SW NW SW
(permit)

16. Size Hole below casing: 5" in.
17. Static level 100 ft. below casing top which is 8" ft. above ground level. Pumping level 110 ft. when pumping at 15 gpm for 1 hours. Sub pump @ 120'

18. FORMATIONS PASSED THROUGH	THICKNESS Top	DEPTH OF BOTTOM
Top Soil	0	4'
Clay	4'	36'
Clay & Gravel	36'	65'
Clay & Occa. Gravel	65'	120'
Clay	120'	145'
Clay & Fine Gravel	145'	198'
Yellow Limestone	198'	230'
Gray Limestone	230'	270'
Yellow Limestone	270'	310'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

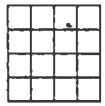
SIGNED Paul Barker DATE 12-10-78

COUNTY No 23302

14 MCHENRY 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Mein, Robert & Mary Well No. _____
Address 1331 Portage Ln. Woodstock IL
Well address 7510 N. Hill Rd. Marengo, IL
Lot N/2 6 Subd Coral Woods ISWS P# 306082
Driller Keller, Larry License No. 092-7210
Permit No. G-7556 Date 03/31/1998
Water from limestone County McHenry
at depth 357 to 380 ft.
Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



Casing and Liner Pipe SE NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	336
5	STEEL ASTM A53B	336	357

Size hole below casing: _____in.
Static level 165 ft. below casing top which is 1 ft.
above ground level. Pumping level 175 ft.when pumping at 12
gpm for 24 hours.

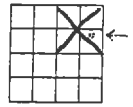
Formations passed through	Thickness	Bottom
brown stony clay	200	200
green stony clay	25	225
gray stony clay	30	255
brown stony clay	25	280
gray stony clay	60	340
blue clay	11	351
green clay	3	354
gravel & limestone	3	357
limestone	23	380

Household - Private

McHenry 12-111-35795-00 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Merz, Ken Well No. _____
Address 16 W 450 Honeysuckle Rose Hinsdale IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 138088 Date 12/08/87
12. Water from limestone 13. County McHenry
at depth 282 to 350 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	282

16. Size hole below casing: 5 in.
17. Static level 100 ft. below casing top which is 1 ft.
above ground level. Pumping level 120 ft.when pumping at 10
gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay & sand	280	282
limestone	68	350

McHenry 12-111-26537-00 12-43N-05E

EQUESTED AND MAIL ORIGINAL TO STATE
SUMER HEALTH PROTECTION, 535 WEST
51. DO NOT DETACH GEOLOGICAL/WATER
E PROF... WELL LOCA..ON.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed August 8, 1978

10. Property owner Bob Martens Well No. 1
Address Hill Rd. Robert BartletteCoral Woods, Marengo
Driller Paul Barker License No. 92-563
11. Permit No. 70695 Date Jan. 11, 1978
12. Water from Limestone (Formation) 13. County McHenry
at depth 400 to 415 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 12
Twp. 43N
Rge. 5E
Elev. 925±

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Blacksteel	0	320'

SHOW LOCATION IN SECTION PLAT
L 15 Robert Bart. Cor. Woods Sd. ~~80'~~

16. Size Hole below casing: 5" in. ~~NL 70' EL SE NE (permit)~~
17. Static level 170' ft. below casing top which is 0" ft. above ground level. Pumping level 100 ft. when pumping at 8 gpm for 1 hours. Sub pump @ 375'

18. FORMATIONS PASSED THROUGH	THICKNESS TOP	DEPTH OF BOTTOM
Top Soil	0/	3'
Clay & Sand & Gravel	3'	45'
Clay & Fine Gravel	45'	90'
Clay & F Sand & Occ. Fine Gravel	90'	270'
White Limestone	270'	275'
Clay & Sand & Fine Gravel	275'	315'
White Limestone	315'	400'
Brown Limestone	400'	415'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 9-1-78

13 MCHENRY COUNTY No. 23301 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Mau, Carol & Pat Well No. ____
Address 21704 Pleasant Grove Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-F6832-93 Date 07/21/93
12. Water from limestone 13. County McHenry
at depth 340 to 420 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____

15. Casing and Liner Pipe SE NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT.	0	340

16. Size hole below casing: 5 in.
17. Static level 140 ft. below casing top which is 1 ft. above ground level. Pumping level 150 ft. when pumping at ____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	338	340
limestone	80	420

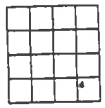
Household - Private

McHenry 12-111-32769-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Kowalski, Shawn & Tamara Well No. _____
Address % Real Log Homes 20217 W. Coral Rd. Marengo IL
Well address same as above
Lot 42 Subd Coral Woods ISWS P# 319612
Driller Huemann, John J. License No. 092-7780
Permit No. H0919 Date 07/15/1999
Water from gravel & clay County McHenry
at depth 274 to 277 ft.
Screen: Diam. 5.62 in.
Length: 4 ft. Slot 25

Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____



Casing and Liner Pipe NW SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	273
5.62	STAINLESS STL SCREEN	273	277

Size hole below casing: _____ in.
Static level 90 ft. below casing top which is 1 ft.
above ground level. Pumping level 105 ft. when pumping at 20
gpm for 6 hours.

Formations passed through	Thickness	Bottom
clay	3	3
sand & clay	121	124
dense clay	149	273
gravel & clay	4	277

Household - Private

McHenry 12-111-37255-00 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Kunde, Daryle Well No. _____
Address 446 Barbara Ct. Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-F6403-93 Date 06/03/93
12. Water from limestone 13. County McHenry
at depth 250 to 260 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 12
Twp. 43 N
Rge. 5 E
Elev. ____

15. Casing and Liner Pipe SW NW SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC SCHEDULE 40	0	230
5	BLK STEEL 15#/FT	230	251

16. Size hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft.
above ground level. Pumping level 90 ft. when pumping at _____
gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	248	250
limestone	10	260

Household - Private

McHenry 12-111-32575-00 12-43N-05E

...F ENVIRONMENTAL HEALTH, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
...PER WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 3-19-74

. Property owner Herbert Kende Well No. _____
Address Union, Illinois
Driller Boetsch Water Supply, Inc License No. 92-436
Permit No. NF19853 Date _____
. Water from Limestone Formation 13. County McHenry
at depth 273 to _____ ft.
4. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 12
Twp. 43N
Rge. 5E
Elev. _____

SHOW LOCATION IN SECTION PLAT

SW SW SW (Permit)

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

16. Size Hole below casing: _____ in.
17. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours. Submersible pump set at 120'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top soil	2	2
Brown clay	10	12
Pink clay	138	150
Broken rock and shale	50	200
Pink clay	40	240
Rock and shale streaks	33	273
Limestone		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Wm. M. Boetsch DATE 3-26-74

COUNTY No. 22002

12

MCHENRY

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Knisley, Darrell Well No. _____
Address 511 E. Van Buren Marengo IL
Well address 20315 Coral Marengo, IL
Lot _____ Subd _____ ISWS P# 312570
Driller Nice, Mark E. License No. 102-3209
Permit No. 111-H0540-99 Date 06/11/1999
Water from limestone County McHenry
at depth 227 to 235 ft.
Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

NE NE SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	206
5	STEEL ASTM A53B	206	227

Size hole below casing: _____ in.
Static level 75 ft. below casing top which is 1 ft. above ground level. Pumping level 120 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	225	227
limestone	8	235

Household - Private

McHenry 12-111-36815-00 12-43N-5E

ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
OF ...L LOCA ...K.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed November 2., 1978

1. Property owner Paul Holden Well No. ____
   Address 20307 Coral RD Marengo, Ill
   Driller Paul Barker License No. 92 563
2. Permit No. 77694 Date 8/1/78
3. Water from Gravel (Formation) 13. County McHenry
   at depth ____ to ____ ft.
4. Screen: Diam. ____ in.
   Length: ____ ft. Slot ____
   Sec. 12
   Twp. 43N
   Rge. 5E
   Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Black Steel	0	270

SHOW LOCATION IN SECTION PLAT

L 43 Robert Bartlett's Coral Woods S.

16. Size Hole below casing: 5 in. 75'SL 80'EL NE SE SE
17. Static level ____ ft. below casing top which is 1 (permit) above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours. Sub pump @ 100'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	6	6
Sand & Gravel	54	60
Clay	120	180
Shale	70	250
Sand & Small Gravel	20	270
Big Gravel	10	280

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 12/15/78

COUNTY No. 23300

/0 MCHENRY 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Hughes, Dan & Julie Well No. ____
    Address 4969 Christy Circle Rockford IL
    Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G3587-96 Date 06/09/96
12. Water from limestone 13. County McHenry
    at depth 300 to 320 ft.
14. Screen: Diam. ____ in.
    Length: ____ ft. Slot ____
    Sec. 12
    Twp. 43 N
    Rge. 5 E
    Elev. ____

15. Casing and Liner Pipe NW SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC/ASTM F480	0	272
5	STEEL ASTM 15#/FT	272	293

16. Size hole below casing: ____ in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 140 ft. when pumping at 12 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
clay	288	290
brown limestone	2	292
soft yellow shale	8	300
white limestone	20	320

Household - Private

McHenry 12-111-33959-00 12-43N-05E

STATE OFFICE BUILDING, SPRINGFIELD,
L /WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 9-15-70

10. Property owner George Georgieff Well No. 1
Address Hill Rd. Marengo
Driller Paul Barker License No. 92-563
11. Permit No. NF 9024 Date 8/14/70
12. Water from Limestone (Formation) 13. County McHenry
at depth 286 to 311 ft.
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. [illegible]
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	15# Galv.	0	286

SHOW LOCATION IN SECTION PLAT
80'SL 200'EL of SE (permit)

16. Size Hole below casing: 5" in.
17. Static level 135 ft. below casing top which is 1 ft. above ground level. Pumping level 150 ft. when pumping at 20 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~	DEPTH OF BOTTOM
Clay	108	
Sand & Gravel	108-121	
Clay	121-265	
Gravel	265-286	
Sandstone	286-311	
		311

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul A. Barker DATE January 1, 1971

6

COUNTY No. 1207

MC HENRY

12-43N-5E

ER HEALTH PROTECTION, 535 WEST [illegible] Permit: 06334
DO NOT DETACH GEOLOGICAL/WATER
OF ...L LOCA... N. 16-12-351-004

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed November 9, 1976

10. Property owner Frank Grossen Well No. ____
Address W. Coral Road
Driller Paul Barker License No. 92-563
11. Permit No. 50490 Date August 3, 1976
12. Water from White Lime Rock (Formation) 13. County McHenry
at depth 250 to 315 ft.
Sec. 12
Twp. 43N
Rge. 5E
Elev. 895'
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

15. Casing and Liner Pipe (certified by FPS 9187)

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per ft.	0	250

SHOW LOCATION IN SECTION PLAT
~~80'SL 60'WL~~
NW SW SW
(permit)
Lot 11, Rockwood Sub

16. Size Hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 180 ft. when pumping at 10 gpm for 1 hours. Sub pump @ 215'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
~~Clay~~	0	10
Clay and Gravel	10	25
Clay	25	40
Clay and Sand	40	110
Clay	110	125
Clay and Gravel	125	150
Clay	150	235
Clay	235	250
Shale	250	315

~~White Lime Rock~~
(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE Dec 3 76

COUNTY NO 23293

MCHENRY

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Esunis, Ray & Charlotte Well No. _____
Address 340 East St. Capron IL
Well address North Hill Rd. Marengo, IL
Lot 49 N1/2 Subd Coral Woods ISWS P# 312649
Driller Keller, Larry License No. 092-7210
Permit No. 111-H0493-99 Date 06/04/1999
Water from limestone County McHenry
at depth 316 to 380 ft.
Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

NW NE SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	295
5	STEEL 15# A53B	295	316

Size hole below casing: _____ in.
Static level 150 ft. below casing top which is 1 ft.
above ground level. Pumping level 170 ft. when pumping at 20
gpm for 24 hours.

Formations passed through	Thickness	Bottom
topsoil	3	3
brown stony clay	157	160
light green clay	3	163
dark brown clay	8	171
black clay	2	173
gray clay	7	180
sand/gravel	12	192
gray clay	124	316
limestone	64	380

Household - Private

McHenry 12-111-36814-00 12-43N-5E

TATE OFFICE BUILDING, SPRINGFIELD,
WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 6-7-73

1. Property owner Frank Giles Well No. 1
Address Coral + Hill Road, Marengo, Ill.
Driller Paul Barker License No. 92-563
Permit No. 32893 Date April 30, 1973
2. Water from Limestone Formation 13. County Mc Henry
at depth 233 to 298 ft.
4. Screen: Diam. — in.
Length: — ft. Slot —
Sec. 12
Twp. 43N
Rge. 5E
Elev. 926

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Steel 15#	0	233

SHOW LOCATION IN SECTION PLAT
80'NL, 50'EL
SE SW SE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at 30 gpm for 3 hours. Sub. pump set at 147'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Topsoil	0	3
Sand + Gravel	3	21
Blue Clay	21	37
Sand	37	89
Pink Clay	89	197
Blue Clay	197	233
Limestone	233	298

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE July 1 1973

MC HENRY

COUNTY No. 22759

12-43N-5E

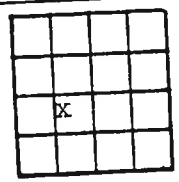
7

ED AND MAIL ORIGINAL TO
ATE OFFICE BUILDING, SPRINGFIELD,
WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 4-21-71

Property owner Larry Ernesti Well No. 1
Address Coral West Road Marengo, Ill
Driller Paul Barker License No. 92-563
Permit No. NE 10178 Date Feb. 19, 1971
Water from ____ Formation 13. County McHenry
at depth ____ to ____ ft. Sec. 12
Screen: Diam. ____ in. Twp. 43N
Length: ____ ft. Slot ____ Rge. 5E
Elev. ____



SHOW LOCATION IN SECTION PLAT
30' SL 200' WL of NW NE SW (permit)

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# Per Ft.	0	268

6. Size Hole below casing: 5 in.
7. Static level 30 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 20 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	0-20	20
Yellow Clay	20-50	50
Blue Clay	50-80	80
Red Clay	80-100	100
Hard Pan	100-140	140
Sand Fine	140-190	190
Sand &Clay	190-250	250
Gravel	250-268	268

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 8-5-72

COUNTY No. 1412

4-
MC HENRY

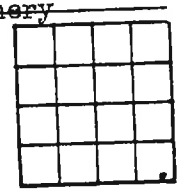
12-43N-5E

ED AND MAIL ORIGINAL TO
TATE OFFICE BUILDING, SPRINGFIELD,
WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 5-11-71

1. Property owner Larry Ernesti Well No. 2
Address E. Grant Hwy. Marengo, Ill
Driller Paul Barker License No. 92-563
2. Permit No NE 10592 Date April 14, 1971
Water from Sand & Gravel Formation 13. County McHenery
at depth ____ to ____ ft. Sec. 12
4. Screen: Diam. ____ in. Twp. 43N
Length: ____ ft. Slot ____ Rge. 5E
Elev. ____



SHOW LOCATION IN SECTION PLAT
SW/c SE SE SE (permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# Galv	0	210

16. Size Hole below casing: 5 in.
17. Static level 89 ft. below casing top which is 1 ft. above ground level. Pumping level 100 ft. when pumping at 20 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Yellow Clay	0-20	20
Blue Clay	20-40	40
Red Clay	40-115	115
Sandy Clay	115-125	125
Hard Pan	125-135	135
Fine Sand	135-180	180
Sand & Gravel	180-210	210

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 8-5-72

COUNTY No. 1413

5
MC HENRY

12-43N-5E

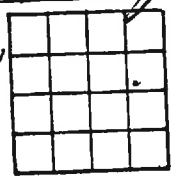
TATE OFFICE BUILDING, SPRINGFIELD,
WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 10/27/76

. Property owner Marie Destefano Well No. 1
Address N. Hill Road, Marengo, Illinois
Driller Paul Barker License No. 92-563
Permit No. 44530 Date Sept. 23, 1975
. Water from Limerock 13. County McHenry
Formation
at depth 318 to 330 ft.
. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 12
Twp. 43N
Rge. 5E
Elev. ____



5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Black	0	318

SHOW LOCATION IN SECTION PLAT
Lot 10 Coral Wds. Sd. 50'SL 60'WL SW SE NE (permit)

6. Size Hole below casing: 5 in.
7. Static level 184 ft. below casing top which is 1 ft.
above ground level. Pumping level 215 ft. when pumping at 15
gpm for 2 hours. Sub. pump set at 215'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	0	5
Boulders	5	95
Clay & Gravel	95	165
Shale (Beach)	165	170
Clay & Gravel	170	180
Limerock	180	317

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 11-25-75

COUNTY No. 23026

3
MCHENRY

12-43N-5E

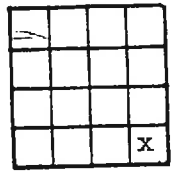
STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 3-9-73

0. Property owner Jim Cornelly Well No. 1
Address Coral & Hill Rd, Marengo, Ill.
Driller Paul Barker License No. 92-563
.1. Permit No. 17715 Date Jan. 23, 1973
.2. Water from ~~Limerock~~ Gravel 13. County McHenry
Formation
at depth 225 to 283 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 12
Twp. 43N
Rge. 5E
Elev. ____



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15 # per ft.	0	~~225~~ 283

SHOW LOCATION IN SECTION PLAT
75'NL 75'WL of SE SE SE (permit)

16. Size Hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft.
above ground level. Pumping level 100 ft. when pumping at 15
gpm for 4 hours. Sub. pump set at 147'

18. FORMATIONS PASSED THROUGH	THICKNESS Top	DEPTH OF BOTTOM
Top Soil	0	5
Yellow Clay	5	40
Sandy Clay	40	120
Blue Clay	120	225
Gravel	225	283

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE May 1, 1973

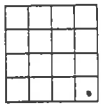
2
MC HENRY

COUNTY No. 22176

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Cypher, Lucien Well No. _____
Address 3015 West Kenley McHenry IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 125429 Date 07/25/86
12. Water from gravel 13. County McHenry
at depth 293 to 295 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. 955



950' N 100' W SEc Fld Verifd

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	295

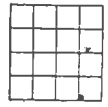
16. Size hole below casing: 5 in.
17. Static level 90 ft. below casing top which is 1 ft. above ground level. Pumping level 100 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	291	293
gravel	2	295

McHenry 12-111-25277-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Deal, William Well No. _____
Address 17818 Meadow Lane Union IL
Driller Senffner, Alan James License No. 102-2482
11. Permit No. 001198 Date 04/15/88
12. Water from limestone 13. County McHenry
at depth _____to_____ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



SW SE SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	STEEL 14.98	0	334

16. Size hole below casing: 5 in.
17. Static level _____ft. below casing top which is 1 ft. above ground level. Pumping level 250 ft. when pumping at 10 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
drift	334	334
limestone	96	430

Household - Private

McHenry 12-111-26750-00 12-43N-05E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 3-75

10. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
11. Permit No. _____ Date _____
12. Water from _____ 13. County _____
Formation
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. _____
Twp. _____
Rge. _____
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	[illegible]	[illegible]	255

SHOW LOCATION IN SECTION PLAT
NE SE SE
(permit)

16. Size Hole below casing: _____ in.
17. Static level _____ ft. below casing top which is _____ ft.
above ground level. Pumping level _____ ft. when pumping at _____
gpm for _____ hours. Sub. pump set at 189'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Glacial drift overburden to bedrock	0	255

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [illegible] d,b,a DATE Apr. 2, 1975

COUNTY No. 22320

1
McHENRY

12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Brockman, James Well No. _____
Address 18604 Rt. #176 Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 120122 Date 09/05/85
12. Water from limestone 13. County McHenry
at depth 313 to 385 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe 60' S 2600' W NEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	313

16. Size hole below casing: 5 in.
17. Static level 120 ft. below casing top which is 1 ft.
above ground level. Pumping level 130 ft. when pumping at 10
gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	5	5
clay	260	265
shale	48	313
yellow limestone	72	385

McHenry 12-111-24660-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Brittany Builders/Job 304 Well No. _____
Address 7516 Hill Rd. Marengo IL
Driller Huemann, William F. License No. 102-1427
11. Permit No. 000392 Date 03/01/88
12. Water from gravel 13. County McHenry
at depth 295 to 303 ft. Sec. 12
14. Screen: Diam. 5 in. Twp. 43 N
Length: 4 ft. Slot 30 Rge. 5 E
Elev. _____

15. Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	200# PVC	0	299

16. Size hole below casing: 7.87 in.
17. Static level 150 ft. below casing top which is 1 ft.
above ground level. Pumping level 175 ft. when pumping at _____
gpm for 4 hours.

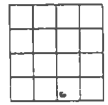
18. Formations passed through	Thickness	Bottom
clay	194	194
gravel	10	204
clay	91	295
gravel	8	303

Household - Private

McHenry 12-111-26634-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Brackmann, Craig Well No. _____
Address 20912 Ratfield Rd. Marengo IL
Well address 7918 Maple St. Marengo, IL
Lot _____ Subd _____ ISWS P# 319731
Driller Nice, Mark E. License No. 102-3209
Permit No. H1496 Date 10/04/1999
Water from gravel County McHenry
at depth 120 to 126 ft. Sec. 12
Screen: Diam. 4 in. Twp. 43 N
Length: 4 ft. Slot 20 Rge. 5 E
Elev. _____



Casing and Liner Pipe SW SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC/ASTM F480	0	122

Size hole below casing: _____ in.
Static level 50 ft. below casing top which is 1 ft.
above ground level. Pumping level 80 ft. when pumping at 10
gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	118	120
gravel	6	126

Household - Private

McHenry 12-111-37519-00 12-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Bittenbender, Dan L. Well No. _____
Address S. Hill Rd. Marengo IL
Driller Pilgard, Peter License No. 102-0940
11. Permit No. 135920 Date 10/01/87
12. Water from limestone 13. County McHenry
at depth _____ to 208 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe SE SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC 2.87	0	165
5	GALV. 15	165	208

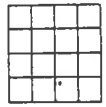
16. Size hole below casing: 5 in.
17. Static level 75 ft. below casing top which is 1 ft. above ground level. Pumping level 75 ft. when pumping at 10 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
top soil	6	6
gravel, boulders, sand	8	14
clay	162	176
broken limestone	32	208

McHenry 12-111-26341-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Babbitt, Kent & Virginia Well No. _____
Address 307 Old Hunt Rd. Cary IL
Driller Huemann, William F. License No. 102-1427
11. Permit No. 111-F6623-93 Date 07/14/93
12. Water from limestone 13. County McHenry
at depth 240 to 352 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
6	A53B 18.97# P.E.	-1	195

16. Size hole below casing: 6 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 75 ft. when pumping at 15 gpm for 2 hours.

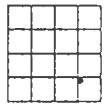
18. Formations passed through	Thickness	Bottom
clay & stones	120	120
fine sand	20	140
clay & stones	40	180
gravel & clay	5	185
fine sand	5	190
shale	50	240
limestone	112	352

Household - Private

McHenry 12-111-32815-00 12-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Zecchin, Lou Well No. _____
Address 281 E. Benoris Wood Dale IL
Driller Knierim, Phil License No. 102-0841
11. Permit No. 012765 Date 07/06/89
12. Water from rock 13. County McHenry
at depth 100 to 380 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 12
Twp. 43 N
Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC	0	240

16. Size hole below casing: 5 in.
17. Static level 100 ft. below casing top which is 1 ft. above ground level. Pumping level 336 ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
top soil	1	1
clay	79	80
sand gravel	155	235
shale	48	283
rock	97	380

Household - Private

McHenry 12-111-29986-00 12-43N-05E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay	0	15
boulders, gravel	15	45
organic peat	45	75
boulders	75	77
clay	77	123
gravel coarse	123	125
Total Depth		**125**

Casing: 6" STEEL from ' to '

Grout: BENTONITE from 0 to 0.

Water from gravel at ' to 125'.
Static level 15' below casing top which is 2' above GL
Pumping level 45' when pumping at 10 gpm for 1 hour

Permanent pump installed at 60'
on September 12, 2002, with a capacity of 10 gpm

Remarks: driller's est well yield 60 gpm

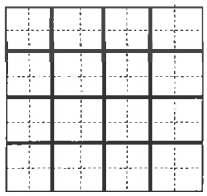
Additional location info: Lot: 28-N 1/2 Subdivision: Bartlett Coral Woods

Address of well: 8713 South Hill Rd.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: March 7, 2002 **Permit #:** H-7813

COMPANY Jablonski, John A.
FARM Iversen, Jeff & Kristy
DATE DRILLED September 10, 2002 **NO.** 1
ELEVATION **COUNTY NO.** 40328
LOCATION SW NE SE
LATITUDE 42.201636 **LONGITUDE** -88.592076
COUNTY McHenry **API** 121114032800 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
sand & gravel	2	35
brown stony clay	35	59
sand & gravel	59	90
Total Depth		90

Casing: 5" PVC from 0' to 84'
5" SS SCREEN from 84' to 88'

Screen: 4' of 5" diameter 25 slot

Grout: BENTONITE from 0 to 60.

Water from gravel at 84' to 88'.
Static level 8' below casing top which is 1' above GL
Pumping level 50' when pumping at 10 gpm for 3 hours

Remarks: driller's est well yield 12 gpm

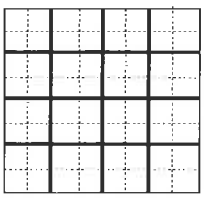
Additional location info: Lot: 6 Subdivision: Maple Lake Shores

Address of well: 20411 Demings Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: February 11, 2002 **Permit #:** H-7845

COMPANY Keller, Larry
FARM Powers, Sarah
DATE DRILLED October 22, 2002 **NO.**
ELEVATION **COUNTY NO.** 40580
LOCATION NE NW SE
LATITUDE 42.203666 **LONGITUDE** -88.595814
COUNTY McHenry **API** 121114058000 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	17
gravel	17	55
clay	55	76
gravel	76	84
Total Depth		**84**

Casing: 5" PVC F480 from 0' to 80'
4" SS SCREEN from 80' to 84'

Screen: 4' of 4" diameter .02 slot

Grout: BAROID from 0 to 74.

Grout: BIRDSEYE from 80 to 84.

Water from gravel at 76' to 84'.

Static level 20' below casing top which is 1' above GL

Pumping level 60' when pumping at 10 gpm for 2 hours

Permanent pump installed at 60'
on May 17, 2003, with a capacity of 10 gpm

Remarks: driller's est well yield 20+ gpm

Additional location info: Lot: 13 Subdivision: Maple Lake Estates

Address of well: 20306 Demings Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: September 9, 2002 **Permit #:** H-9501

COMPANY Nice, Mark E.

FARM Flota, Alan & Paula

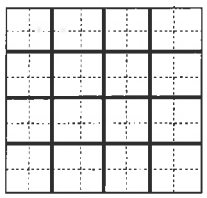
DATE DRILLED April 25, 2003 **NO.**

ELEVATION **COUNTY NO.** 40930

LOCATION NE NW SE

LATITUDE 42.204146 **LONGITUDE** -88.594508

COUNTY McHenry **API** 121114093000 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
sand	2	4
gravel	4	35
clay	35	63
gravel	63	79
Total Depth		**79**

Casing: 5" PVC F480 from 0' to 75'
4" SS SCREEN from 75' to 79'

Screen: 4' of 4" diameter .015 slot

Grout: BAROID from 0 to 69.

Grout: BIRDSEYE from 69 to 79.

Water from gravel at 63' to 79'.

Static level 10' below casing top which is 1' above GL

Pumping level 60' when pumping at 10 gpm for 2 hours

Permanent pump installed at 60'
on September 29, 2003, with a capacity of 10 gpm

Remarks: driller's est well yield 20 gpm

Additional location info: Lot: 16 Subdivision: Maple Lake Shores

Address of well: 20410 Delks Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: January 27, 2003 **Permit #:** I-0732

COMPANY Nice, Mark E.

FARM Wermes, David

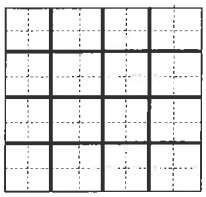
DATE DRILLED September 25, 2003 **NO.**

ELEVATION **COUNTY NO.** 41063

LOCATION SE NW SE

LATITUDE 42.201717 **LONGITUDE** -88.595566

COUNTY McHenry **API** 121114106300 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
gravel	0	27
clay	27	57
gravel	57	65
Total Depth		65

Casing: 5" PVC from 0' to 61'
5.625" SS SCREEN from 61' to 65'

Screen: 4' of 5.625" diameter 15 slot

Grout: WYOBEN 20% from 0 to 55.

Water from gravel at 57' to 65'.
Static level 3' below casing top which is 1' above GL
Pumping level 12' when pumping at 10 gpm for 6 hours

Permanent pump installed at 20'
on May 3, 2004, with a capacity of 10 gpm

Remarks: driller's est well yield 25 gpm

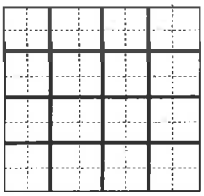
Additional location info: Lot: 21 Subdivision: Maple Lake Shores

Address of well: 20510 Delks
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: December 1, 2003 **Permit #:** 111-03-

COMPANY Huemann, Jeffrey
FARM Universal Homes
DATE DRILLED May 3, 2004 **NO.**
ELEVATION **COUNTY NO.** 41483
LOCATION SW NW SE
LATITUDE 42.201692 **LONGITUDE** -88.597922
COUNTY McHenry **API** 121114148300 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel & sand	2	25
clay	25	60
sandy gravel	60	65
clay	65	71
gravel	71	78
Total Depth		78

Casing: 5" PVC F480 from 0' to 74'
4" SS SCREEN from 74' to 78'

Screen: 4' of 4" diameter .02 slot

Grout: BAROID from 0 to 68.

Grout: BIRDSEYE from 68 to 78.

Water from gravel at 71' to 78'.

Static level 10' below casing top which is 1' above GL

Pumping level 40' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'

on July 7, 2004, with a capacity of 10 gpm

Remarks: driller's est well yield 20 gpm

Additional location info: Lot: 23 Subdivision: Maple Lake Shores

Address of well: 8606 Maple Street
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: April 7, 2004 **Permit #:** 111-04-

COMPANY Nice, Mark E.

FARM Parchutz, Scott

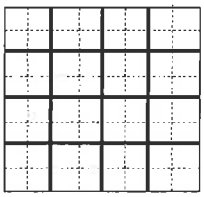
DATE DRILLED June 22, 2004 **NO.**

ELEVATION **COUNTY NO.** 41563

LOCATION NW NW SE

LATITUDE 42.202946 **LONGITUDE** -88.597915

COUNTY McHenry **API** 121114156300 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	91
small gravel	91	101
Total Depth		**101**

Casing: 5" PVC F480 from 0' to 97'
4" SS SCREEN from 97' to 101'

Screen: 4' of 4" diameter .02 slot

Grout: BIRDSEYE from 91 to 101.

Grout: BAROID from 0 to 91.

Water from gravel at 91' to 101'.

Static level 38' below casing top which is 1' above GL

Pumping level 80' when pumping at 10 gpm for 2 hours

Permanent pump installed at 80'
on October 19, 2004, with a capacity of 10 gpm

Remarks: driller's est well yield 20 gpm

Additional location info: Lot: 35-N 1/2 Subdivision: Coral Woods

Address of well: 8321 South Hill Rd.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: June 24, 2004 **Permit #:** 111-04-

COMPANY Nice, Mark E.

FARM Elstrom, Arland Jr.

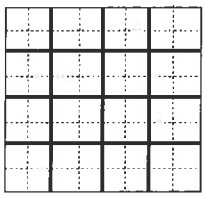
DATE DRILLED October 14, 2004 **NO.**

ELEVATION **COUNTY NO.** 41806

LOCATION NW SE NE

LATITUDE 42.20801 **LONGITUDE** -88.59214

COUNTY McHenry **API** 121114180600 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
clay	0	3
coarse gravel	3	4
gravel	4	26
clay & gravel	26	65
clay	65	69
gravel & sand	69	75
Total Depth		75

Casing: 5" PVC from 0' to 71'
5.625" SS SCREEN from 71' to 75'

Screen: 4' of 5.625" diameter 20 slot

Grout: WYOBEN 20% from 0 to 60.

Water from gravel at 69' to 75'.
Static level 20' below casing top which is 1' above GL
Pumping level 25' when pumping at 10 gpm for 6 hours

Permanent pump installed at 30'
on October 8, 2004, with a capacity of 10 gpm

Remarks: driller's est well yield 25+ gpm

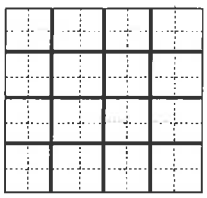
Additional location info: Lot: 11 Subdivision: Maple Lake Shores

Address of well: 20301 Demmings Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: April 12, 2004 **Permit #:** 111-03-

COMPANY Huemann, Joseph J.
FARM Universal Homes
DATE DRILLED October 8, 2004 **NO.**
ELEVATION **COUNTY NO.** 41808
LOCATION NE NW SE
LATITUDE 42.203461 **LONGITUDE** -88.593973
COUNTY McHenry **API** 121114180800 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	4
clay w/gravel	4	6
gravel coarse	6	20
gravel	20	35
sand	35	40
clay & stones	40	50
clay & gravel	50	65
fine gravel & sand	65	80
Total Depth		**80**

Casing: 5" PVC from 0' to 76'
5.625" SS SCREEN from 76' to 80'

Screen: 4' of 5.625" diameter 15 slot

Grout: WYOBEN 20% from 0 to 40.

Water from gravel at 65' to 80'.
Static level 15' below casing top which is 1' above GL
Pumping level 22' when pumping at 10 gpm for 6 hours

Permanent pump installed at 30'
on October 7, 2004, with a capacity of 10 gpm

Remarks: driller's est well yield 25+ gpm

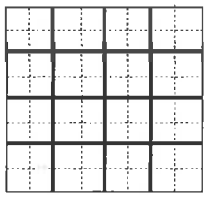
Additional location info: Lot: 14 Subdivision: Maple Lake Shores

Address of well: 20402 Delk Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: April 8, 2004 **Permit #:** 111-03-

COMPANY Huemann, Joseph J.
FARM Universal Homes
DATE DRILLED October 7, 2004 **NO.**
ELEVATION **COUNTY NO.** 41807
LOCATION SE NW SE
LATITUDE 42.201097 **LONGITUDE** -88.594621
COUNTY McHenry **API** 121114180700 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
brown stoney clay	2	8
sand/gravel/boulders	8	45
brown stoney clay	45	55
brown peat	55	62
gray stoney clay	62	64
sand/gravel	64	78
Total Depth		**78**

Casing: 5" PVC from 0' to 75'
5" SS SCREEN from 75' to 79'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 60.

Water from sand/gravel at 75' to 79'.
Static level 28' below casing top which is 1' above GL
Pumping level 40' when pumping at 20 gpm for 2 hours

Permanent pump installed at 60'
on August 29, 2005, with a capacity of 20 gpm

Remarks: driller's est well yield 20 gpm

Additional location info: Lot: 10 Subdivision: Maple Lake Shores

Address of well: 20305 Demings
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on April 5, 2010.

Permit Date: January 31, 2005 **Permit #:** 111-05-

COMPANY Keller, Larry

FARM O'Brian Bldrs/O'Brien, Michael

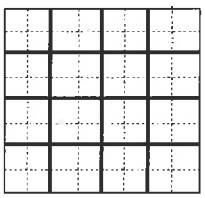
DATE DRILLED August 26, 2005 **NO.**

ELEVATION **COUNTY NO.** 42496

LOCATION NE NW SE

LATITUDE 42.20311 **LONGITUDE** -88.594369

COUNTY McHenry **API** 121114249600 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	5
gravel	5	30
clay	30	50
sandy clay	50	60
clay	60	70
gravel	70	77
Total Depth		**77**

Casing: 5" PVC F480 from 0' to 73'
4" SS SCREEN from 73' to 77'

Screen: 4' of 4" diameter .02 slot

Grout: BAROID from 0 to 67.

Grout: BIRDSEYE from 67 to 77.

Water from gravel at 70' to 77'.

Static level 20' below casing top which is 1' above GL

Pumping level 60' when pumping at 10 gpm for 2 hours

Permanent pump installed at 60'
on October 13, 2005, with a capacity of 10 gpm

Remarks: driller's est well yield 15-20+ gpm

Additional location info: Lot: 1 Subdivision: Maple Lake Shores

Address of well: 20509 Demings Drive
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: November 12, 2004 **Permit #:** 111-096

COMPANY Nice, Mark E.

FARM Winchester Builders

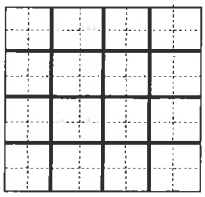
DATE DRILLED October 3, 2005 **NO.**

ELEVATION **COUNTY NO.** 42497

LOCATION NW NW SE

LATITUDE 42.203364 **LONGITUDE** -88.598092

COUNTY McHenry **API** 121114249700 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	45
sand & gravel	45	55
clay	55	93
gravel	93	97
Total Depth		**97**

Casing: 5" PVC F480 from 0' to 93'
4" SS SCREEN from 93' to 97'

Screen: 4' of 4" diameter .02 slot

Grout: BAROID from 0 to 87.

Grout: BIRDSEYE from 87 to 97.

Water from gravel at 93' to 97'.
Static level 25' below casing top which is 1' above GL
Pumping level 40' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on May 3, 2006, with a capacity of 10 gpm

Remarks: driller's est well yield 20+ gpm

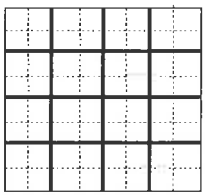
Additional location info: Lot: 24 Subdivision: Riley Creek

Address of well: 8908 South Hill Road
Marengo, IL

Location source: Global Positioning System verified Verified by: VJA on April 5, 2010.

Permit Date: November 4, 2005 **Permit #:** 111-086

COMPANY Nice, Mark E.
FARM Pride DJ Builders
DATE DRILLED April 26, 2006 **NO.**
ELEVATION **COUNTY NO.** 42842
LOCATION SE SE SE
LATITUDE 42.198333 **LONGITUDE** -88.59
COUNTY McHenry **API** 121114284200 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel	2	43
sand	43	65
sandy clay	65	132
limestone	132	150
Total Depth		**150**

Casing: 5" PVC F480 from 0' to 111'
5" STEEL A53B from 111' to 132'

Grout: BAROID from 0 to 131.

Water from limestone at 132' to 150'.
Static level 18' below casing top which is 1' above GL
Pumping level 120' when pumping at 10 gpm for 2 hours

Permanent pump installed at 120'
on October 20, 2006, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 10-15 gpm

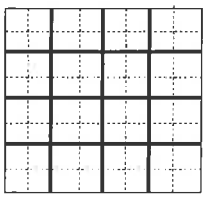
Additional location info: Lot: 19 Subdivision: Maple Lake Shores

Address of well: 20502 Delk Dr.
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: February 7, 2006 **Permit #:** 111-092

COMPANY Nice, Mark E.
FARM Garfield, Bryan & Carmen
DATE DRILLED October 16, 2006 **NO.**
ELEVATION **COUNTY NO.** 42928
LOCATION SW NW SE
LATITUDE 42.201456 **LONGITUDE** -88.597113
COUNTY McHenry **API** 121114292800 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay and gravel	2	10
clay	10	30
gravel	30	48
clay	48	88
gravel	88	98
Total Depth		98

Casing: 5" PVC F480 from 0' to 94'
4" SS SCREEN from 94' to 98'

Screen: 4' of 4" diameter .015 slot

Grout: BAROID from 0 to 88.

Grout: BIRDSEYE from 88 to 98.

Water from gravel at 88' to 98'.
Static level 20' below casing top which is 1' above GL
Pumping level 40' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on October 24, 2006, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 20 gpm

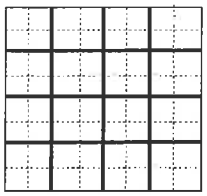
Additional location info: Lot: 23 Subdivision: Riley Creek

Address of well: 8914 S. Hill Road
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: June 5, 2006 **Permit #:** 111-034

COMPANY Nice, Mark E.
FARM Pride DJ Builders
DATE DRILLED October 20, 2006 **NO.**
ELEVATION **COUNTY NO.** 42996
LOCATION SW SE SE
LATITUDE 42.198382 **LONGITUDE** -88.591458
COUNTY McHenry **API** 121114299600 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
gravel coarse	0	75
sand	75	117
clay	117	118
gravel	118	173
sand	173	192
gray shale, hard	192	210
limestone	210	385
Total Depth		**385**

Casing: 6" STEEL from -4' to 193'

Grout: BENTONITE from 0 to 75.

Water from limestone at 210' to 385'.
Static level 140' below casing top which is 4' above GL

Permanent pump installed at 200'
on December 13, 2006, with a capacity of 12 gpm

Remarks: Driller's Estimated Well Yield 25 gpm

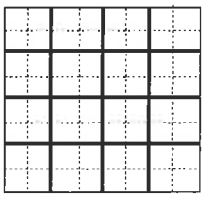
Additional location info: Lot: 38 Subdivision: Riley Creek

Address of well: 20513 Delks Drive
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on September 30, 2009.

Permit Date: June 1, 2006 **Permit #:** 111-020

COMPANY Jablonski, John A.
FARM Newman, Sam
DATE DRILLED November 12, 2006 **NO.**
ELEVATION **COUNTY NO.** 43025
LOCATION NW SW SE
LATITUDE 42.200542 **LONGITUDE** -88.598088
COUNTY McHenry **API** 121114302500 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	5
gravel	5	29
sandy clay	29	55
gravel	55	70
clay	70	123
limestone	123	170
shale	170	180
Total Depth		**180**

Casing: 5" PVC F480 from 0' to 102'
5" STEEL A53B from 102' to 123'

Grout: BAROID from 0 to 122.

Water from limestone at 123' to 180'.
Static level 3' below casing top which is 1' above GL
Pumping level 140' when pumping at 15 gpm for 2 hours

Permanent pump installed at 140'
on August 31, 2007, with a capacity of 15 gpm

Remarks: Driller's Estimated Well Yield 15 gpm

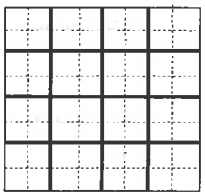
Additional location info: Lot: 17 Subdivision: Riley Creek

Address of well: 9114 Hill Road
Marengo, IL

Location source: Digital Orthophoto Quad Verified by: VJA on October 1, 2009.

Permit Date: December 13, 2006 **Permit #:** 111-075

COMPANY Nice, Mark E.
FARM Vendegna, Mike
DATE DRILLED July 12, 2007 **NO.**
ELEVATION **COUNTY NO.** 43380
LOCATION SE SW SE
LATITUDE 42.198346 **LONGITUDE** -88.595999
COUNTY McHenry **API** 121114338000 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	45
gravel & clay	45	64
clay	64	82
gravel	82	90
Total Depth		90

Casing: 5" PVC F480 from 0' to 86'
4" STAINLESS STL SCREEN from 86' to 90'

Screen: 4' of 4" diameter .015 slot

Grout: BAROID from 0 to 80.

Grout: BIRDSEYE from 80 to 90.

Water from gravel at 82' to 90'.
Static level 20' below casing top which is 1' above GL
Pumping level 40' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on July 19, 2007, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 20+ gpm

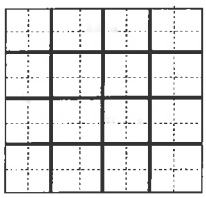
Additional location info: Lot: 29 Subdivision: Riley Creek

Address of well: 8819 Hill Rd
Marengo, IL 60052

Location source: Global Positioning System verified Verified by: VJA on October 1, 2009.

Permit Date: June 13, 2006 **Permit #:** 111-036

COMPANY Nice, Mark E.
FARM Wynstone Homes
DATE DRILLED July 10, 2007 **NO.**
ELEVATION **COUNTY NO.** 43381
LOCATION NE NW SE
LATITUDE 42.2 **LONGITUDE** -88.591667
COUNTY McHenry **API** 121114338100 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
gravel, rocks, sand, clay	0	10
large rocks	10	32
clay	32	47
peat	47	54
gravel & sand	54	67
Total Depth		67

Casing: 5" PVC from 0' to 63'
5.625" STAINLESS STEEL from 63' to 67'

Grout: WYOBEN 20% from 0 to 56.

Water from gravel at 63' to 67'.
Static level 6' below casing top which is 1' above GL
Pumping level 10' when pumping at 10 gpm for 6 hours
Permanent pump installed at 20'
on July 18, 2007, with a capacity of 10 gpm
Remarks: Driller's Estimated Well Yield 30 gpm

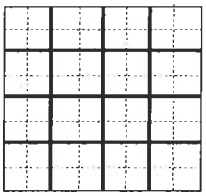
Additional location info: Lot: 7 Subdivision: Maple Lake Shores

Address of well: 20407 Demings Dr
Marengo, IL

Location source: Global Positioning System verified Verified by: VJA on April 5, 2010.

Permit Date: April 7, 2005 **Permit #:** 111-021

COMPANY Huemann, Joseph J.
FARM Universal Homes
DATE DRILLED July 18, 2007 **NO.**
ELEVATION **COUNTY NO.** 43514
LOCATION NW NW SE
LATITUDE 42.203472 **LONGITUDE** -88.595611
COUNTY McHenry **API** 121114351400 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	220
limestone	220	240
Total Depth		240

Casing: 5" PVC F480 from 0' to 199'
5" STEEL A53B from 199' to 220'

Grout: BAROID from 0 to 220.

Water from limestone at 220' to 240'.
Static level 60' below casing top which is 1' above GL
Pumping level 120' when pumping at 10 gpm for 2 hours

Permanent pump installed at 120'
on October 1, 2008, with a capacity of 10 gpm

Remarks: Driller's Estimated Well Yield 20+ gpm

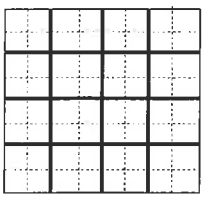
Additional location info: Lot: 17 Subdivision: Coral Woods

Address of well: 8114 S. Hill Rd.
Marengo, IL

Location source: Tax record verified Verified by: VJA on April 5, 2010.

Permit Date: May 28, 2008 **Permit #:** 111-015

COMPANY Nice, Mark E.
FARM Pride DJ Builders
DATE DRILLED September 17, 2008 **NO.**
ELEVATION **COUNTY NO.** 43691
LOCATION NE NE NE
LATITUDE 42.210412 **LONGITUDE** -88.590768
COUNTY McHenry **API** 121114369100 **13 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel & sand	2	32
clay	32	134
limestone	134	150
Total Depth		**150**

Casing: 5" PVC F480 from 0' to 113'
5" STEEL A53B from 113' to 134'

Grout: BAROID from 0 to 133.

Water from limestone at 134' to 150'.
Static level 6' below casing top which is 1' above GL
Pumping level 120' when pumping at 10 gpm for 2 hours

Permanent pump installed at 120'
on February 10, 2009, with a capacity of 10 gpm

Remarks: driller's est. well yield 10-15 gpm

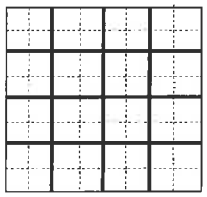
Additional location info: Lot: 20 Subdivision: Maple Lake Shores

Address of well: 20506 Delks Dr.
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on November 9, 2011.

Permit Date: June 19, 2008 **Permit #:** 111-019

COMPANY Nice, Mark E.
FARM Skylark Construction
DATE DRILLED February 9, 2009 **NO.**
ELEVATION **COUNTY NO.** 44094
LOCATION SW NW SE
LATITUDE 42.201318 **LONGITUDE** -88.597511
COUNTY McHenry **API** 121114409400 **13 - 43N - 5E**



GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Alimovski, Kujtim Well No. _____
Address 702 E. University Dr. Harvard IL
Driller Knierim, James License No. 102-0270
11. Permit No. 89551 Date 09/10/79
12. Water from sand gravel 13. County McHenry
at depth 30 to 220 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____

15. Casing and Liner Pipe SE NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC	0	220

16. Size hole below casing: 5 in.
17. Static level 30 ft. below casing top which is 1 ft. above ground level. Pumping level 120 ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
clay	170	170
sand gravel	10	180
clay	10	190
sand gravel	30	220

McHenry 12-111-23885-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Seeman, Guy Well No. _____
Address 6103 Fairfield Dr. Union IL
Well address 20419 Demings Dr. Marengo, IL
Lot 4 Subd Maple Lake Shores ISWS P# 313122
Driller Nice, Mark E. License No. 102-3209
Permit No. 111-G9946-99 Date 03/12/1999
Water from gravel County McHenry
at depth 63 to 67 ft. Sec. 13
Screen: Diam. 4 in. Twp. 43 N
Length: 4 ft. Slot 15 Rge. 5 E
Elev. _____

Casing and Liner Pipe NW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	63

Size hole below casing: _____ in.
Static level 12 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	28	30
clay	33	63
gravel	4	67

Household - Private

McHenry 12-111-36816-00 13-43N-5E

ESTED AND MAIL ORIGINAL TO STATE
F ENVIRONMENTAL HEALTH, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
OPER WELL LOCATION.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7-18-73

Property owner Bauer Well No. _____
Address 6116 MAPLE MARENGO ILL
Driller FRED H. MATTHES License No. 245
Permit No. #24429 Date 7-26-73
Water from Rock 13. County McHENRY
Formation

at depth ____ to ____ ft.
Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 13
Twp. 43N
Rge. 5E
Elev. ____

SHOW LOCATION IN SECTION PLAT

SW NW NE (Permit)

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	GALV #40 T/C 15#		

6. Size Hole below casing: 5 in.
7. Static level 75 ft. below casing top which is _____ ft. above ground level. Pumping level 100 ft. when pumping at 15 gpm for ____ hours.

8. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
TOP SOIL	1	1
GRAVEL & CLAY	3	4
CLAY SAND GRAVEL	244	246
ROCK	35	283

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Fred H. Matthes (Jr) DATE 7-28-73

McHENRY COUNTY WELL & PUMP CO.
4913 W. McCULLOM LAKE RD.
McHENRY, ILLINOIS 60050

COUNTY No. 1755

13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Bauer, Mike & Nancy Well No. _____
Address 677 Coral Bartlett IL
Well address 20405 Demings Drive Marengo, IL
Lot 8 Subd Maple Lake Shore ISWS P# 322491
Driller Nice; Mark E. License No. 102-3209
Permit No. H2116 Date 12/14/1999
Water from gravel County McHenry
at depth 62 to 67 ft.
Screen: Diam. 4 in.
Length: 4 ft. Slot .015

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____

NE NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	63
4	STAINLESS STL SCREEN	63	67

Size hole below casing: _____ in.
Static level 15 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	33	35
clay	27	62
gravel	5	67

Household - Private

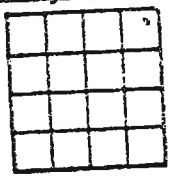
McHenry 12-111-37464-00 13-43N-5E

TED AND MAIL ORIGINAL TO STATE
H HEALTH PROTECTION, 535 WEST
O NOT DETACH GEOLOGICAL/WATER
PER W OCATIO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 9-13-1979

Property owner Warren Brokaw Well No. _____
Address Lot 8, Robt. Bartletts Coral Woods
Driller Wm. F. Huemann License No. 102-142
Permit No. 85626 Date 5/15/79
Water from Gravel (Formation) 13. County McHenry
at depth 50 to 75 ft. Sec. 13
Screen: Diam. 5 in. Twp. 43N
Length: 4 ft. Slot 20 Rge. 5E
Elev. _____



. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	200 lb P.V.C.	0	71

SHOW LOCATION IN SECTION PLAT
Lot#8, Coral Woods Subd. NE NE NE (permit)

6. Size Hole below casing: 7-7/8 in.
7. Static level 57 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 15 gpm for 3 hours. Sub pump set at 71'.

8. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	50	50
Gravel	25	75

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED William F Huemann DATE 9-19-79

COUNTY No 23536

MCHENRY

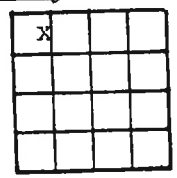
13-43N-5E

ED AND MAIL ORIGINAL TO STATE DE-
ATE OFFICE BUILDING, SPRINGFIELD,
WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 9-2-72

Property owner Adam Brenner Well No. 1
Address Maple St. Rd. Marengo, Ill.
Driller Paul Barker License No. 92-563
Permit No. NF 14364 Date April 21, 1972
Water from Rock (Formation) 13. County McHenry
at depth 158 to 206 ft. Sec. 13
Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. _____



5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Galv. 15#	0	158

SHOW LOCATION IN SECTION PLAT
80'SL 80'EL of NW NW NW (permit)

6. Size Hole below casing: 5" in.
7. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level ___ ft. when pumping at 15 gpm for 2 hours.

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ Top	DEPTH OF BOTTOM
Sand & Gravel	2	36
Blue Clay	36	104
Pink Clay	104	158
Rock	158	206

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE ~~April 10, 1973~~

COUNTY No. 281

4

MC HENRY

13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Demings, Donald F. Well No. _____
Address P.O. Box #172 Marengo IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-F-0363 Date 07/16/90
12. Water from limestone 13. County McHenry
at depth 200 to 320 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____

NW NW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	188

16. Size hole below casing: 5 in.
17. Static level 35 ft. below casing top which is 1 ft. above ground level. Pumping level 45 ft. when pumping at _____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & clay	3	5
gravel & sand	29	34
clay	146	180
dark shale	20	200
limestone	120	320

Household - Private

McHenry 12-111-31187-00 13-43N-05E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 6-14-73

0. Property owner James Bilinski Well No. 1
Address 9157 N. Lord Ave, Chicago Ill.
Driller Paul Baker License No. 92-563
1. Permit No. 23217 Date May 22, 1973
2. Water from Limestone 13. County Mc Henry
Formation
at depth 201 to 227 ft. Sec. 13
14. Screen: Diam. — in. Twp. 43N
Length: _____ ft. Slot — Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	15# Steel	0	201

SHOW LOCATION IN SECTION PLAT
Lot#36, Coral Woods Sub. 100' NL, 80'WL, NW NE NE (permit)

16. Size Hole below casing: 5 in.
17. Static level 50 ft. below casing top which is / ft. above ground level. Pumping level 50 ft. when pumping at 30 gpm for 20 hours. Sub. pump set at 63'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM.
Topsoil	0	2
Sand & Gravel	2	23
Brick Clay	23	78
Blue Clay	78	122
Shale to Sand	122	201
Limestone	201	227

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Baker DATE July 1, 1973

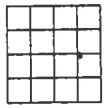
COUNTY No. 22760

MC HENRY 13-43N-5E

3

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Carmichael Const. Well No. _____
Address 9220 Fairway Lane Marengo IL
Driller Knierim, Phillip E. License No. 102-841
11. Permit No. 106714 Date 04/08/83
12. Water from rock 13. County McHenry
at depth 70 to 260 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC	0	202

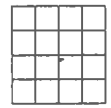
16. Size hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft.
above ground level. Pumping level 140 ft. when pumping at _____
gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
clay	200	200
shale	5	205
rock	55	260

McHenry 12-111-23886-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Oberg, Ted & Donna Well No. _____
Address % Brackman Construction 20425 Ridgeview Lane Marengo IL
Well address 20415 Demings Drive Marengo, IL
Lot 5 Subd Maple Lake Shores ISWS P# 334156
Driller Nice, Mark E. License No. 102-3209
Permit No. H-4762 Date 03/16/2001
Water from gravel County McHenry
at depth 50 to 67 ft. Sec. 13
Screen: Diam. 4 in. Twp. 43 N
Length: 4 ft. Slot .02 Rge. 5 E
Elev. _____



Casing and Liner Pipe NW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	63
4	STAINLESS STL SCREEN	63	67

Size hole below casing: _____ in.
Static level 5 ft. below casing top which is 1 ft.
above ground level. Pumping level 20 ft. when pumping at 10
gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	28	30
clay	20	50
gravel	17	67

Household - Private

McHenry 12-111-39314-00 13-43N-5E

NSUMER HEALTH PROTECTION, 535 WEST
761. DO NOT DETACH GEOLOGICAL/WATER
E PRO' 'LL LOC/)N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed September 30, 1977

10. Property owner Owen Tibbs Well No. _____
Address 240 Project St Missouri La.
Driller K & K Well Drilling License No. 104-28
11. Permit No. 6984 Date 5-19-78
12. Water from Rock Formation 13. County McHenry
at depth _____ to 200 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. NE 13
Twp. 43N
Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	#15 Black	0	140

SHOW LOCATION IN SECTION PLAT
L 29 Robert Bartlett's Coral Woods

16. Size Hole below casing: 5 in. Sd. E/2 NE (permit)
17. Static level 10 ft. below casing top which is 1/2 ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours. Sub pump @ 168'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Glacial Drift	0	140
Rock Formation	140	200

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Mrs Emerson Eva DATE 5-19-78

MCHENRY COUNTY No 23309 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Campbell, Harold Well No. _____
Address RR #3 Hampshire IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 107252 Date 05/23/83
12. Water from limestone 13. County McHenry
at depth 156 to 185 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe 2640' N 500' W SEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	156

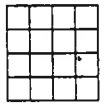
16. Size hole below casing: 5 in.
17. Static level 35 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	4	4
clay	133	137
sand, clay & gravel	19	156
limestone	29	185

McHenry 12-111-27422-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Diversified Ent./Bussert Well No. _____
Address Arlington Heights IL
Well address 8701 S. Hill Rd. Marengo, IL
Lot 31 Subd Bartletts Coral Wood ISWS P# _____
Driller Keller, Larry License No. 092-7210
Permit No. G-4731-96 Date 11/16/1996
Water from sand & gravel County McHenry
at depth 84 to 87 ft.
Screen: Diam. 5 in.
Length: 3 ft. Slot 25
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____



Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	84

Size hole below casing: _____in.
Static level 31 ft. below casing top which is 1 ft.
above ground level. Pumping level 35 ft.when pumping at 12
gpm for 3 hours.

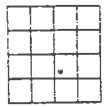
Formations passed through	Thickness	Bottom
topsoil	1	1
brown stony clay	54	55
gray stony clay	8	63
soft brown clay	2	65
dark brown peat	10	75
dark gray clay	3	78
green clay	2	80
sand & gravel	7	87

Household - Private

McHenry 12-111-35377-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Clark, Will Well No. _____
Address % Timber Construction 1009 Masen Ln. Lake in The Hills IL
Well address 8702 Maple St. Marengo, IL
Lot 22 Subd Maple Lake Shores ISWS P# 312064
Driller Keller, Larry License No. 092-7210
Permit No. G-9400 Date 11/11/1998
Water from sand & gravel County McHenry
at depth 61 to 65 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 25
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____



Casing and Liner Pipe SW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	61

Size hole below casing: _____in.
Static level 2 ft. below casing top which is 1 ft.
above ground level. Pumping level 3 ft.when pumping at 12
gpm for 24 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
sand & gravel	35	37
brown stony clay	12	49
gray stony clay	4	53
sand & gravel	17	70

Household - Private

McHenry 12-111-36546-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Halimi, Shenazi Well No. _____
Address 702 E. University Dr. Harvard IL
Driller Knierim, James License No. 102-0270
11. Permit No. 89552 Date 09/10/79
12. Water from rock 13. County McHenry
at depth _____ to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe NW SW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC	0	223

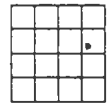
16. Size hole below casing: 5 in.
17. Static level 45 ft. below casing top which is 1 ft. above ground level. Pumping level 160 ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
top soil	1	1
sand gravel	2	3
clay	57	60
sand gravel	35	95
clay	35	130
sand gravel	12	142
clay	36	178
sand gravel	12	190
clay	33	223

McHenry 12-111-23887-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Diversified Enterprises, Inc. Well No. _____
Address 10314 Ridge Ln. Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-F9119-94 Date 07/27/94
12. Water from gravel 13. County McHenry
at depth 160 to 166 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____



15. Casing and Liner Pipe SW SE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	166

16. Size hole below casing: 5 in.
17. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level 30 ft. when pumping at _____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
gray clay	158	160
gravel	6	166

Household - Private

McHenry 12-111-33404-00 13-43N-05E

ILLINOIS DEPARTMENT OF PUBLIC HEALTH
WELL CONSTRUCTION REPORT

1. Type of well
   a. Dug_____. Bored_____. Hole Diam._____in. Depth__320__ ft.

   b. Driven_____. Drive Pipe Diam._____in. Depth_____ft.
   c. Drilled__X__. Finished in Drift_____. In Rock__X__.
      Tubular_____. Gravel Packed_____.
   d. Grout:

(Kind)	From (ft)	To(ft)
CUTTINGS		

2. Distance to Nearest:
   Building_____Ft. Seepage Tile Field_____
   Cess Pool_____ Sewer (non Cast iron)_____
   Privy_____ Sewer (Cast iron)_____
   Septic Tank_____ Barnyard_____
   Leaching Pit_____ Manure Pile_____
3. Well furnishes water for human consumption? Yes__X__ No_____
4. Date well completed 11/14/79
5. Permanent Pump Installed? Yes__X__ Date__11/16/79__ No_____

   Capacity_____gpm. Depth of Setting__160__Ft.
6. Well Top Sealed? Yes__X__ No_____ Type__CAP__
7. Pitless Adapter Installed? Yes_____X__ No_____

8. Well Disinfected? Yes_____X__ No_____
9. Pump and Equipment Disinfected? Yes__X__ No___
10. Pressure Tank Size__82__gal. Type__CON AIR__

11. Water Sample Submitted? Yes_____ No_____X__

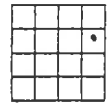
REMARKS: owner to sample, well chlorinated
No Envelope

JUL 25 1990

McHenry 12-111-23887-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Gavin, Jerry Well No. _____
    Address 15316 South Walnut Oak Forest IL
    Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 120304 Date 09/13/85
12. Water from limestone 13. County McHenry
    at depth 173 to 175 ft.
14. Screen: Diam._____in.
    Length:_____ft. Slot _____
    Sec. 13
    Twp. 43 N
    Rge. 5 E
    Elev. 892



15. Casing and Liner Pipe 2250' S 550' W NEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	173

16. Size hole below casing: __5__ in.
17. Static level __40__ft. below casing top which is __1__ft. above ground level. Pumping level__50__ft.when pumping at __10__ gpm for__4__hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
gravel	2	4
dark clay	121	125
sand & gravel	3	128
gray clay & gravel	45	173
limestone, wh & blk	2	175

McHenry 12-111-24680-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Holle, Bill & Marlene Well No. _____
Address 16116 Harmony Rd. Huntley IL
Well address 8508 S. Hill Marengo, IL
Lot #23 Subd Bartlett Coral Woods ISWS P# 300355
Driller Keller, Larry License No. 092-7210
Permit No. G6525-97 Date 09/09/1997
Water from sand/gravel County McHenry
at depth 76 to 80 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 25

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____

SE SE NE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	76

Size hole below casing: _____ in.
Static level 11 ft. below casing top which is 1 ft.
above ground level. Pumping level 15 ft. when pumping at 12
gpm for 24 hours.

Formations passed through	Thickness	Bottom
topsoil	1	1
brown stony clay	59	60
sand/gravel	28	88

Household - Private

McHenry 12-111-35251-00 13-43N-5E

18. Formations passed through (continued)	Thickness	Bottom
rock	97	320

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Kosmicki, Monte Well No. _____
Address 10314 Ridge Marengo IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 111-G2251-95 Date 10/27/95
12. Water from sand & gravel 13. County McHenry
at depth 120 to 182 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____

NW NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	SDR 21 SCH 40 ASTM	0	161
5	BLK STEEL 15#/FT	161	182

16. Size hole below casing: _____ in.
17. Static level 40 ft. below casing top which is 1 ft.
above ground level. Pumping level 50 ft. when pumping at _____
gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
clay	3	3
sand & gravel	12	15
clay	105	120
sand & gravel	62	182

Household - Private

McHenry 12-111-34526-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Hazlerig, Terry Well No. _____
Address 1600 Raymond St. S. Elgin IL
Driller Hutchings, Clyde A. License No. 102-0072
11. Permit No. 111-F6676-93 Date 07/08/93
12. Water from drift 13. County McHenry
at depth 68 to 71 ft. Sec. 13
14. Screen: Diam. 4 in. Twp. 43 N
Length: 3 ft. Slot 20 Rge. 5 E
Elev. 865

SW NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	SDR 21 200# PVC	0	68
4	SCREEN	65	71

16. Size hole below casing: 4 in.
17. Static level 20 ft. below casing top which is 0 ft.
above ground level. Pumping level 40 ft. when pumping at _____
gpm for 24 hours.

18. Formations passed through	Thickness	Bottom
clay	12	12
sand	38	50
sand & gravel	21	71
clay	9	80

Household - Private

McHenry 12-111-33565-00 13-43N-05E

JESTED AND MAIL ORIGINAL TO STATE
HER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER WELL LOCATI

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7-28-77

0. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
1. Permit No. _____ Date _____
2. Water from _____ Formation 13. County _____
at depth ____ to ____ ft. Sec. ____
4. Screen: Diam. ____ in. Twp. ____
Length: ____ ft. Slot _____ Rge. ____
Elev. ____

SHOW LOCATION IN SECTION PLAT

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

16. Size Hole below casing: _____ in.
17. Static level ____ ft. below casing top which is _____ (permit) ft.
above ground level. Pumping level ____ ft. when pumping at ____
gpm for ____ hours. Sub. pump set at 100'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED _____ DATE _____

65 MCHENRY COUNTY No. 23310 13-43N-5E

ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
OPER WELL LOCATIO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 11-10-1979

1. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
1. Permit No. _____ Date _____
2. Water from _____ Formation 13. County _____
at depth ____ to ____ ft. Sec. ____
4. Screen: Diam. ____ in. Twp. ____
Length: ____ ft. Slot _____ Rge. ____
Elev. ____

SHOW LOCATION IN SECTION PLAT

Lot#32, Coral Woods Subd. E/2 NE (permit)

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

16. Size Hole below casing: _____ in.
17. Static level ____ ft. below casing top which is _____ ft.
above ground level. Pumping level ____ ft. when pumping at ____
gpm for ____ hours. Sub pump set at 60'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED _____ DATE _____

MCHENRY COUNTY No. 23532 13-43N-5E

ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
OPER[illegible] LOCATIO"

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7-1-1979

. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
. Permit No. _____ Date _____
. Water from Gravel 13. County _____
Formation
at depth 10 to 151 ft.
4. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 13
Twp. 43N
Rge. 5E
Elev. _____

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Galvanized	0	151
	15 lb. [illegible]		

SHOW LOCATION IN SECTION PLAT

Lot#27, Coral Woods Subd. 100' S line, 90' W line, SW SE NE

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is _____ ft. above ground level. Pumping level 15 ft. when pumping at 1 gpm for 4 hours. Sub pump set at 20'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil	5	5
Clay	25	30
Sand & Gravel	20	50
Clay	10	60
Small Gravel	10	70
Clay	50	120
Sand	3	123
Clay	10	133
Large Gravel	2	135

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Backus DATE 12/21/79

MCHENRY COUNTY No 23538

13-43N-5E

7

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Kunde, Doug Well No. _____
Address 572 E. Grant Hwy. Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 129231 Date 01/16/87
12. Water from limestone 13. County McHenry
at depth 148 to 151 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. 862

15. Casing and Liner Pipe 2000' N 800' W SEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	148

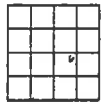
16. Size hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 15 ft. when pumping at 1 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	4	4
yellow clay	30	34
gray c w/gvl shelves	114	148
broken limestone	3	151

McHenry 12-111-25597-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Moen, Roger Well No. _____
Address 5815 Willow Ct. Crystal Lake IL
Driller Howe, Robert E. Jr. License No. 102-0809
11. Permit No. 111-G4379-96 Date 10/09/96
12. Water from sand & gravel 13. County McHenry
at depth 72 to 75 ft. Sec. 13
14. Screen: Diam. 4 in. Twp. 43 N
Length: 3 ft. Slot 15 Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLK 15# ASTM A53B	-3	72

16. Size hole below casing: _____ in.
17. Static level 25 ft. below casing top which is 3 ft. above ground level. Pumping level 43 ft. when pumping at 18 gpm for _____ hours.

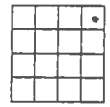
18. Formations passed through	Thickness	Bottom
clay sand gravel	10	10
sand gravel	30	40
clay	22	62
black dirt	2	64
sand gravel	11	75

Household - Private

McHenry 12-111-34919-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Lau, Keith Well No. _____
Address 756 Sandy Lane Des Plaines IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 111593 Date 03/19/84
12. Water from gravel 13. County McHenry
at depth 187 to 189 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____



15. Casing and Liner Pipe 900' S 500' W NEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	185

16. Size hole below casing: 5 in.
17. Static level 90 ft. below casing top which is 1 ft. above ground level. Pumping level 100 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
yellow clay	80	82
sand & gravel	47	129
sand, clay & gravel	54	183
large gravel	2	185

McHenry 12-111-27423-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Mulasmajic, Dzemal Well No. _____
Address 1611 Deerpath Rd. Marengo IL
Driller Knierim, James License No. 102-0270
11. Permit No. 81322 Date 10/27/78
12. Water from rock 13. County McHenry
at depth 35 to 320 ft. Sec. 13
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 5 E
Elev. _____

15. Casing and Liner Pipe NW NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC (NSF)		

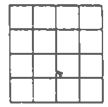
16. Size hole below casing: 5 in.
17. Static level 35 ft. below casing top which is 1 ft. above ground level. Pumping level 147 ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
top soil	3	3
clay	69	72
sand gravel	32	104
clay	81	185
sand gravel	7	192
clay	33	225
shale	5	230
rock	90	320

McHenry 12-111-23888-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Mardock, Geoff Well No. _____
Address % Christine Naras 149 E. Columbia Des Plaines IL
Well address 20418 Delks Dr. Marengo, IL
Lot 18 Subd Maple Lake Shores ISWS P# 322484
Driller Nice, Mark E. License No. 102-3209
Permit No. H1623 Date 10/04/1999
Water from gravel County McHenry
at depth 60 to 80 ft. Sec. 13
Screen: Diam. 4 in. Twp. 43 N
Length: 4 ft. Slot .015 Rge. 5 E
Elev. _____



Casing and Liner Pipe SW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	76
4	STAINLESS STL SCREEN	76	80

Size hole below casing: _____in.
Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel & sand	33	35
clay	25	60
gravel	20	80

Household - Private

McHenry 12-111-37471-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Overstreet, Dolores Well No. _____
Address 16220 Harmony Rd. Huntley IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G4217-96 Date 09/27/96
12. Water from limestone 13. County McHenry
at depth 201 to 205 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____

NW NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC/ASTM F480	0	182
5	STL ASTM 15#/FT A53B	182	203

16. Size hole below casing: _____ in.
17. Static level 50 ft. below casing top which is 1 ft. above ground level. Pumping level 140 ft. when pumping at 10 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
sandy clay	118	120
gravel & sand	5	125
clay	76	201
limestone	4	205

Household - Private

McHenry 12-111-34920-00 13-43N-05E

STED AND MAIL ORIGINAL TO STATE DE
STATE OFFICE BUILDING, SPRINGFIELD,
./WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 1-28-73

10. Property owner Truman Moore Well No. 1
Address Bartletts Coral Woods, Marengo
Driller Paul Barker License No. 92-563
11. Permit No. 20915 Date Nov. 14, 1972
12. Water from Limestone (Formation) 13. County McHenry
at depth 202 to 205 ft. Sec. 13
14. Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Galv. 15#	0	202

SHOW LOCATION IN SECTION PLAT
100' NL 80' WL of
NW NE NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 75 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at 15 gpm for 4 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Top Soil & Gravel	0-40	
Blue Clay	40-202	
Limestone	202-205	

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE July 9, 1973

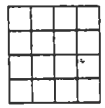
COUNTY No. 1043

S
MC HENRY

13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Pleva, Craig Well No. _____
Address P.O. Box 444 Marengo IL
Well address 8618 S. Hill Marengo, IL
Lot 30 Subd Bartlett Coral Woods ISWS P# 339051
Driller Keller, Larry License No. 092-7210
Permit No. H-6119 Date 07/24/2001
Water from sand/gravel County McHenry
at depth 72 to 76 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 20
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____



Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	72
5	STAINLESS STL SCREEN	72	76

Size hole below casing: _____ in.
Static level 10 ft. below casing top which is 1 ft.
above ground level. Pumping level 15 ft. when pumping at 10
gpm for 3 hours.

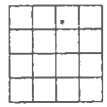
Formations passed through	Thickness	Bottom
topsoil	2	2
sand/gravel	8	10
light brown clay	25	35
sand/gravel/boulders	6	41
brown stony clay	11	52
dark brown peat	3	55
gray stony clay	15	70
sand/gravel	11	81

Household - Private

McHenry 12-111-39721-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Mulasmajic, Jemal Well No. _____
Address 1611 Deerpass Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 135842 Date 10/01/87
12. Water from limestone 13. County McHenry
at depth 193 to 210 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. _____



15. Casing and Liner Pipe SW NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15 #/FT	0	193

16. Size hole below casing: 5 in.
17. Static level 25 ft. below casing top which is 1 ft.
above ground level. Pumping level 35 ft. when pumping at _____
gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & clay	191	193
limestone	17	210

McHenry 12-111-26343-00 13-43N-05E

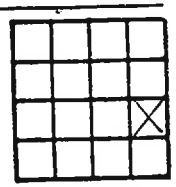
ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER WELL LOCATION

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 10-15-1979

0. Property owner _____ Well No. _____
Address _____
Driller _____ License No. _____
1. Permit No. _____ Date _____
2. Water from _____ 13. County _____
Formation
at depth ____ to ____ ft.
4. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. ____
Twp. ____
Rge. ____
Elev. ____



SHOW LOCATION IN SECTION PLAT

Lot#28, Coral Woods Subd. NE SE (permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)

16. Size Hole below casing: ____ in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours. Sub pump set at 100'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED _____ DATE _____

MCHENRY COUNTY No. 23539

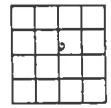
13-43N-5E

9

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Stone, Jeff Well No. ____
Address 35W728 Crispin Dr. Elgin IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G3763-96 Date 07/29/96
12. Water from gravel 13. County McHenry
at depth 65 to 72 ft.
14. Screen: Diam. 4 in.
Length: 5 ft. Slot 25

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____



SW SW NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480 15#/FT	0	70

16. Size hole below casing: ____ in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 40 ft. when pumping at 20 gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
brown clay	8	10
gravel	5	15
brown clay	50	65
gravel	7	72

Household - Private

McHenry 12-111-34877-00 13-43N-05E

IER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER WELL LOCATION

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 10/10/75

0. Property owner James Sarko Well No. ____
Address Coral Wood Sub. Marengo Ill.
Driller James Knierim License No. 102-27
1. Permit No. 39458 Date 7-18-75
2. Water from Limestone Formation 13. County McHenry
at depth 40 to 220 ft.
4. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 13
Twp. 43N.
Rge. 5E.
Elev. ____

SHOW LOCATION IN SECTION PLAT

Coral Wood Subd.
SE NW SE
(permit)

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Plastic	0	178

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 105 ft. when pumping at 15 gpm for 4 hours. Sub. pump set at 105'

18. FORMATIONS PASSED THROUGH	THICKNESS TOP	DEPTH OF BOTTOM
Top Soil	0	5
Sand Gravel	5	80
Clay	80	140
Sand, Gravel	140	178
Rock	178	220

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Knierim DATE 10-24-75

COUNTY No. 22545

MC HENRY 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Reschke, Mike Well No. ____
Address 145 Lee Ann Lane Woodstock IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 010890 Date 04/27/89
12. Water from limestone 13. County McHenry
at depth 139 to 156 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____

15. Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	139

16. Size hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at ____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & gravel	33	35
sand & clay	104	139
limestone	17	156

Household - Private

McHenry 12-111-29987-00 13-43N-05E

UMER HEALTH PROTECTION, 535 WEST
1. DO NOT DETACH GEOLOGICAL/WATER
PRO[illegible] WELL LOC/ [illegible]ON.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed January 31, 1978

10. Property owner Jim Sarko Well No. _____
Address Rt. 176 & #33 Marengo, Ill
Driller James Katerini License No. 102-27
11. Permit No. 66932 Date Sept. 1977
12. Water from Shale Formation 13. County McHenry
at depth 40 to 200 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43N.
Rge. 5E
Elev. _____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Plastic (NSF)	0	150'

SHOW LOCATION IN SECTION PLAT
L 25 Robert Bartlett's Coral Woods Sd. NW SE NE (permit)

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 126 ft. when pumping at 15 gpm for _____ hours. Sub pump @ 126'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ Top	DEPTH OF BOTTOM
TOP SOIL	0	3'
CLAY	3	18
SAND GRAVEL	18	50
CLAY	50	70
SAND GRAVEL	70	90
CLAY	90	150
ROCK	150	180
SHALE	180	200

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Katerini DATE May 3, 1978

COUNTY No. 23311

MCHENRY 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Rosenorn, Craig Well No. _____
Address 42 W 600 Hummingbird Hampshire IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 123231 Date 04/18/86
12. Water from limestone 13. County McHenry
at depth 140 to 145 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. 868

15. Casing and Liner Pipe 1850' N 400' W SEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	140

16. Size hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & gravel	21	23
clay	117	140
limestone	5	145

McHenry 12-111-24995-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Taylor, Randy Well No. ____
Address 8122 S. Grant Highway Marengo IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-F8100-94 Date 03/14/94
12. Water from limestone 13. County McHenry
at depth 187 to 190 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____

SW NE NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	190

16. Size hole below casing: ____ in.
17. Static level 50 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at ____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & clay	168	170
sand & gravel	17	187
limestone	3	190

Household - Private

McHenry 12-111-33405-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 4-20-76

10. Property owner James Knierim Well No. ____
Address Lot #43 Barlett Coral Woods Riley Rd
Driller James Knierim License No. 102-270
11. Permit No. 41824 Date 10-6-75
12. Water from Shale 13. County McHenry
Formation
at depth 50 to 220 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 13
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Plastic (NSF)	0	190

SHOW LOCATION IN SECTION PLAT
Lot#43, Barlett Coral Woods Sub
SW NE NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 50 ft. below casing top which is ____ ft. above ground level. Pumping level 147 ft. when pumping at 40 gpm for 4 hours. Sub. pump set at 147'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Top Soil	0	2
Clay	2	17
Sand, Gravel	17	24
Clay	24	110
Sand, Gravel	110	135
Clay, Gravel	135	170
Sand, Gravel	170	190
Rock	190	208
Shale	208	220

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Knierim DATE 6-8-76

MC HENRY COUNTY No. 22761

13-43N-5E

...TATE OFFICE BUILDING, SPRINGFIELD,
...WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 6-20-71

10. Property owner Ted Urban Well No. 1
Address Hill Road, Marengo, Ill
Driller PAUL Barker License No. 92k563
11. Permit No. NF 11220 Date June ,9,1971
12. Water from Sand& Gravel (Formation) 13. County McHenery
at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 13
Twp. 43n
Rge. ~~5~~E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15 per, [illegible] FT.	0	159

SHOW LOCATION IN SECTION PLAT
80'SL 100'EL of NW SE (permit)

16. Size Hole below casing: 5 in.
17. Static level 25 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at 20 gpm for 3 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Fill	0-25	25
Hard Pan	25-45	45
~~Dry~~ Sand	40-45	45
Sand	40-75	75
~~Dry Sand & Mud~~	~~75-105~~	~~105~~
Hard Pan	105-130	130
~~Mud Sand & Gravel~~	~~130-150~~	~~150~~

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 8-5-72

COUNTY No. 1414

/2
MC HENRY

13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Schmidt, Gavin/Terrance, Lisa Well No. ____
Address 6211 Maple St. Unit #503 Marengo IL
Well address 20401 Demings Circle Marengo, IL
Lot 9 Subd Maple Lake Shores ISWS P# 340322
Driller Keller, Larry License No. 092-7210
Permit No. H-6577 Date 09/17/2001
Water from sand/gravel County McHenry
at depth 71 to 75 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 25

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____

Casing and Liner Pipe NE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	71
5	STAINLESS STL SCREEN	71	75

Size hole below casing: ____ in.
Static level 4 ft. below casing top which is 1 ft. above ground level. Pumping level 4 ft. when pumping at 10 gpm for 3 hours.

Formations passed through	Thickness	Bottom
topsoil	1	1
sand/gravel	29	30
brown stony clay	10	40
sand/gravel	40	80

Household - Private

McHenry 12-111-39048-00 13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Mulasmajic, Jemal Well No. _____
Address 1611 Deerpass Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 135841 Date 10/01/87
12. Water from limestone 13. County McHenry
at depth 213 to 350 ft. Sec. 13
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 5 E
Elev. _____

SW SW NE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK PIPE 15#/FT	0	213

16. Size hole below casing: 5 in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 50 ft.when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & clay	211	213
limestone	137	350

McHenry 12-111-26342-00 13-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Todd, Terry & Jeanette Well No. _____
Address 920 Patricia Dr. Elgin IL
Well address Delks Dr. Marengo, IL
Lot 17 Subd Maple Lake Shores ISWS P# 322486
Driller Nice, Mark E. License No. 102-3209
Permit No. H2096 Date 01/04/1999
Water from gravel County McHenry
at depth 60 to 80 ft. Sec. 13
Screen: Diam. 4 in. Twp. 43 N
Length: 4 ft. Slot .015 Rge. 5 E
Elev. _____

SE NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	76
4	STAINLESS STL SCREEN	76	80

Size hole below casing: _____in.
Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft.when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
gravel & sand	28	30
clay	30	60
gravel	20	80

Household - Private

McHenry 12-111-37469-00 13-43N-5E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 5-9-71

10. Property owner Jess Winters Well No. 1
Address 16820 E. Coral Road Union Ill
Driller Paul Barker License No. 92-563
11. Permit No. 10424 Date March 29, 1971
12. Water from Sand & Gravel 13. County McHenry
Formation
at depth ____ to ____ ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 13
Twp. 43n
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# Per FT.	0	250

SHOW LOCATION IN SECTION PLAT
150'SL 150'EL of NE NE SE (permit)

16. Size Hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 70 ft. when pumping at 15 gpm for 3 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
~~Top Clay~~	~~0-5~~	~~5~~
Sand & Clay	5-75	75
~~Hard Pan~~	~~75-105~~	~~105~~
Find Sand & Gravel	105-175	175
~~S~~nd & Rock	175-210	~~210~~
Sand & Gravel	210-250	250

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 8-5-71

COUNTY No. 1415

MC HENRY

13-43N-5E

UESTED AND MAIL ORIGINAL TO STATE
OF ENVIRONMENTAL HEALTH, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER WELL LOCATION

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 6-26-75

). Property owner WESTHAVEN (Roeske) Well No. ____
Address 101 SHARON DR. Dundee ILL.
Driller MARTIN BROS & SON License No. 103-7
1. Permit No. 36431 Date MARCH 13, 1975
2. Water from Limestone 13. County McHenry
Formation
at depth 204 to 225 ft.
4. Screen: Diam. — in.
Length: — ft. Slot —
Sec. 13 16
Twp. 43N
Rge. 5E
Elev. 896
location correct? Lot #19 Robt. Bartlett's Coral Woods Subd.

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
4	galv	0	204

SHOW LOCATION IN SECTION PLAT
600' From E line of Sec.
850' From N. line of Sec.

16. Size Hole below casing: 3 7/8 in.
17. Static level 70 ft. below casing top which is 2 ft. above ground level. Pumping level 105 ft. when pumping at 10 gpm for 1 hours. Sub. pump set at 105'.

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~	DEPTH OF BOTTOM
Black Loam	0	4
Brown Clay & Sand	4	14
Brown Clay & Gravel	14	70
Sand & Red Clay	70	120
Grey Sand & grey Clay	120	180
Brown Clay	180	195
brown Clay & gravel	195	204
White Limestone	204	225

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE 11/17/75

COUNTY No. 2246

MCHENRY

13-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Timber Construction, LTD Well No. _____
Address 8702 Maple St. Marengo IL
Well address 20505 Demming Marengo, IL
Lot 2 Subd Maple Lake Shores ISWS P# 330053
Driller Keller, Larry License No. 092-7210
Permit No. H-4610 Date 12/20/2000
Water from sand/gravel County McHenry
at depth 72 to 76 ft.
Screen: Diam. 5 in.
Length: 4 ft. Slot 15

Sec. 13
Twp. 43 N
Rge. 5 E
Elev. ____

NW NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC	0	72
5	STAINLESS STL SCREEN	72	76

Size hole below casing: _____in.
Static level 6 ft. below casing top which is 1 ft.
above ground level. Pumping level 40 ft.when pumping at 10
gpm for 4 hours.

Formations passed through	Thickness	Bottom
sand/gravel	35	35
brown stony clay	20	55
brown peat	5	60
gray stony clay	9	69
sand/gravel	16	85

Household - Private

McHenry 12-111-38088-00 13-43N-5E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel	2	57
clay	57	85
limestone (salt & pepper)	85	95
shale	95	100
Total Depth		**100**

Casing: 5" PVC F480 from 0' to 65'
5" STEEL A53B from 65' to 86'

Grout: BAROID from 0 to 85.

Water from limestone at 95' to 100'.
Static level 15' below casing top which is 1' above GL
Pumping level 80' when pumping at 10 gpm for 2 hours

Permanent pump installed at 80'
on November 2, 2004, with a capacity of 10 gpm

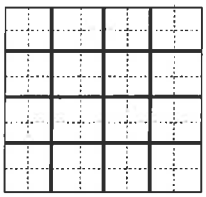
Remarks: driller's est well yield 10 gpm

Address of well: 8707 Rt. 23
Marengo, IL

Location source: Tax record verified Verified by: VJA on April 5, 2010.

Permit Date: August 17, 2004 **Permit #:** 111-066

COMPANY Nice, Mark E.
FARM Dahlman, Howard
DATE DRILLED October 27, 2004 **NO.**
ELEVATION **COUNTY NO.** 41809
LOCATION SW NW SE
LATITUDE 42.202195 **LONGITUDE** -88.616944
COUNTY McHenry **API** 121114180900 **14 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	4
gravel	4	65
clay	65	82
limestone	82	85
Total Depth		**85**

Casing: 5" PVC F480 from 0' to 61'
5" STEEL A53B from 61' to 82'

Grout: BAROID from 0 to 82.

Water from limestone at 82' to 85'.
Static level 9' below casing top which is 1' above GL
Pumping level 20' when pumping at 10 gpm for 2 hours

Permanent pump installed at 20'
on June 24, 2009, with a capacity of 10 gpm

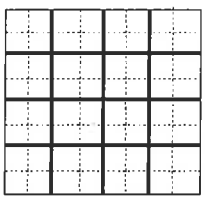
Remarks: Driller's Estimated Well Yield 20+ gpm

Address of well: same as above

Location source: Aerial Photograph verified Verified by: VJA on October 4, 2012.

Permit Date: June 1, 2009 **Permit #:** 111-008

COMPANY Nice, Mark E.
FARM Solis, Urbano
DATE DRILLED June 4, 2009 **NO.**
ELEVATION **COUNTY NO.** 43819
LOCATION NE NE SW
LATITUDE 42.203814 **LONGITUDE** -88.618754
COUNTY McHenry **API** 121114381900 **14 - 43N - 5E**



NSUMER HEALTH PROTECTION, 535 WEST
2761. DO NOT DETACH GEOLOGICAL/WATER
DE PT WELL LO TION. 10-14-2000

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed May 9, 1977

10. Property owner Rolley Bray Well No. _____
Address 335 W. Green Meadow Blvd. Streamwood Ill.
Driller Paul Barker License No. 92-563
11. Permit No. 55106 Date November 23,1976
12. Water from rock Formation 13. County McHenry
at depth 71 to 120 ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 14
Twp. 43 N
Rge. 5 E
Elev. 829'

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per ft.	0	71

SHOW LOCATION IN SECTION PLAT
~~100' SL 80'~~
~~EL SE NW~~
SW (permit)

16. Size Hole below casing: 5 in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 20 gpm for 2 hours. Sub pump @ 84'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Gravel	0	~~40~~
Clay	40	71
~~Rock~~	71	120

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE June 10 ??

COUNTY No 2332

MCHENRY 14-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Messman, Peter Well No. _____
Address 22022 Grange Rd. Marengo IL
Well address same as above
Lot _____ Subd _____ ISWS P# 325022
Driller Keller, Larry License No. 092-7210
Permit No. H-2863 Date 04/24/2000
Water from limestone County McHenry
at depth 70 to 260 ft.
Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 14
Twp. 43 N
Rge. 5 E
Elev. _____

Casing and Liner Pipe SW SW SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM F480	0	49
5	STL 15#/FT ASTM A53B	49	70

Size hole below casing: _____ in.
Static level 140 ft. below casing top which is 1 ft. above ground level. Pumping level 200 ft. when pumping at 20 gpm for 4 hours.

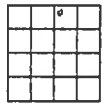
Formations passed through	Thickness	Bottom
topsoil	2	2
sand & gravel	26	28
brown peat	3	31
gray stony clay	29	60
brown stony clay	10	70
limestone	190	260

Household - Private

McHenry 12-111-37593-00 14-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Paveloc Industries Well No. _____
Address 842 W. Algonquin Rd. Algonquin IL
Driller Howe, Robert E. Jr. License No. 102-0809
11. Permit No. 111-F4398 Date 08/20/92
12. Water from gravel 13. County McHenry
at depth 71 to 74 ft. Sec. 14
14. Screen: Diam. 5 in. Twp. 43 N
Length: 3 ft. Slot 20 Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	GALV. T/C 15#	-1	74

16. Size hole below casing: 5 in.
17. Static level 17 ft. below casing top which is 1 ft. above ground level. Pumping level 21 ft. when pumping at 20 gpm for _____ hours.

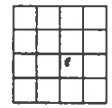
18. Formations passed through	Thickness	Bottom
top soil & fill	6	6
gravel & clay mix	44	50
gravel & sand	24	74

Semi-Private

McHenry 12-111-32576-00 14-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Poulin, M. & Eriksen, D. Well No. _____
Address 8618 So. Rt. #23 Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-F6642-93 Date 07/02/93
12. Water from broken limestone 13. County McHenry
at depth 57 to 60 ft. Sec. 14
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PLASTIC SCHEDULE 40	0	40
5	BLK STEEL 15#/FT.	40	60

16. Size hole below casing: _____ in.
17. Static level 15 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at _____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	5	7
gravel	48	55
clay	2	57
broken limestone	3	60

Household - Private

McHenry 12-111-32577-00 14-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Preston, Larry & Sandra Well No. _____
    Address P.O. Box #209 Algonquin IL
    Driller Nice, Mark E. License No. 102-3209
11. Permit No. 003521 Date 07/13/88
12. Water from gravel 13. County McHenry
    at depth 95 to 98 ft.
14. Screen: Diam. _____ in.
    Length: _____ ft. Slot _____
    Sec. 14
    Twp. 43 N
    Rge. 5 E
    Elev. _____

15. Casing and Liner Pipe SE NE NW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	98

16. Size hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 15 ft. when pumping at 10 gpm for 4 hours.

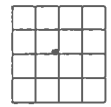
18. Formations passed through	Thickness	Bottom
top soil	2	2
sand & clay	8	10
sand & gravel	45	55
clay	40	95
gravel	3	98

Household - Private

McHenry 12-111-26979-00 14-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Ziegler, Wolfgang Well No. _____
    Address 8517 S. R.R. #23 Marengo IL
    Driller Nice, Craig License No. 102-3191
11. Permit No. 017380 Date 04/02/90
12. Water from limestone 13. County McHenry
    at depth 82 to 90 ft.
14. Screen: Diam. _____ in.
    Length: _____ ft. Slot _____
    Sec. 14
    Twp. 43 N
    Rge. 5 E
    Elev. _____



15. Casing and Liner Pipe SE SE NW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	83

16. Size hole below casing: 5 in.
17. Static level 15 ft. below casing top which is 1 ft. above ground level. Pumping level 25 ft. when pumping at _____ gpm for 4 hours.

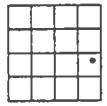
18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	8	10
sand & gravel	50	60
clay	22	82
limestone	8	90

Household - Private

McHenry 12-111-29988-00 14-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Butenschoen, James Well No. _____
Address 21313 Anthony Rd. Marengo IL
Driller owner License No. none
11. Permit No. 78228 Date 08/16/78
12. Water from _____ 13. County McHenry
at depth _____ to _____ ft. Sec. 23
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NE NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)

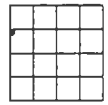
16. Size hole below casing: _____ in.
17. Static level _____ ft. below casing top which is _____ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours.

18. Formations passed through	Thickness	Bottom
no record	32	32

McHenry 12-111-29321-00 23-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Babcock, Lowell Well No. _____
Address 22014 Anthony Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 94223 Date 06/04/80
12. Water from gravel 13. County McHenry
at depth 61 to 63 ft. Sec. 23
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____



15. Casing and Liner Pipe NW SW NW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	SCH 80 PLASTIC	0	63

16. Size hole below casing: 5 in.
17. Static level 15 ft. below casing top which is 1 ft. above ground level. Pumping level 15 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	3	3
sand & gravel	15	18
gray clay	43	61
gravel	2	63

McHenry 12-111-23891-00 23-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Butenschoen, Walter Well No. _____
Address 21516 Harmony Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 138084 Date 12/08/87
12. Water from limestone 13. County McHenry
at depth 76 to 160 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 23
Twp. 43 N
Rge. 5 E
Elev. _____

15. Casing and Liner Pipe NE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	76

16. Size hole below casing: 5 in.
17. Static level 4 ft. below casing top which is 1 ft. above ground level. Pumping level 10 ft.when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
blue clay	74	76
limestone	84	160

McHenry 12-111-26539-00 23-43N-05E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Boomgarden, Les Well No. _____
Address 21108 Anthony Rd. Marengo IL
Well address same as above
Lot _____ Subd _____ ISWS P# 322506
Driller Nice, Mark E. License No. 102-3209
Permit No. H2959 Date 05/02/2000
Water from gravel County McHenry
at depth 10 to 52 ft.
Screen: Diam. 4 in.
Length: 4 ft. Slot .015
Sec. 23
Twp. 43 N
Rge. 5 E
Elev. _____

Casing and Liner Pipe SE SE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	48
4	STAINLESS STL SCREEN	48	52

Size hole below casing: _____in.
Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft.when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	8	10
gravel	42	52

Household - Private

McHenry 12-111-37460-00 23-43N-5E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 8-8-75

0. Property owner Jim Krause Well No. 1
Address Gilkey Road, Marengo, Ill.
Driller Paul Barker License No. 92363
1. Permit No. 39988 Date Aug. 8, 1975
2. Water from Limestone 13. County Mc. Henry
Formation
at depth 74 to 120 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 23
Twp. 43N
Rge. 5E
Elev. ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Black	0	74

SHOW LOCATION IN SECTION PLAT
90'SL, 70'EL
SW SW NW
(permit)

16. Size Hole below casing: 5 in.
17. Static level 50 ft. below casing top which is 1 ft. above ground level. Pumping level 105 ft. when pumping at 8 gpm for 2 hours. Sub. pump set at 105'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Topsoil	0	2
Gravel	2	10
Clay & gravel	10	25
Clay	25	45
Clay & gravel	45	73
Limerock & Shale	73	120

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE Sept 1, 1975

MC HENRY COUNTY No. 92763 23-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Butenschoen, Walter Well No. ____
Address 21516 Harmony Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 127110 Date 09/23/86
12. Water from limestone 13. County McHenry
at depth 72 to 80 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

Sec. 23
Twp. 43 N
Rge. 5 E
Elev. 823

100' N 2500' W SEc

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	72

16. Size hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 15 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	70	72
limestone	8	80

McHenry 12-111-25413-00 23-43N-05E

STED AND MAIL ORIGINAL TO STATE DE-
STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 6-1-70

0. Property owner Loy While Well No. 1
Address Anthony Rd. Marengo
Driller George Fowler License No. 92-23
1. Permit No. 8046 Date 4/15/70
2. Water from Sand (Formation) 13. County McHenry
at depth ____ to ____ ft.
Sec. 23
Twp. 43N
Rge. 5E
Elev. ____
14. Screen: Diam. ____ in. Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	15# Galv.	0	80

SHOW LOCATION IN SECTION PLAT

200' SL 200'WL of NW (permit)

16. Size Hole below casing: 5" in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 22 ft. when pumping at 15 gpm for 6 hours.

18.

FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Clay	20	20
Sand and Gravel	20	40
Gravel	40	80

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED George Fowler DATE 7/1/70

COUNTY No. 695

MC HENRY

23-43N-5E

ESTED AND MAIL ORIGINAL TO STATE
MER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER[illegible] LOCATI[illegible]

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 12-22-76

0. Property owner George Hatz Well No. ____
Address [illegible] Rd. Marengo
Driller James Kmiecik License No. 102-[illegible]
1. Permit No. 55866 Date 12-22-76
2. Water from Rock (Formation) 13. County McHenry
at depth 55 to 260 ft.
Sec. 23
Twp. 43N
Rge. 5E
Elev. ____
14. Screen: Diam. ____ in. Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	Plastic (ASF)	0	42

SHOW LOCATION IN SECTION PLAT

SW SW SW (permit)

16. Size Hole below casing: 5 in.
17. Static level 55 ft. below casing top which is 1 ft. above ground level. Pumping level 126 ft. when pumping at 12 gpm for 4 hours. Sub. pump set at 126'

18.

FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Top Soil	0	3
Clay	3	22
Sand Gravel	22	34
Rock	34	42
Shale	42	105
Rock	105	260
[illegible] F. S[illegible]		

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Kmiecik DATE 2-9-77

COUNTY No. 23030

MCHENRY

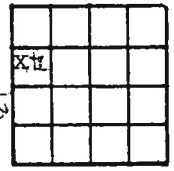
23-43N-5E

STATE OFFICE BUILDING, SPRINGFIELD,
/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed June 15, 1970

10. Property owner Clark White Well No. 1
Address Anthony Rd. Marengo
Driller Paul Barker License No. 92-563
11. Permit No. NF 08351 Date 5/27/70
12. Water from Gravel (Formation) 13. County McHenry
at depth 60 to 70 ft.
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
Sec. 23
Twp. 43 N
Rge. 5 E
Elev. ____



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	15# Galv.	0	70

SHOW LOCATION IN SECTION PLAT
NW SW NW
(permit)

16. Size Hole below casing: ____ in.
17. Static level 20 ft. below casing top which is 1 ft. above ground level. Pumping level 22 ft. when pumping at 10 gpm for 3 hours.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Sandy Clay	60	
Gravel	10	
		70

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

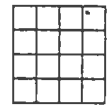
SIGNED Paul A. Barker DATE 9/1/70

3.6.57...

MCHENRY 23-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Meyer Material Company Well No. ____
Address 580 Wolf Road Des Plaines IL
Well address 9204 South IL Rte. 23 Marengo, IL
Lot ____ Subd ____ ISWS P# 324677
Driller Gaffke, George E. License No. 102-2342
Permit No. H-0610 Date 05/20/1999
Water from sand & gravel County McHenry
at depth 41 to 59 ft.
Screen: Diam. 6 in.
Length: 20 ft. Slot 20
Sec. 23
Twp. 43 N
Rge. 5 E
Elev. ____



Casing and Liner Pipe NW NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
8	BLACK STEEL	-1	41

Size hole below casing: ____ in.
Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 0 ft. when pumping at 400 gpm for ____ hours.

Formations passed through	Thickness	Bottom
driveway base (broken brick, gravel)	3	3
black dirt	3	6
sand & gravel	45	51
sandy blue clay	8	59

Semi-Private

McHenry 12-111-37550-00 23-43N-5E

SUMER HEALTH PROTECTION, 535 WEST
61. DO NOT DETACH GEOLOGICAL/WATER
E PRO   LL LOC   N.

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed September 4, 1976

10. Property owner Erwin Behrens Well No. ____
Address Anthony Road Marengo Ill.
Driller Paul Barker License No. 92-563
11. Permit No. 49261 Date July 2 1976
12. Water from Rock (Formation) 13. County McHenry
at depth 80 to 120 ft.
Sec. 23
Twp. 43N
Rge. 5E
Elev. ____
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____
verified by F. Ga... 9/81

SHOW LOCATION IN SECTION PLAT
NW NW SW
(permit)

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# per ft.	0	60

16. Size Hole below casing: 5 in.
17. Static level 40 ft. below casing top which is 10 inches ft. above ground level. Pumping level 60 ft. when pumping at 10 gpm for 3 hours. Sub pump @ 84'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ Top	DEPTH OF BOTTOM
clay	0	15
clay and sand	15	42
...nd gravel	42	60

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	4
gravel	4	35
sandy clay	35	45
small gravel	45	56
Total Depth		**56**

Casing: 5" PVC F480 from 0' to 52'
4" SS SCREEN from 52' to 56'

Screen: 4' of 4" diameter .02 slot

Grout: BAROID from 0 to 46.

Grout: BIRDSEYE from 46 to 56.

Water from gravel at 45' to 56'.

Static level 20' below casing top which is 1' above GL

Pumping level 40' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on February 24, 2003, with a capacity of 10 gpm

Remarks: driller's est well yield 20 gpm

Address of well: 20806 Anthony Rd.
Marengo, IL

Location source: Aerial Photograph verified Verified by: VJA on October 7, 2009.

Permit Date: January 29, 2003 **Permit #:** I-0756-

COMPANY Nice, Mark E.

FARM Faulkner, Barbara

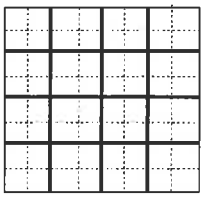
DATE DRILLED February 19, 2003 **NO.**

ELEVATION **COUNTY NO.** 40696

LOCATION SW SE NW

LATITUDE 42.190115 **LONGITUDE** -88.603069

COUNTY McHenry **API** 121114069600 **24 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
brown sandy clay	2	4
sand/gravel	4	58
limestone at	58	58
Total Depth		**58**

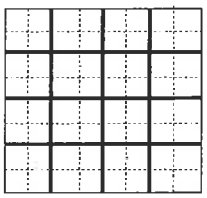
Casing: 5" PVC from 0' to 54'
5" SS SCREEN from 54' to 58'
Screen: 4' of 5" diameter 20 slot
Grout: BENTONITE from 0 to 40.

Water from sand/gravel at 54' to 58'.
Static level 17' below casing top which is 1' above GL
Pumping level 18' when pumping at 10 gpm for 2 hours
Permanent pump installed at 40'
on December 11, 2004, with a capacity of 10 gpm
Remarks: driller's est well yield 75 gpm
Address of well: same as above

Location source: Aerial Photograph verified Verified by: VJA on October 7, 2009.

Permit Date: December 14, 2004 **Permit #:** 111-106

COMPANY Keller, Larry
FARM Kellner, Cheryl
DATE DRILLED December 11, 2004 **NO.**
ELEVATION **COUNTY NO.** 41811
LOCATION SW SW NW
LATITUDE 42.189941 **LONGITUDE** -88.607155
COUNTY McHenry **API** 121114181100 **24 - 43N - 5E**



ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	1
brown stoney clay	1	4
sand/gravel	4	60
Total Depth		**60**

Casing: 5" PVC from 0' to 55'
5" SS SCREEN from 55' to 59'

Screen: 4' of 5" diameter 20 slot

Grout: BENTONITE from 0 to 45.

Water from sand/gravel at 55' to 59'.
Static level 17' below casing top which is 1' above GL
Pumping level 20' when pumping at 10 gpm for 2 hours

Permanent pump installed at 40'
on November 23, 2005, with a capacity of 10 gpm

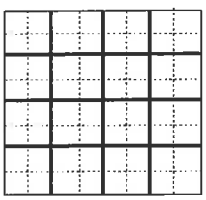
Remarks: driller's est well yield 50 gpm

Address of well: same as above

Location source: Aerial Photograph verified Verified by: VJA on October 7, 2009.

Permit Date: December 1, 2005 **Permit #:** 111-097

COMPANY Keller, Larry
FARM Ferris, Harry R.
DATE DRILLED November 23, 2005 **NO.**
ELEVATION **COUNTY NO.** 42600
LOCATION NE NW SW
LATITUDE 42.189183 **LONGITUDE** -88.603756
COUNTY McHenry **API** 121114260000 **24 - 43N - 5E**



GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Brening, Donald Well No. ______
Address 11109 Getty Rd. Marengo IL
Driller owner License No. none
11. Permit No. 76621 Date 07/07/78
12. Water from ______ 13. County McHenry
at depth ____ to ____ ft. Sec. 24
14. Screen: Diam. ____ in. Twp. 43 N
Length: ____ ft. Slot ______ Rge. 5 E
Elev. ____

15. Casing and Liner Pipe SW SW SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)

16. Size hole below casing: ______ in.
17. Static level ____ ft. below casing top which is ______ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours.

18. Formations passed through	Thickness	Bottom
no record	24	24

McHenry 12-111-29322-00 24-43N-05E

...ER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
.OPER W[illegible] OCATIO[illegible]

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 9-1-1979

Property owner [illegible] Well No. ______
Address [illegible]
Driller [illegible] License No. [illegible]
1. Permit No. [illegible] Date ______
2. Water from [illegible] (Formation) 13. County [illegible]
at depth ____ to ____ ft. Sec. [illegible]
4. Screen: Diam. ____ in. Twp. [illegible]
Length: ____ ft. Slot ______ Rge. [illegible]
location verified from plat book Elev. [illegible]
5. Casing and Liner Pipe [illegible]

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	[illegible]	[illegible]	[illegible]
	[illegible]		

SHOW LOCATION IN SECTION PLAT

SW NE NE
(permit)

16. Size Hole below casing: ______ in.
17. Static level [illegible] ft. below casing top which is ______ ft. above ground level. Pumping level [illegible] ft. when pumping at [illegible] gpm for [illegible] hours. Sub pump set at 60'.

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
Li[illegible]	[illegible]	[illegible]

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED [signature] DATE [illegible]

MCHENRY COUNTY No 23543 24-43N-5E

(2840—50M—12-64) 2

age 1

ILLINOIS GEOLOGICAL SURVEY, URBANA

	Thickness	Top	Bottom
Samples from 0 - 250'			
Received 3-13-39			
S.S.# 3292			

COMPANY Rieke Bros.
FARM Prud. Ins. Co.
DATE DRILLED
AUTHORITY
ELEVATION
LOCATION SW SW SW
COUNTY MC HENRY

NO.
COUNTY NO. 35947

24-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Salemi, Joe Well No. _____
Address 9307 Harmony Hill Rd. Marengo IL
Well address 20704 Anthony Rd. Marengo, IL
Lot _____ Subd _____ ISWS P# 325697
Driller Nice, Mark E. License No. 102-3209
Permit No. H 3362 Date 06/22/2000
Water from gravel County McHenry
at depth 40 to 47 ft.
Screen: Diam. 4 in.
Length: 4 ft. Slot .015

Sec. 24
Twp. 43 N
Rge. 5 E
Elev. _____

SW SE NW

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	43
4	STAINLESS STL SCREEN	43	47

Size hole below casing: _____ in.
Static level 10 ft. below casing top which is 1 ft. above ground level. Pumping level 20 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	1	3
gravel	27	30
clay	10	40
gravel	7	47

Household - Private

McHenry 12-111-37781-00 24-43N-5E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Bohlander, James Well No. _____
Address 10006 Maple Marengo IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 93294 Date 04/08/80
12. Water from limestone 13. County McHenry
at depth 119 to 190 ft. Sec. 24
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 5 E
Elev. _____

SW SW SE

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	118

16. Size hole below casing: 5 in.
17. Static level 7 ft. below casing top which is 1 ft. above ground level. Pumping level 30 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	3	3
sand & gravel	59	62
clay	56	118
limestone	72	190

McHenry 12-111-23892-00 24-43N-05E

JESTED AND MAIL ORIGINAL TO STATE
MER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER LOCATIO

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 4-22-76

0. Property owner Joseph Lasota Well No. ---
Address 427 Robin Hood Rd., Streamwood, Ill.
Driller K&K Well Drilling License No. 102-28
1. Permit No. 45169 Date 5-14-76
2. Water from Rock Formation 13. County McHenry
at depth _____ to 180 ft. Sec. 24
4. Screen: Diam. _____ in. Twp. 43N
Length: _____ ft. Slot _____ Rge. 5E
Elev. 555'

5. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# Black	0	105

SHOW LOCATION IN SECTION PLAT
NE SW SE
(permit)

6. Size Hole below casing: 5 in.
7. Static level 45 ft. below casing top which is 1½ ft. above ground level. Pumping level _____ ft. when pumping at _____ gpm for _____ hours. Sub. pump set at 84' TOP

8. FORMATIONS PASSED THROUGH	~~THICKNESS~~	DEPTH OF BOTTOM
Glacial Drift.	0	105
Rock Formation.	105	180

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Max Knierim DATE 5-14-76

COUNTY No. 22452

MCHENRY 24-43N-5E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
clay	2	347
limestone	347	460
Total Depth		460

Casing: 5" PVC F480 from 0' to 326'
5" STEEL A53B from 326' to 347'

Grout: BAROID from 0 to 346.

Water from limestone at 347' to 460'.
Static level 120' below casing top which is 1' above GL
Pumping level 300' when pumping at 25 gpm for 2 hours

Permanent pump installed at 300'
on September 26, 2001, with a capacity of 25 gpm

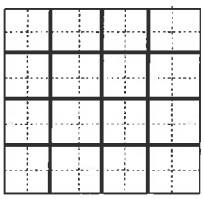
Remarks: driller's est well yield 25 gpm

Address of well: 20016 W. Coral Rd.
Marengo, IL

Location source: Tax record verified Verified by: VJA on August 16, 2010.

Permit Date: September 27, 2000 **Permit #:** H-4207

COMPANY Nice, Mark E.
FARM Sebert, Jeff/Grace Nursery
DATE DRILLED September 17, 2001 **NO.**
ELEVATION **COUNTY NO.** 39536
LOCATION NW NW SW
LATITUDE 42.218201 **LONGITUDE** -88.588072
COUNTY McHenry **API** 121113953600 **7 - 43N - 6E**



GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Anderson, Kerry Well No. _____
Address 1334 North Yale Ave. Arlington Hts. IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 003085 Date 06/23/88
12. Water from gravel 13. County McHenry
at depth 240 to 255 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____

15. Casing and Liner Pipe NE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	255

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 70 ft. when pumping at 10 gpm for 4 hours.

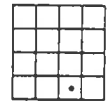
18. Formations passed through	Thickness	Bottom
top soil	2	2
sandy clay	18	20
gravel	10	30
clay	210	240
gravel	15	255

Household - Private

McHenry 12-111-26914-00 07-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Croll, Richard Well No. _____
Address 19508 Coral East Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 120756 Date 10/07/85
12. Water from gravel 13. County McHenry
at depth 265 to 272 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. 929



15. Casing and Liner Pipe 800' N 2200' W SEc Fld Verifd

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	272

16. Size hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	3	3
clay	262	265
gravel	7	272

McHenry 12-111-24723-00 07-43N-06E

MOORE'S MODERN METHODS

TOWN TOWNSHIP Coral Map No. 14
COMPANY H. L. Abraham R. 6E
FARM A. S. Hatch No. T 43 N Sec. 7
AUTHORITY H. L. Abraham No.
ELEVATION
COLLECTOR DATE DRILLED 1926
CONFIDENTIAL
3 miles southeast of Marengo

No.	Co# 718 STRATA	Thickness Feet	Thickness In.	Depth Feet	Depth In.
	Clay, yellow	15		15	
	Clay, stony, blue	107		122	
	Quicksand, yellow, no pebbles, very fine	30		152	
	Clay, stony, blue	16		168	
	Shale, dark yellow, very rotten, all cased	8		176	
	Granite, light, soft; 2 1/2 gal. water p.m.	34		210	
	Shale, dark, streaked with hard slate	58		268	
	Lime, light, very close grained	312		580	
	St. Peter sand rock, very fine-grained, full of lime increase to 6 1/2 gallon	250		830	
	Marl, red, very sharp	130		960	
	Magnesia lime, streaked with red marl and sand	48		1008	
	Pottsdam sand rock very clear, sharp and hollow	12		1020	
	883' of water, soft and clear, casing 176', 6" Water 2 1/2 gal. at 210, 4 gal. at 580, main supply 1020. Water to 137' below surface.				

County MCHENRY
T.—DRILL RECORD
(81082-3m-1-28)

Index No. 140
7-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Heinberg, Harold Well No.
Address 2201 River Rd. Marengo IL
Well address 19147 W. Coral Marengo, IL
Lot Subd ISWS P# 304888
Driller Keller, Larry License No. 092-7210
Permit No. G-8703 Date 08/15/1998
Water from limestone County McHenry
at depth 257 to 260 ft.
Screen: Diam. in.
Length: ft. Slot
Sec. 7
Twp. 43 N
Rge. 6 E
Elev.

Casing and Liner Pipe SE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 ASTM 480	0	236
5	STEEL 14.90# A53B	236	257

Size hole below casing: in.
Static level 82 ft. below casing top which is 1 ft. above ground level. Pumping level 140 ft. when pumping at 12 gpm for 4 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
brown stony clay	18	20
sand & gravel	15	35
brown stony clay	95	130
sand & gravel	10	140
brown stony clay	48	188
broken limestone & gravel	10	198
gray stony sandy clay	28	226
broken limestone & gravel	15	241

Household - Private

McHenry 12-111-35577-00 7-43N-6E

Formations passed through (continued)	Thickness	Bottom
brown stony clay	16	257
limestone	3	260

Household - Private

McHenry 12-111-35577-00 7-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Hill, Paul Well No. _____
Address 7611 Somerset Dr. Marengo IL
Well address _____
Lot #6 Subd Somerset ISWS P# _____
Driller Nice, Marvin R. License No. 102-002458
Permit No. 127839 Date 10/31/1986
Water from gravel County McHenry
at depth 264 to 275 ft.
Screen: Diam. _____ in.
Length: _____ ft. Slot _____

Sec. 7
Twp. 43 N
Rge. 6 E
Elev. 960

N2 NW SE

Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	275

Size hole below casing: 5 in.
Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 70 ft. when pumping at 10 gpm for 4 hours.

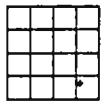
Formations passed through	Thickness	Bottom
top soil	3	3
red clay	42	45
gray clay	105	150
gravel	8	158
gray clay	67	225
gravel	10	235
gray clay	29	264
gravel	11	275

Household - Private

McHenry 12-111-25489-00 7-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Jarosinski, Michael Well No. _____
Address 5820 Wild Plum Crystal Lake IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 111-G4208-96 Date 10/14/96
12. Water from limestone 13. County McHenry
at depth 240 to 245 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NW SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	225
5	STL ASTM A53B 15#/FT	225	245

16. Size hole below casing: _____in.
17. Static level 70 ft. below casing top which is 1 ft.
above ground level. Pumping level 180 ft.when pumping at 10
gpm for 2 hours.

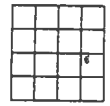
18. Formations passed through	Thickness	Bottom
topsoil	2	2
clay & sand	123	125
sand & gravel	15	140
gravel & clay	90	230
gravel & rocks	10	240
limestone	5	245

Household - Private

McHenry 12-111-34926-00 07-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Naylor, Roger & Wanda Well No. _____
Address P.O. Box #328 Huntley IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-F6981-93 Date 08/03/93
12. Water from gravel 13. County McHenry
at depth 240 to 247 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NW NE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLK STEEL 15#/FT	0	247

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft.
above ground level. Pumping level 70 ft.when pumping at _____
gpm for 4 hours.

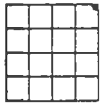
18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	238	240
gravel	7	247

Household - Private

McHenry 12-111-32804-00 07-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner O'Brien, Russell Well No. _____
Address 7015 S. Grant Hwy. Marengo IL
Driller Rosenquist, Gerald Wilbur License No. 092-2146
11. Permit No. 110059 Date 10/24/83
12. Water from dolomite 13. County McHenry
at depth 180 to 240 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NE NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	A53 BLK STEEL 15#	-2	182

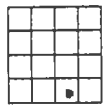
16. Size hole below casing: 5 in.
17. Static level 59 ft. below casing top which is 2 ft. above ground level. Pumping level 124 ft. when pumping at 4 gpm for 3 hours.

18. Formations passed through	Thickness	Bottom
clay	95	95
dirty sand & gravel	2	97
clay	64	161
shale	19	180
dolomite & shale	60	240
shale, some dolomite	13	253

McHenry 12-111-23899-00 07-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Overstreet, Dolores Well No. _____
Address 16220 Harmony Rd. Huntley IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 111-G2303-95 Date 11/01/95
12. Water from limestone 13. County McHenry
at depth 305 to 340 ft. Sec. 7
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe SE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC SDR 17 SCH 40	0	243
5	BLK STL 15#/FT.	243	264

16. Size hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 90 ft. when pumping at _____ gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
clay	140	140
gravel	45	185
clay	78	263
shale	42	305
limestone	35	340

Household - Private

McHenry 12-111-34382-00 07-43N-06E

SS COUNTY No. 284.

LOG OF WATER WELL

Property owner Arthur Kasky Well No.

Drilled by Dan Clouis Year 1959

Formations passed through	Thickness	Depth of Bottom
Drift	256	256
Rock (upper 40' shale)	163	419
SS # 75326		
COUNTY No. 284.		
Collected by John P. Kempton from 1959-1961.		

[Continue on back if necessary]

Finished in ______ at ______ to ______ ft.

Cased with ______ inch ______ from 0 to ______ ft.

and ______ inch ______ from ______ to ______ ft.

Size hole below casing ______ inch. Static level from surf. 99 ft.

Tested capacity 900 gal. per ~~min.~~ hr. Temperature ______ °F.

Water lowered to ______ ft. ______ in. in ______ hrs. ______ min.

Length of test ______ hrs. ______ min. Screen ______

Slot ______ Diam. ______ Length ______ Bottom set at ______ ft.

[Show location in Section Plat]

Township name ______ Elev. 930 Sec. 7

Description of location ______ Twp. 43N

Rge. 6E

Signed ______ County McHenry

McHENRY

Copy for Illinois State Water Survey Index: 7-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Sebert, Jeff/Grace Nursery Well No. ______

Address 19812 W. Coral Rd. Marengo IL

Well address 20016 W. Coral Rd. Marengo, IL

Lot ______ Subd ______ ISWS P# 337512

Driller Nice, Mark E. License No. 102-3209

Permit No. H-4207 Date 09/27/2000

Water from limestone County McHenry

at depth 347 to 460 ft. Sec. 7

Screen: Diam. ______ in. Twp. 43 N

Length: ______ ft. Slot ______ Rge. 6 E

Elev. ______

Casing and Liner Pipe NW SW SW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	326
5	STEEL A53B	326	347

Size hole below casing: ______ in.

Static level 120 ft. below casing top which is 1 ft. above ground level. Pumping level 300 ft. when pumping at 25 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	345	347
limestone	113	460

Household - Private

McHenry 12-111-39536-00 7-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Stains, Emmett Well No. _____
Address 101098 S. Milwaukee Ave. Wheeling IL
Driller Nice, Marvin R. License No. 102-2458
11. Permit No. 93467 Date 04/21/80
12. Water from gravel 13. County McHenry
at depth 242 to 244 ft. Sec. 7
14. Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 6 E
Elev. _____

15. Casing and Liner Pipe NW NW NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	GALV STEEL 15#/FT	0	244

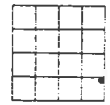
16. Size hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft. above ground level. Pumping level 90 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	240	242
limestone	2	244

McHenry 12-111-23900-00 07-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Tafel, Ken Well No. _____
Address 649 Jull Dr. South Elgin IL
Well address 7782 Somerset Dr. Marengo, IL
Lot 5 Subd Somerset ISWS P# 314609
Driller Nice, Mark E. License No. 102-3209
Permit No. 111-H0278-99 Date 04/29/1999
Water from limestone County McHenry
at depth 298 to 460 ft. Sec. 7
Screen: Diam. _____ in. Twp. 43 N
Length: _____ ft. Slot _____ Rge. 6 E
Elev. _____



Casing and Liner Pipe NE SE SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	277
5	STEEL ASTM A53B	277	298

Size hole below casing: _____ in.
Static level 200 ft. below casing top which is 1 ft. above ground level. Pumping level 400 ft. when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	296	298
limestone	162	460

Household - Private

McHenry 12-111-36818-00 7-43N-6E

ILLINOIS STATE GEOLOGICAL SURVEY

Private Water Well	Top	Bottom
topsoil	0	2
gravel	2	20
clay	20	40
gravel	40	43
clay	43	153
limestone	153	200
Total Depth		**200**

Casing: 5" PVC F480 from 0' to 133'
5" STEEL A53B from 133' to 154'

Grout: BAROID from 0 to 153.

Water from limestone at 153' to 200'.
Static level 40' below casing top which is 1' above GL
Pumping level 140' when pumping at 22 gpm for 2 hours

Permanent pump installed at 140'
on August 16, 2002, with a capacity of 22 gpm

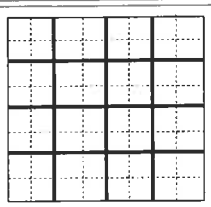
Remarks: driller's est well yield 20+ gpm

Address of well: same as above

Location source: Aerial Photograph verified Verified by: VJA on August 23, 2010.

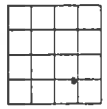
Permit Date: May 23, 2002 **Permit #:** H-8704

COMPANY Nice, Mark E.
FARM Miller, Matthew
DATE DRILLED July 15, 2002 **NO.**
ELEVATION **COUNTY NO.** 40182
LOCATION NW SE SW
LATITUDE 42.199557 **LONGITUDE** -88.582462
COUNTY McHenry **API** 121114018200 **18 - 43N - 6E**



GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Brumm, Dan Well No. _____
Address 941 S. Brockway Palatine IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 017202 Date 03/19/90
12. Water from gravel 13. County McHenry
at depth 160 to 170 ft. Sec. 18
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	170

16. Size hole below casing: 5 in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 50 ft.when pumping at _____ gpm for 4 hours.

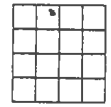
18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	8	10
gravel	20	30
clay	130	160
gravel	10	170

Household - Private

McHenry 12-111-30005-00 18-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Felgar, Ken Well No. _____
Address 101 Quail Run Lake in the Hills IL
Well address W. Coral Rd. Marengo, IL
Lot _____ Subd _____ ISWS P# 300357
Driller Nice, Mark E. License No. 102-3209
Permit No. 111-G6456-97 Date 08/27/1997
Water from dark brown shale County McHenry
at depth 239 to 240 ft. Sec. 18
Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



Casing and Liner Pipe NE NE NW

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	210
5	STL ASTM A53B 15#/FT	210	231

Size hole below casing: _____in.
Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 180 ft.when pumping at 10 gpm for 2 hours.

Formations passed through	Thickness	Bottom
topsoil	2	2
clay	228	230
limestone	9	239
dark brown shale	1	240

Household - Private

McHenry 12-111-35256-00 18-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Gidcumb, Don Well No. _____
Address P.O. Box #539 Marengo IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G2680-96 Date 01/12/96
12. Water from limestone 13. County McHenry
at depth 197 to 200 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 18
Twp. 43 N
Rge. 6 E
Elev. _____

15. Casing and Liner Pipe NE NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	SDR 17 SCH 40 ASTM	0	177
5	BLK STL 15#/FT ASTM	177	197

16. Size hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at _____ gpm for 4 hours.

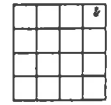
18. Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	28	30
clay & sand	167	197
limestone	3	200

Household - Private

McHenry 12-111-34554-00 18-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Gidcumb, Don Well No. _____
Address P.O. Box #539 Marengo IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 111-G2680-96 Date 01/12/96
12. Water from limestone 13. County McHenry
at depth 197 to 200 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 18
Twp. 43 N
Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NE NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	SDR 17 SCH 40 ASTM	0	177
5	BLK STL 15#/FT ASTM	177	197

16. Size hole below casing: 5 in.
17. Static level 70 ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at _____ gpm for 4 hours.

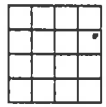
18. Formations passed through	Thickness	Bottom
topsoil	2	2
gravel	28	30
clay & sand	167	197
limestone	3	200

Household - Private

McHenry 12-111-34554-00 18-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Property owner Grismer, Jeff Well No. _____
Address 8105 Leech Rd. Union IL
Well address 19109 Beck Rd. Marengo, IL
Lot _____ Subd _____ ISWS P# 325707
Driller Nice, Mark E. License No. 102-3209
Permit No. H 3599 Date 07/25/2000
Water from limestone County McHenry
at depth 182 to 190 ft.
Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 18
Twp. 43 N
Rge. 6 E
Elev. _____



Casing and Liner Pipe NE SE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC F480	0	163
5	STEEL A53B	163	184

Size hole below casing: _____in.
Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 120 ft.when pumping at 10 gpm for 2 hours.

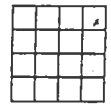
Formations passed through	Thickness	Bottom
topsoil	2	2
clay	180	182
limestone	8	190

Household - Private

McHenry 12-111-37683-00 18-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Kellenberg, Darryl Builders Well No. _____
Address 711 Linden Ave. Elgin IL
Driller Nice, Craig License No. 102-3191
11. Permit No. 111-G3547-96 Date 07/19/96
12. Water from limestone 13. County McHenry
at depth 200 to 203 ft.
14. Screen: Diam._____in.
Length:_____ft. Slot _____
Sec. 18
Twp. 43 N
Rge. 6 E
Elev. _____



15. Casing and Liner Pipe SE NE NE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	PVC ASTM F480	0	180
5	STEEL ASTM 15#/FT	180	201

16. Size hole below casing: _____in.
17. Static level 40 ft. below casing top which is 1 ft. above ground level. Pumping level 180 ft.when pumping at 12 gpm for 10 hours.

18. Formations passed through	Thickness	Bottom
topsoil	2	2
clay	93	95
gravel	10	105
clay	95	200
limestone	3	203

Household - Private

McHenry 12-111-34880-00 18-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Kimball, John Well No. ____
Address 19413 Beck Rd. Marengo IL
Driller Nice, Marvin R. License No. 102-002458
11. Permit No. 132544 Date 06/15/87
12. Water from gravel 13. County McHenry
at depth 232 to 238 ft. Sec. 18
14. Screen: Diam. ____ in. Twp. 43 N
Length: ____ ft. Slot ____ Rge. 6 E
Elev. ____

15. Casing and Liner Pipe SE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	238

16. Size hole below casing: 5 in.
17. Static level 60 ft. below casing top which is 1 ft. above ground level. Pumping level 60 ft. when pumping at 10 gpm for 4 hours.

18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	230	232
gravel	6	238

McHenry 12-111-26065-00 18-43N-06E

SUMER HEALTH PROTECTION, 535 WEST
61. DO NOT DETACH GEOLOGICAL WATER
E PROPER ... LOCAT...

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed December 1, 1977

10. Property owner Dennis L. Miller Well No. ____
Address #3 Hickory Lane Algonquin
Driller Martin Nucs & Son License No. 9627
11. Permit No. 58550 Date April 4, 1977
12. Water from Limestone (Formation) 13. County McHenry
at depth ____ to ____ ft. Sec. 18
14. Screen: Diam. None in. Twp. 43N
Length: ____ ft. Slot ____ Rge. 6E
Elev. 895'

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	~~Galv~~ BLK	0	196

SHOW LOCATION IN SECTION PLAT
180' SL 80' EL
NW SE
(permit)

16. Size Hole below casing: ____ in.
17. Static level ____ ft. below casing top which is ____ ft. above ground level. Pumping level 220 ft. when pumping at 7 gpm for 1 hours. Sub pump @ 220'

18. FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Red Clay & Sand	0	195
Limestone	195	240
Shale	240	260
Limestone	260	280

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Hutchings DATE 12/16/77

COUNTY No. 23332

18-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner McFadden, Tom Well No. _____
Address 1593 Walnut Ave. Hanover Park IL
Driller Nice, Mark E. License No. 102-3209
11. Permit No. 012545 Date 06/26/89
12. Water from shale 13. County McHenry
at depth 260 to 300 ft. Sec. 19
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____

15. Casing and Liner Pipe SE SW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	BLACK STEEL 15#/FT	0	215

16. Size hole below casing: 5 in.
17. Static level 50 ft. below casing top which is 1 ft.
above ground level. Pumping level 60 ft. when pumping at _____
gpm for 4 hours.

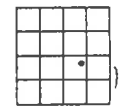
18. Formations passed through	Thickness	Bottom
top soil	2	2
clay	8	10
sand & gravel	20	30
clay	185	215
limestone	45	260
shale	40	300

Household - Private

McHenry 12-111-30007-00 19-43N-06E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Bandel, Frank Well No. _____
Address 9615 Voss Rd. Marengo IL
Driller Rosenquist, Gerald Wilbur License No. 092-2146
11. Permit No. 133934 Date 07/27/87
12. Water from limestone 13. County McHenry
at depth 197 to 230 ft. Sec. 19
14. Screen: Diam._____in. Twp. 43 N
Length:_____ft. Slot _____ Rge. 6 E
Elev. _____



15. Casing and Liner Pipe NE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	A53# 15.00# T & C	-1	197

16. Size hole below casing: 5 in.
17. Static level 80 ft. below casing top which is 1 ft.
above ground level. Pumping level 85 ft. when pumping at 20
gpm for 3 hours.

18. Formations passed through	Thickness	Bottom
clay & stones	195	195
limestone	35	230

McHenry 12-111-26206-00 19-43N-06E

STATE OFFICE BUILDING, SPRINGFIELD,
L/WATER SURVEYS SECTION. BE SURE TO

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed 6-74

10. Property owner Irving Schirmer Well No. [illegible]
Address [illegible] Rd. Barrington, Il.
Driller [illegible] Well Drilling License No. 102-34
11. Permit No. 20295 Date [illegible] 22, 1974
12. Water from Rock Formation 13. County McHenry
at depth ____ to 380 ft.
Sec. 19
Twp. 43N
Rge. 6E
Elev. 940'
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5	15# Blk	0	255

SHOW LOCATION IN SECTION PLAT
SW SE SE
(permit)
1100' EL, 1100' [illegible]

16. Size Hole below casing: 5 in.
17. Static level 10 ft. below casing top which is 1½ ft. above ground level. Pumping level ____ ft. when pumping at ____ gpm for ____ hours. Submersible pump set at 252'

18.

FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
Glacial Drift	0	255
Rock Formation	255	380

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Max Knuim, [illegible] DATE June 18, 1974

COUNTY No. 23109

MC HENRY

19-43N-6E

EQUESTED AND MAIL ORIGINAL TO STATE
SUMER HEALTH PROTECTION, 535 WEST
61. DO NOT DETACH GEOLOGICAL/WATER
E PROP[illegible] L LOC[illegible] IN.

GEOLOGICAL AND WATER SURVEYS WELL RECORD
Completed June 15, 1978

10. Property owner Joe Macaluso Well No. 1
Address Voss Road, Marengo, Ill.
Driller Payl Barker License No. 92-563
11. Permit No. 75941 Date June 22, 1978
12. Water from Yellow Limestone Formation 13. County McHenry
at depth 215 to 280 ft.
Sec. 19
Twp. 43 N
Rge. 6E
Elev. ____
14. Screen: Diam. ____ in.
Length: ____ ft. Slot ____

15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Blacksteel	0	213'

SHOW LOCATION IN SECTION PLAT
100' SL 90' EL
NE NW NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 75 ft. below casing top which is 8" ft. above ground level. Pumping level 110 ft. when pumping at 15 gpm for 1 hours. Sub pump @ 175'

18.

FORMATIONS PASSED THROUGH	~~THICKNESS~~ TOP	DEPTH OF BOTTOM
TopSoil	0	3'
Gravel	3'	15'
Brown Clay and Larger Gravel	15'	60'
Brown Clay and Fine Gravel	60'	120'
Brown Clay and occasional Gravel	120'	215'
Yellow Limestone	215'	280'

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED Paul Barker DATE 7-15-78

COUNTY No. 23333

MCHENRY

19-43N-6E

GEOLOGICAL AND WATER SURVEYS WELL RECORD

10. Property owner Schmidt, Jude Well No. _____
Address 22204 River Rd. Marengo IL
Driller Senffner, Alan James License No. 102-2482
11. Permit No. 005464 Date 09/06/88
12. Water from limestone 13. County McHenry
at depth 265 to _____ ft.
14. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 19
Twp. 43 N
Rge. 6 E
Elev. _____

15. Casing and Liner Pipe SE NW SE

Diam. (in.)	Kind and Weight	From (ft)	To (ft)
5	STEEL 14.98	0	190

16. Size hole below casing: 5 in.
17. Static level _____ ft. below casing top which is 1 ft. above ground level. Pumping level 80 ft. when pumping at _____ gpm for 2 hours.

18. Formations passed through	Thickness	Bottom
drift	190	190
limestone	75	265

Household - Private

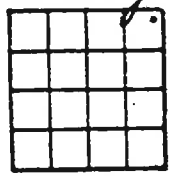
McHenry 12-111-27115-00 19-43N-06E

DESTED AND MAIL ORIGINAL TO STATE
MER HEALTH PROTECTION, 535 WEST
DO NOT DETACH GEOLOGICAL/WATER
ROPER W[illegible] LOCATIO'

GEOLOGICAL AND WATER SURVEYS WELL RECORD

Completed 7/11/75

0. Property owner Jan Sarko Well No. _____
Address R.R. 2 Marengo Ill.
Driller James Knierim License No. 102-27
.1. Permit No. 32599 Date 5-12-75
.2. Water from Rock 13. County McHenry
Formation
at depth 208 to 398 ft.
4. Screen: Diam. _____ in.
Length: _____ ft. Slot _____
Sec. 19
Twp. 43N
Rge. 6E.
Elev. _____



15. Casing and Liner Pipe

Diam. (in.)	Kind and Weight	From (Ft.)	To (Ft.)
5"	Black 15#	0	230

SHOW LOCATION IN SECTION PLAT
NE NE NE
(permit)

16. Size Hole below casing: 5 in.
17. Static level 208 ft. below casing top which is 1 ft. above ground level. Pumping level 273 ft. when pumping at 12 gpm for 4 hours. Sub. pump set at 273'

18. FORMATIONS PASSED THROUGH	THICKNESS	DEPTH OF BOTTOM
Overburden	0	230
Rock Formation	230	398

(CONTINUE ON SEPARATE SHEET IF NECESSARY)

SIGNED James Knierim DATE Dec. 16, 19[illegible]

COUNTY No. 22546

MC HENRY 19-43N-6E

APPENDIX C

TRAFFIC ASSESSMENT REPORT

Traffic Assessment For:

Proposed Gravel Pit
Maple Street
Marengo, Illinois

Prepared For:

Maple Valley Materials

August 28, 2024

PATRICK ENGINEERING, INC.

ALETHYA W. YU-JANICKI
062-063040
LICENSED
PROFESSIONAL
ENGINEER
STATE OF ILLINOIS

ALETHYA W. YU-JANICKI, P.E.
NO. 062-063040
EXP. DATE: 11/30/25

PREPARED BY:

PATRICK
a RISA company

2150 Western Court, Suite 100
Lisle, Illinois 60532

I. Introduction and Key Findings

Patrick Engineering, Inc. (Patrick) was retained by Maple Valley Materials to determine the impacts of traffic generated by the proposed Maple Street Gravel Pit located south of Coral Road along Maple Street in Marengo, Illinois.

The main questions addressed in this report are: 1) how will the amount of traffic expected to be generated by the proposed development impact existing traffic operations, and 2) what improvements (if any) to the existing transportation system are needed as a result of the additional traffic attributed to the development.

Key facts and findings are as follows:

- Access to the proposed development will be from an existing entrance located along Maple Street approximately 3,000 feet south of Coral Road.

- The total number of trips expected to be generated per day is 60 truck trips inbound and 60 truck trips outbound, as well as 7 employee trips inbound and outbound.

- The peak hour volumes generated by the gravel pit were applied to the existing P.M. peak hour to represent the worst-case scenario. For the purposes of this study, this development will generate a total of 19 trips (6 entering and 13 exiting) during the P.M. peak hour.

- 24-Hour Traffic Counts were taken during October of 2023, and the existing ADT volume is 1,549 vehicles per day along Maple Street and 1,612 along Coral Road. Average Daily Traffic volumes can be found in Appendix A. Maple Street is classified as an arterial per the MCDOT.

- No improvements along Maple Street would be required at the existing entrance as a result of this development or at the intersection of Maple Street and Coral Road. The Highway Capacity Software shows that the current roadway geometry is adequate to accommodate the existing background traffic plus the proposed site-generated traffic through the 5-year planning horizon.

II. Development Characteristics

This section identifies the project location, study area roadways, existing roadway characteristics, and the proposed development access.

Proposed Development

Currently, Valley Aggregates operates two facilities in Woodstock (an aggregate mine and a concrete patch plant). The new facilities in Marengo are expected to mimic the

operations of this existing facility. The location of the proposed development is along the west side of Maple Street, just to the south of Coral Road.

Site Accessibility

Direct access to the development will be via an existing driveway that is located along the west side of Maple Street. Maple Street is under the jurisdiction of the McHenry County Division of Transportation and consists of two lanes of travel (one in each direction) in the vicinity of the existing driveway. The speed limit along Maple Street is 55 mph. The surrounding land use of the subject site includes mining operations owned and operated by other companies, farmland, and scattered residential homes. Coral Road, located approximately 3,000 feet north of the existing driveway, is an east-west route under the jurisdiction of the Illinois Department of Transportation that consists of two lanes of travel. Coral Road serves traffic from IL Route 23 on the west and US Route 20 on the east. At the intersection of Maple Street and Coral Road, Maple Street is under stop sign control.

III. Traffic

This section discusses existing background traffic in the vicinity of the development as well as the characteristics of traffic expected to be generated by the development.

Existing Traffic

Traffic counts were taken over a 24-hour period from October 24 to October 25, 2023. The Average Daily Traffic (ADT) volume from this count was determined to be 1,549 vehicles per day along Maple Street and 1,612 vehicles per day along Coral Rd. In addition, peak hour counts were taken on October 24, 2023, at the intersection of Maple Street at Coral Road. The peak hour is from 3:30 P.M. to 4:30 P.M. Existing PM peak hour traffic volumes can be found in Exhibit 1.

Trip Generation

For the gravel pit operation, trip generation data was provided by Gavers Asphalt Paving & Excavating for the expected additional truck and employee traffic. It was determined that 60 truck trips (30 concrete trucks and 30 semi-trucks) inbound and 60 truck trips (30 concrete trucks and 30 semi-trucks) outbound could be generated by the mining and concrete batching operations per day, arriving with uniform distribution. To be conservative, it was assumed that 12 of these trips (entering and exiting) would take place during the P.M. peak hour. In addition, it is expected that 7 employee trips will enter during the A.M peak hour, and 7 employee trips will exit during the P.M. peak hour. The peak hour volumes by the gravel pit were applied to the existing P.M. peak hour to present the worst-case scenario. For the purposes of this study, this development will generate a total of 19 trips (6 entering and 13 exiting) during the P.M. peak hour.

Trip generation data is summarized below:

Option	PM PEAK HOUR		
	IN	OUT	TOTAL
Gravel Pit	6	13	19

Trip Distribution and Assignment

The trips generated by the proposed development were assigned to the adjacent street system. The trip routing distribution for the development is based on existing area travel patterns and the destination of the traffic coming from and going to the site. It was assumed that 85% of the site-generated traffic would utilize Coral Road to the east from US Route 20 and 5% will utilize Coral Road to the west from Illinois Route 23. The other 10% of the site-generated traffic will utilize Maple Street to the south. See Exhibit 2 for trip % distributions. Exhibit 3 shows entering and exiting site-generated vehicles for the PM peak hour for the gravel mining operation.

IV. Traffic Safety and Operational Assessment

Level of Service Descriptions

An assessment of traffic operations with and without the proposed development was made for the roadway network surrounding the project site. The operations of an intersection are qualified by assessing overall delay and often depicted by assigning a *Level of Service* (LOS) associated with that delay. LOS is a measure which refers to the overall quality of flow at an intersection based on average vehicle seconds of delay ranging from very good, represented by LOS A, to very poor, represented by LOS F.

LOS A is the highest level of service that can be achieved. Under this condition, intersection approaches appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation. Average vehicle delays are less than 10 seconds for both signalized and unsignalized intersections.

LOS B is representative of stable operation. At signalized intersections, average vehicle delays are greater than 10 and less than or equal to 20 seconds. For unsignalized intersections average vehicle delays are greater than 10 and less than or equal to 15 seconds.

LOS C is still representative of stable operation, although periodic backups may develop behind turning vehicles. At signalized intersections, average vehicle delays are greater than 20 and less than or equal to 35 seconds. For unsignalized intersections, average vehicle delays are greater than 15 and less than or equal to 25 seconds.

At **LOS D** delays to approaching vehicles may be substantial during short peaks within the peak period, but periodic clearance of long lines occurs, thus preventing excessive backups. At signalized intersections, average vehicle delays are greater than 35 and less

than or equal to 55 seconds. For unsignalized intersections, average vehicle delays are greater than 25 and less than or equal to 35 seconds.

LOS E represents the capacity of the intersection where there are likely to be long lines of vehicles waiting upstream of the intersection and delays may be great. At signalized intersections, average vehicle delays are greater than 55 and less than or equal to 80 seconds. For unsignalized intersections average vehicle delays are greater than 35 and less than or equal to 50 seconds.

LOS F represents jammed conditions. Backups from locations downstream or on a cross street may restrict or prevent movement of vehicles out of an intersection approach under consideration. At signalized intersections, average vehicle delays are greater than 80 seconds. For unsignalized intersections average vehicle delays are greater than 50 seconds.

In order to analyze the LOS at each intersection, a computer analysis program named Highway Capacity Software (HCS) is utilized. HCS determines the LOS and delay of each intersection and individual movement based upon traffic volumes, number of lanes, lane widths, characteristics of the study area, and many other inputs.

Operational Analysis Results and Comparison

Existing traffic counts were taken during October 2023 at the intersection of Maple Street and Coral Road. These were the baseline volumes utilized for the 2023 Existing Turning Movements, which are located in Appendix A.

The anticipated site-generated traffic was added to the baseline volumes for 2023 to determine the projected traffic volumes once the gravel pit is in operation. After adding the projected site-generated traffic to the existing counts, the need for additional improvements along Maple Street was evaluated. Exhibit 4 shows the total traffic volumes for 2023, which includes the existing background traffic and the proposed site-generated traffic for each option.

In addition, the existing background traffic volumes were increased by 3% per year over a 5-year period to the year 2028 (15.9% total) to determine the impacts of this development at the 5-year planning horizon, as stated in the MCDOT requirements. Exhibit 5 shows the no-build traffic volumes for 2028, while Exhibit 6 shows the total traffic volumes for 2028 plus the site-generated traffic volumes.

Appendix B contains the printouts from the Highway Capacity Software (HCS) trials that were performed. The results are summarized below:

Maple St. & Coral Rd. Option	Max Intersection Leg Delay
2023 Existing	11.5/B
2023 Existing + Site	11.7/B
2028 No-Build	12.2/B
2028 Projected + Site	12.4/B

Maple St. & Site Access Option	NB LT Delay	NB LT 95% Queue Length	EB Delay	EB 95% Queue Length
2023 Total	8.4/A	0.00 Vehicles	10.2/A	0.10 Vehicles
2028 Total	8.5/A	0.00 Vehicles	10.6/A	0.10 Vehicles

As the data above shows, no capacity improvements are required along Maple Street as a result of this study to accommodate traffic volumes for 2023 or 2028. The low amount of proposed site-generated traffic can easily be accommodated by the existing lane configurations along Maple Street.

At the site access, there is no need for a separate left-turn or right-turn lane according to the MCDOT left-turn lane and right-turn lane requirement charts. The maximum anticipated northbound left-turn volume is two vehicles while the maximum anticipated southbound right-turn volume is eleven vehicles during the A.M. peak hour, causing these volumes to be much less than the required volumes for separate turn lanes.

Traffic signal warrants were not conducted for this study, since the traffic volumes are well beneath the conditions that would be required to warrant a signal for the proposed driveway entrance.

Additionally, the McHenry County Access Management Ordinance requires that sight distance be analyzed. Two separate sight distance investigations are outlined for analysis, stopping sight distance (SSD) and intersection sight distance (ISD). Proper sight distance must be provided to allow safe entry and exit of traffic utilizing the gravel pit entrance. The existing sight distance, for both SSD and ISD, were investigated and found to meet all of the applicable requirements. Maple Street lacks any drastic changes to horizontal or vertical geometry, and sight distances were measured at greater than 1,000 feet through field observations. Design stopping sight distance at 60 mph is 570 feet.

V. Conclusions

The traffic analyses results are as follows:

- The proposed development will add minimal delay to the intersection of Coral Road and Maple Street.

- Turn lanes at the are not warranted at the gravel pit entrance along Maple Street.

- Sufficient stopping sight distance, over 1,000 feet (570 feet required), and intersection sight distance, over 1,000 feet, is provided at the proposed gravel pit entrance.

- No improvements along Maple Street would be required at the Maple Street and Coral Road intersection as a result of the Maple Street Gravel Pit development. The peak hour volumes generated by the gravel pit were applied to the existing P.M. peak hour to present the worst-case scenario. For the purposes of this study, this development is anticipated to generate a total of 19 trips (6 entering and 13 exiting) during the P.M. peak hour.

APPENDIX A

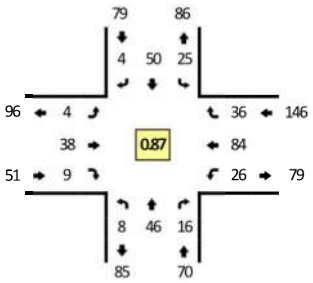
Type of peak hour being reported: Intersection Peak

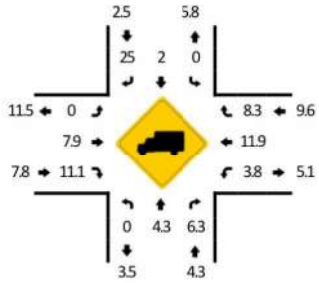
Method for determining peak hour: Total Entering Volume

LOCATION: Maple St -- W Coral Rd
CITY/STATE: McHenry, IL

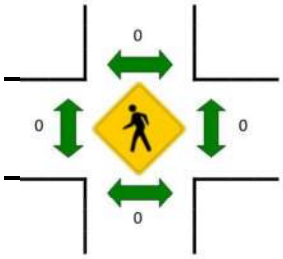
QC JOB #: 16349301
DATE: Tue, Oct 24 2023

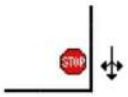
Peak-Hour: 3:30 PM -- 4:30 PM
Peak 15-Min: 3:30 PM -- 3:45 PM

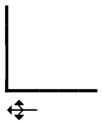


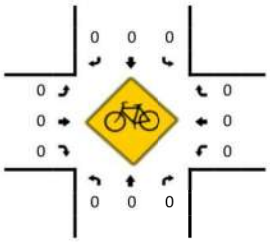


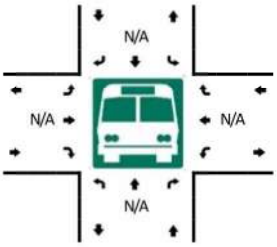
TRUE DATA TO IMPROVE MOBILITY

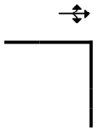


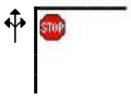


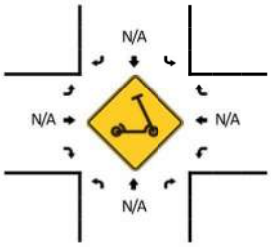












15-Min Count Period Beginning At	Maple St (Northbound)				Maple St (Southbound)				W Coral Rd (Eastbound)				W Coral Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	0	4	
12:15 AM	0	0	0	0	1	0	0	0	0	0	0	0	0	1	1	0	3	
12:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	9
1:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
1:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	5
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	6
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	5
2:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2	5
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:15 AM	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	3
3:30 AM	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3	6
3:45 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	2	8
4:00 AM	0	0	0	0	2	1	0	0	0	1	1	0	0	0	0	0	5	13
4:15 AM	0	1	2	0	3	1	0	0	0	3	0	0	0	3	0	0	13	23
4:30 AM	0	4	1	0	0	3	1	0	0	7	1	0	1	1	0	0	19	39
4:45 AM	0	1	1	0	3	6	0	0	0	1	1	0	0	1	0	0	14	51
5:00 AM	0	3	2	0	2	3	0	0	0	3	0	0	1	4	0	0	18	64
5:15 AM	0	0	2	0	6	4	0	0	0	5	3	0	2	2	0	0	24	75
5:30 AM	0	0	6	0	5	11	0	0	0	6	2	0	1	5	0	0	36	92
5:45 AM	0	2	5	0	3	12	0	0	0	6	1	0	1	4	1	0	35	113
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6:45 AM	0	9	9	0	10	11	1	0	0	21	4	0	2	9	4	0	80	229
7:00 AM	1	8	4	0	8	9	1	0	0	10	0	0	2	9	8	0	60	246
7:15 AM	0	14	3	0	8	13	0	0	0	6	0	0	3	9	0	0	56	250
7:30 AM	3	9	8	0	7	22	1	0	2	7	1	0	7	8	10	0	85	281
7:45 AM	0	15	5	0	5	14	3	0	3	12	3	0	2	10	6	0	78	279
8:00 AM	0	10	2	0	2	5	2	0	1	11	0	0	0	7	4	0	44	263
8:15 AM	1	5	1	0	4	10	2	0	0	6	1	0	3	7	2	0	42	249
8:30 AM	0	1	5	0	10	10	0	0	0	6	1	0	5	4	4	0	46	210
8:45 AM	0	7	1	0	4	1	0	0	0	9	0	0	5	9	4	0	40	172
9:00 AM	0	5	3	0	2	4	0	0	1	7	1	0	1	3	1	0	28	156
9:15 AM	0	9	2	0	4	3	1	0	1	2	2	0	1	2	3	0	30	144

15-Min Count Period Beginning At	Maple St (Northbound)				Maple St (Southbound)				W Coral Rd (Eastbound)				W Coral Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
9:30 AM	0	3	1	0	4	5	1	0	2	5	1	0	1	6	4	0	33	131
9:45 AM	0	5	1	0	5	2	0	0	1	4	1	0	2	5	4	0	30	121
10:00 AM	0	1	2	0	3	2	2	0	2	4	1	0	1	5	2	0	25	118
10:15 AM	1	5	3	0	2	7	1	0	0	2	0	0	1	5	2	0	29	117
10:30 AM	2	5	4	0	2	9	1	0	2	9	2	0	1	4	1	0	42	126
10:45 AM	0	1	2	0	2	7	0	0	2	9	1	0	0	0	2	0	26	122
11:00 AM	1	2	1	0	4	2	1	0	0	3	2	0	0	3	3	0	22	119
11:15 AM	1	3	0	0	3	6	2	0	0	5	1	0	1	5	4	0	31	121
11:30 AM	1	7	4	0	4	4	0	0	0	6	2	0	2	6	3	0	39	118
11:45 AM	0	6	0	0	3	6	0	0	0	4	1	0	1	5	3	0	29	121
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1:00 PM	1	5	2	0	6	3	0	0	0	11	0	0	2	4	6	0	40	143
1:15 PM	1	3	4	0	3	6	1	0	0	5	1	0	1	9	2	0	36	149
1:30 PM	0	5	1	0	3	4	0	0	2	8	2	0	1	4	4	0	34	144
1:45 PM	2	1	4	0	1	4	0	0	0	4	0	0	2	9	7	0	34	144
2:00 PM	2	2	5	0	4	9	0	0	1	6	0	0	2	8	4	1	44	148
2:15 PM	0	9	6	0	4	7	1	0	1	2	0	0	5	15	7	0	57	169
2:30 PM	1	8	7	0	8	4	1	0	0	4	2	0	7	13	5	0	60	195
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3:30 PM	2	10	2	0	7	9	1	0	0	10	4	0	10	34	10	0	99	290
3:45 PM	2	14	8	0	4	15	1	0	1	12	1	0	6	12	9	0	85	322
4:00 PM	2	14	2	0	6	18	0	0	3	9	1	0	3	22	10	0	90	339
4:15 PM	2	8	4	0	8	8	2	0	0	7	3	0	7	16	7	0	72	346
4:30 PM	1	21	3	0	7	6	3	0	3	12	1	0	4	10	12	0	83	330
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5:00 PM	0	14	2	0	7	8	1	0	1	8	0	0	6	17	17	0	81	322
5:15 PM	1	17	4	0	6	13	2	0	1	7	2	0	10	11	10	0	84	334
5:30 PM	1	17	1	0	3	8	0	0	1	10	2	0	2	14	10	0	69	320
5:45 PM	0	12	2	0	7	9	1	0	1	4	0	0	6	7	9	0	58	292
6:00 PM	1	12	1	0	4	11	1	0	0	1	0	0	1	8	6	0	46	257
6:15 PM	2	14	5	0	2	7	0	0	3	5	0	0	5	10	13	0	66	239
6:30 PM	0	14	1	0	2	4	2	0	0	6	0	0	2	11	9	0	51	221
6:45 PM	1	4	5	0	3	7	1	0	1	1	1	0	5	5	6	0	40	203
7:00 PM	0	6	1	0	6	3	1	0	1	5	1	0	4	2	12	0	42	199
7:15 PM	1	9	1	0	3	4	1	0	2	2	2	0	0	5	6	0	36	169
7:30 PM	1	3	3	0	3	4	0	0	0	2	0	0	3	4	5	0	28	146
7:45 PM	0	5	2	0	1	2	1	0	1	3	0	0	1	3	5	0	24	130
8:00 PM	0	2	2	0	3	6	1	0	1	3	0	0	0	4	5	0	27	115
8:15 PM	0	7	1	0	3	1	0	0	0	3	1	0	0	4	2	0	22	101
8:30 PM	0	1	1	0	1	2	0	0	0	2	0	0	1	3	2	0	13	86
8:45 PM	0	2	1	0	0	1	1	0	0	0	0	0	1	4	2	0	12	74
9:00 PM	0	0	0	0	4	2	0	0	0	0	0	0	0	1	4	0	11	58
9:15 PM	1	2	0	0	6	2	0	0	0	0	0	0	0	2	2	0	15	51
9:30 PM	1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	0	4	42
9:45 PM	0	2	0	0	0	0	0	0	0	0	0	0	1	2	3	0	8	38
10:00 PM	1	1	0	0	0	0	0	0	0	0	0	0	0	0	5	0	7	34
10:15 PM	0	0	0	0	1	1	0	0	0	0	0	0	2	2	1	0	7	26
10:30 PM	0	1	1	0	0	1	0	0	0	0	0	0	0	0	3	0	6	28
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	22
11:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	17
11:15 PM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	1	0	3	13
11:30 PM	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	9
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	8	40	8	0	28	36	4	0	0	40	16	0	40	136	40	0	396
Heavy Trucks	0	0	0		0	0	4		0	4	4		0	8	8		28
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 10/25/2023 3:03 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

APPENDIX B

HCS7 Two-Way Stop-Control Report

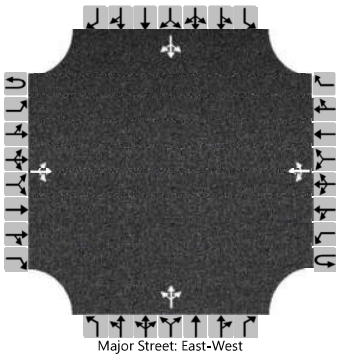
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2023
Time Analyzed	3:30-4:30 PM
Intersection Orientation	East-West
Project Description	Maple Street at Coral Road Existing PM

Site Information

Intersection	Maple St and Coral Rd
Jurisdiction	McHenry
East/West Street	Coral Road
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	38	9		26	84	36		8	46	16		25	50	4
Percent Heavy Vehicles (%)		0				4				0	4	6		0	2	25
Proportion Time Blocked																
Percent Grade (%)									0				0			
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.14				7.10	6.54	6.26		7.10	6.52	6.45
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.24				3.50	4.04	3.35		3.50	4.02	3.53

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				30					80				91	
Capacity, c (veh/h)		1458				1539					688				645	
v/c Ratio		0.00				0.02					0.12				0.14	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.4				0.5	
Control Delay (s/veh)		7.5				7.4					10.9				11.5	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.6				1.4				10.9				11.5			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

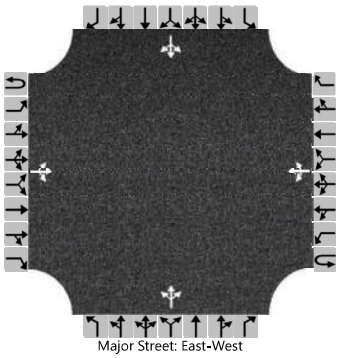
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2023
Time Analyzed	3:30-4:30 PM
Intersection Orientation	East-West
Project Description	Maple St at Coral Rd Post-Development Existing PM

Site Information

Intersection	Maple St and Coral Rd
Jurisdiction	McHenry
East/West Street	Coral Road
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		4	38	10		30	84	36		10	46	24		25	50	4
Percent Heavy Vehicles (%)		0				17				0	4	20		0	2	25
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.27				7.10	6.54	6.40		7.10	6.52	6.45
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.35				3.50	4.04	3.48		3.50	4.02	3.53

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		5				34					92				91	
Capacity, c (veh/h)		1458				1459					693				630	
v/c Ratio		0.00				0.02					0.13				0.14	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.5				0.5	
Control Delay (s/veh)		7.5				7.5					11.0				11.7	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.6				1.7				11.0				11.7			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

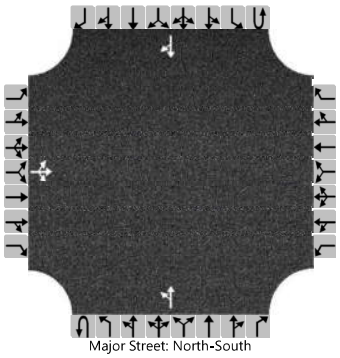
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2023
Time Analyzed	3:30-4:30 PM
Intersection Orientation	North-South
Project Description	Maple Valley at Maple Street Existing PM

Site Information

Intersection	Maple Valley and Maple St
Jurisdiction	McHenry
East/West Street	Maple Valley Entrance
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR							LT						TR
Volume (veh/h)		10	0	1						1	70				85	5
Percent Heavy Vehicles (%)		50	3	3						100						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2						4.1						
Critical Headway (sec)		7.60	6.53	6.23						5.10						
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2						
Follow-Up Headway (sec)		3.95	4.03	3.33						3.10						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			13							1						
Capacity, c (veh/h)			701							1048						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			10.2							8.4						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.2								0.1						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

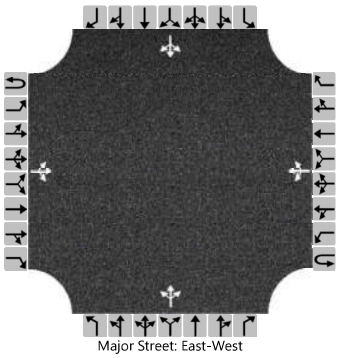
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2028
Time Analyzed	3:30-4:30 PM
Intersection Orientation	East-West
Project Description	Maple Street at Coral Road Post-Development PM

Site Information

Intersection	Maple St and Coral Rd
Jurisdiction	McHenry
East/West Street	Coral Road
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		5	44	11		34	97	42		11	54	28		29	58	5
Percent Heavy Vehicles (%)		8				15				10	4	19		0	2	25
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.18				4.25				7.20	6.54	6.39		7.10	6.52	6.45
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.27				2.34				3.59	4.04	3.47		3.50	4.02	3.53

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		6				39					107				106	
Capacity, c (veh/h)		1384				1460					657				590	
v/c Ratio		0.00				0.03					0.16				0.18	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.6				0.6	
Control Delay (s/veh)		7.6				7.5					11.5				12.4	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.7				1.7				11.5				12.4			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

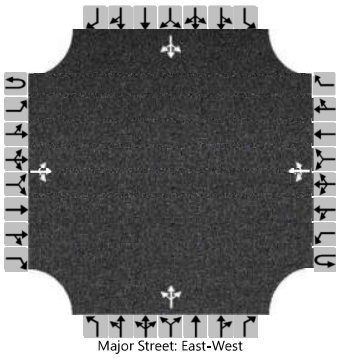
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2028
Time Analyzed	3:30-4:30 PM
Intersection Orientation	East-West
Project Description	Maple Street at Coral Road No Build PM

Site Information

Intersection	Maple St and Coral Rd
Jurisdiction	McHenry
East/West Street	Coral Road
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	1	0	0	0	1	0		0	1	0		0	1	0
Configuration			LTR				LTR				LTR				LTR	
Volume (veh/h)		5	44	10		30	97	42		9	53	19		29	58	5
Percent Heavy Vehicles (%)		0				4				0	4	6		0	2	25
Proportion Time Blocked																
Percent Grade (%)										0				0		
Right Turn Channelized																
Median Type | Storage			Undivided													

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1				7.1	6.5	6.2		7.1	6.5	6.2
Critical Headway (sec)		4.10				4.14				7.10	6.54	6.26		7.10	6.52	6.45
Base Follow-Up Headway (sec)		2.2				2.2				3.5	4.0	3.3		3.5	4.0	3.3
Follow-Up Headway (sec)		2.20				2.24				3.50	4.04	3.35		3.50	4.02	3.53

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		6				34					93				106	
Capacity, c (veh/h)		1432				1528					654				606	
v/c Ratio		0.00				0.02					0.14				0.17	
95% Queue Length, Q_{95} (veh)		0.0				0.1					0.5				0.6	
Control Delay (s/veh)		7.5				7.4					11.4				12.2	
Level of Service (LOS)		A				A					B				B	
Approach Delay (s/veh)	0.7				1.5				11.4				12.2			
Approach LOS									B				B			

HCS7 Two-Way Stop-Control Report

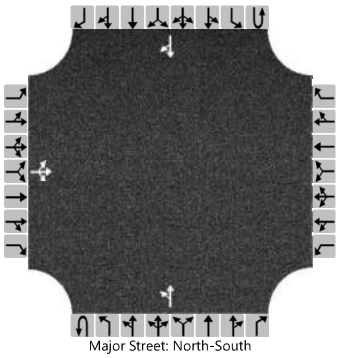
General Information

Analyst	AYJ
Agency/Co.	PEI
Date Performed	11/1/2023
Analysis Year	2023
Time Analyzed	3:30-4:30 PM
Intersection Orientation	North-South
Project Description	Maple Valley at Maple Street 2028 PM

Site Information

Intersection	Maple Valley and Maple St
Jurisdiction	McHenry
East/West Street	Maple Valley Entrance
North/South Street	Maple Street
Peak Hour Factor	0.87
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

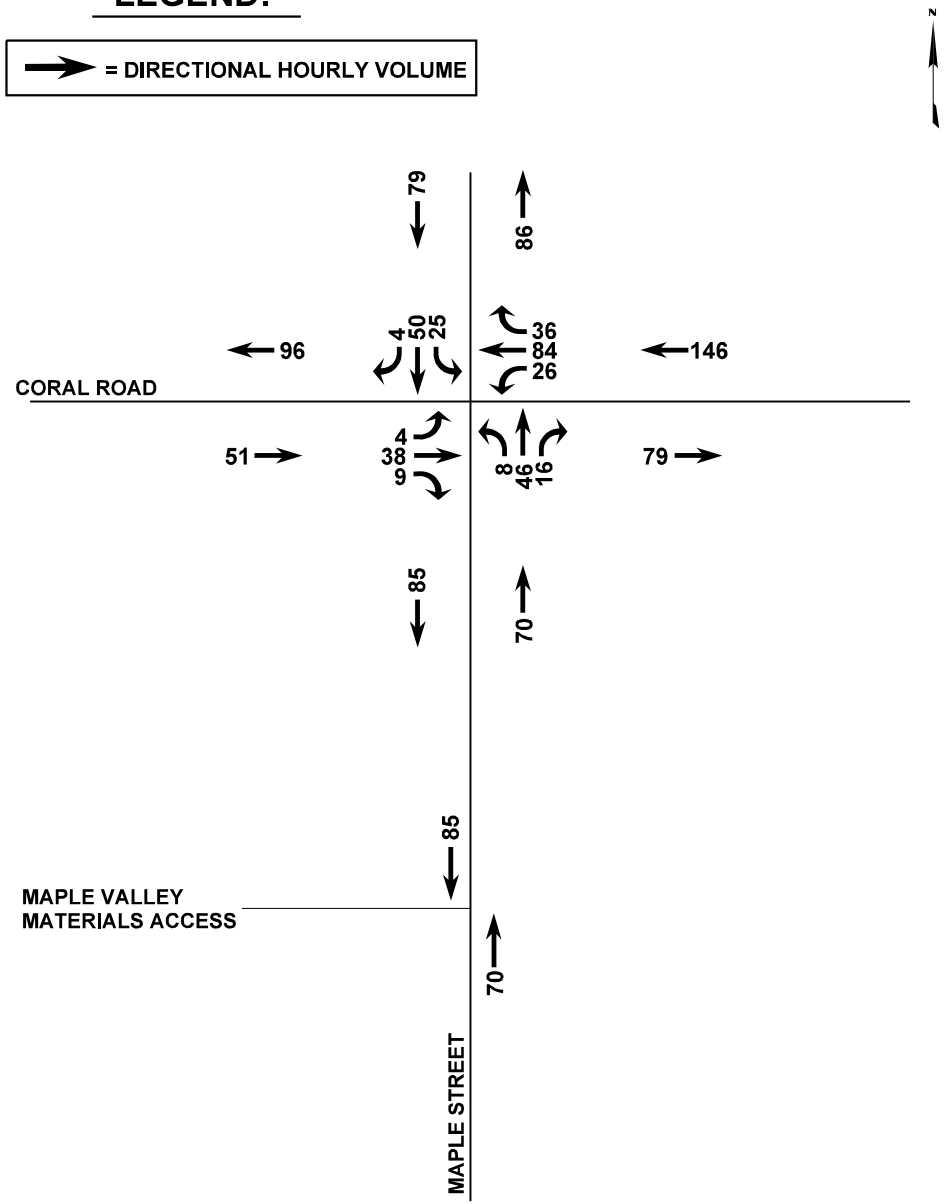
Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	1	0
Configuration			LTR							LT						TR
Volume (veh/h)		12	0	1						1	81				98	5
Percent Heavy Vehicles (%)		50	0	100						100						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

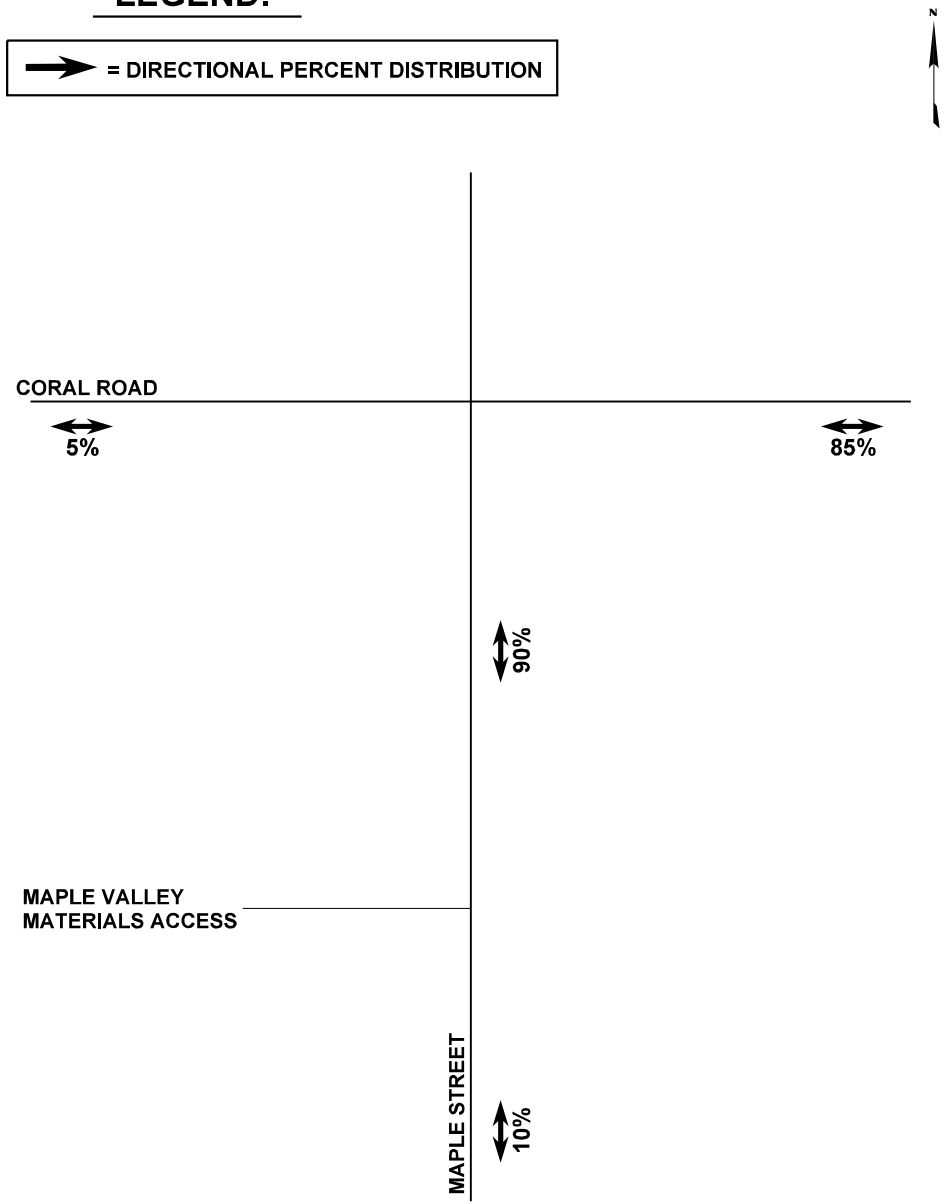
Base Critical Headway (sec)		7.1	6.5	6.2						4.1						
Critical Headway (sec)		7.60	6.50	7.20						5.10						
Base Follow-Up Headway (sec)		3.5	4.0	3.3						2.2						
Follow-Up Headway (sec)		3.95	4.00	4.20						3.10						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			15							1						
Capacity, c (veh/h)			659							1033						
v/c Ratio			0.02							0.00						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			10.6							8.5						
Level of Service (LOS)			B							A						
Approach Delay (s/veh)		10.6								0.1						
Approach LOS		B														

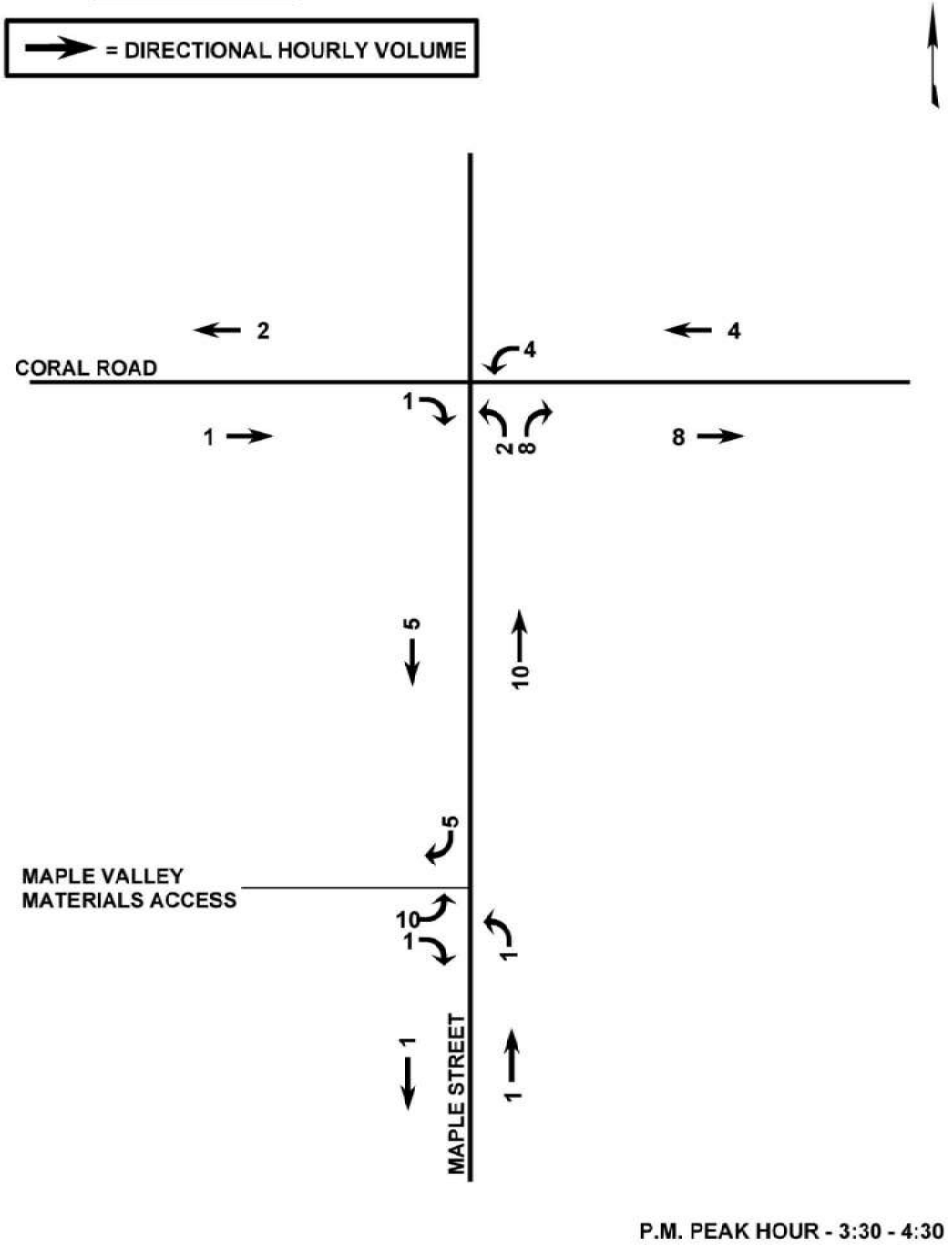


EXISTING 2023 VOLUMES **EXHIBIT 1**



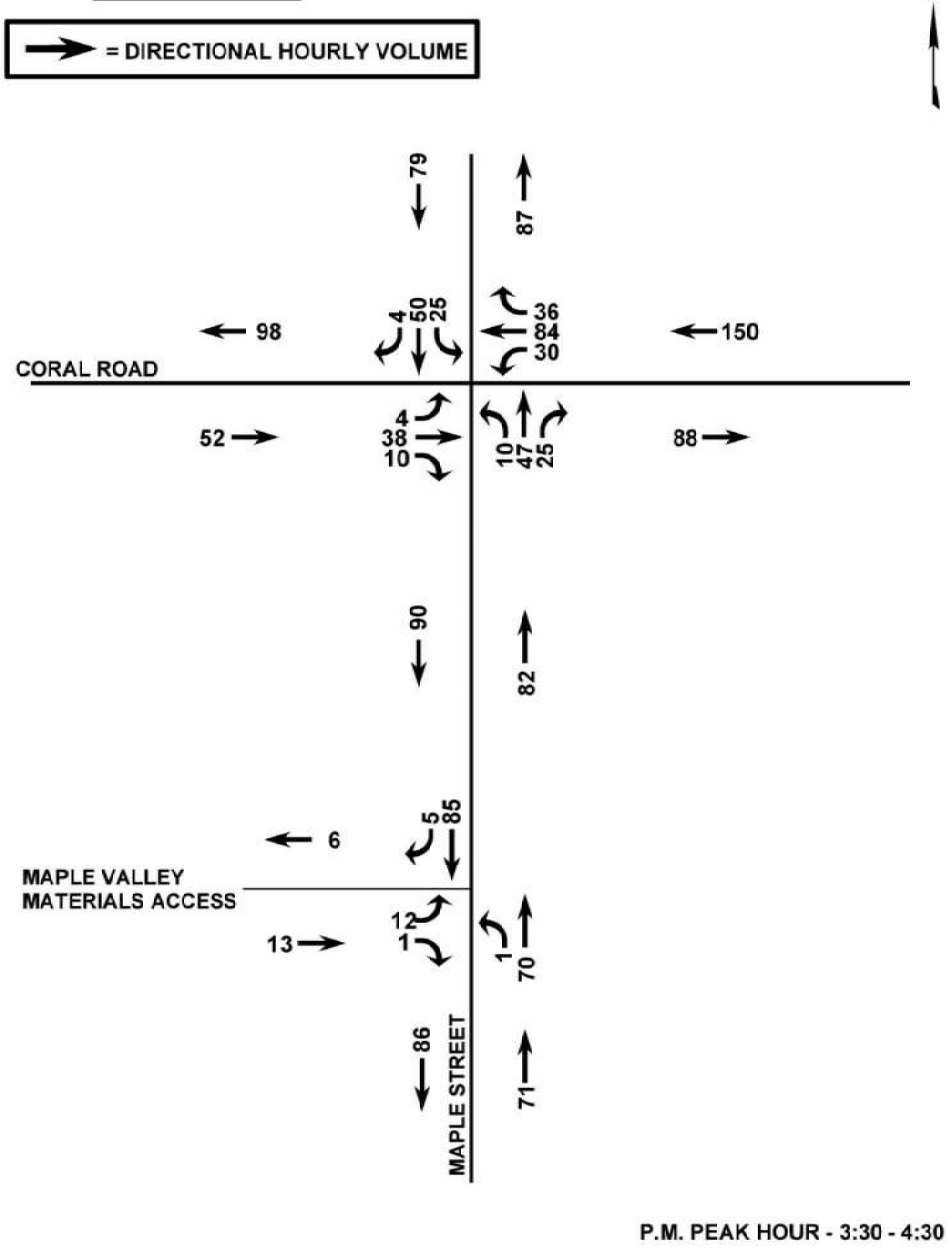
TRIP PERCENT DISTRIBUTIONS **EXHIBIT 2**

Maple Valley Materials
Existing and Projected Traffic Volumes



SITE-GENERATED VOLUMES

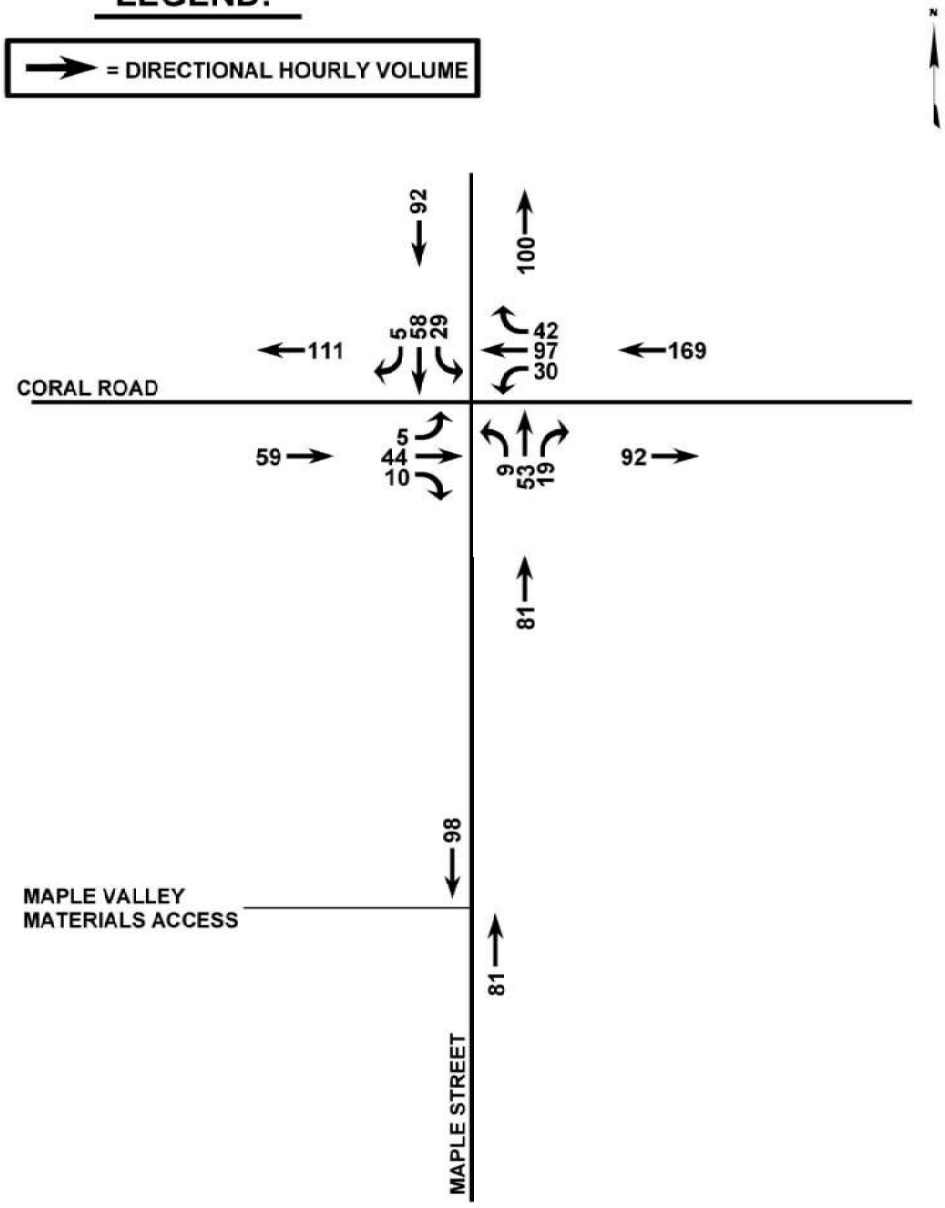
EXHIBIT 3



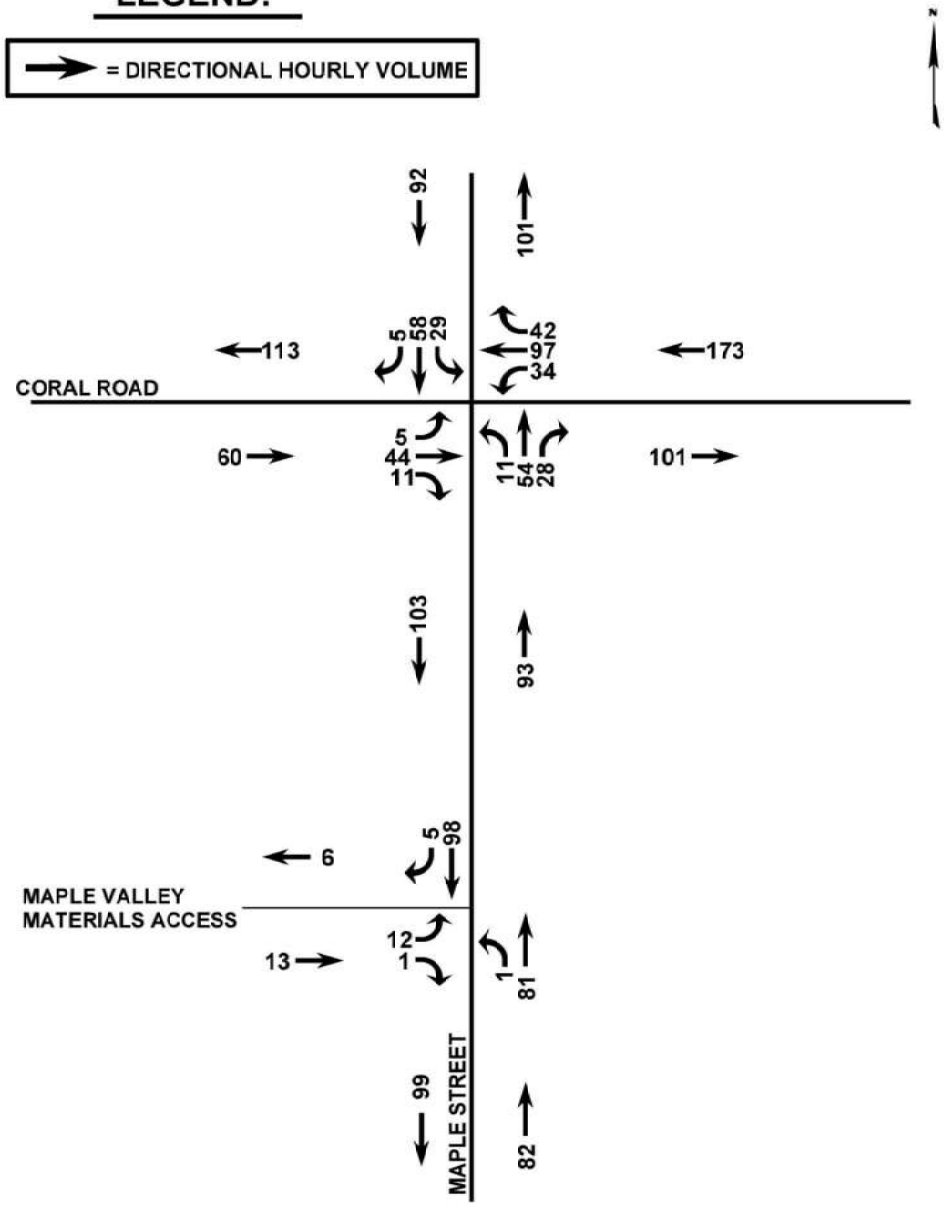
2023 VOLUMES W/SITE GENERATED TRAFFIC

EXHIBIT 4

Maple Valley Materials
Existing and Projected Traffic Volumes



2028 NO BUILD VOLUMES **EXHIBIT 5**



2028 TOTAL VOLUMES **EXHIBIT 6**

Maple Valley Materials
Existing and Projected Traffic Volumes

LEFT-TURN LANE REQUIREMENTS

(Applies to "Arterial" and "Other" County Highway Classifications)

EXHIBIT5-2.4.a

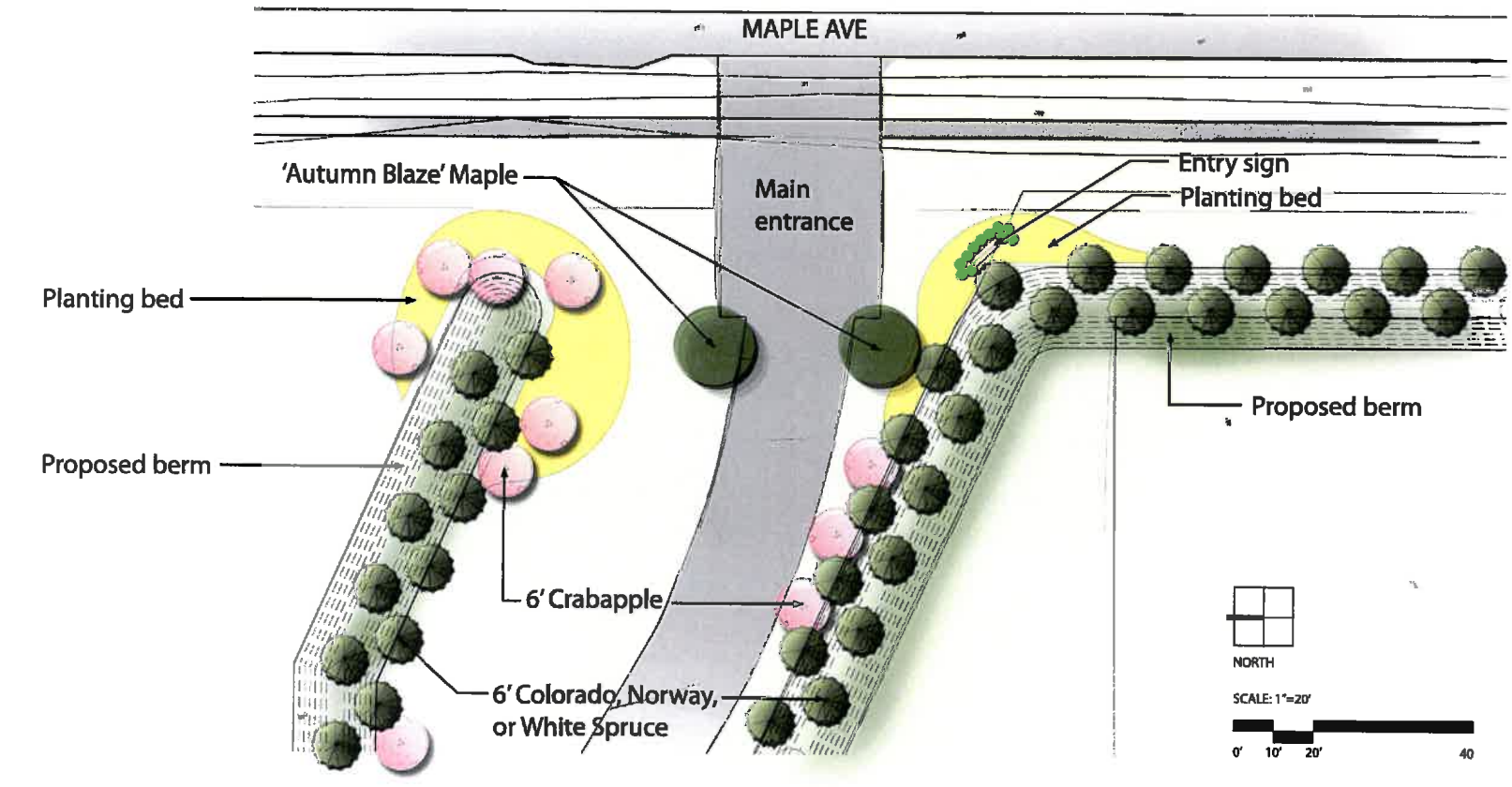
RIGHT-TURN LANE REQUIREMENTS

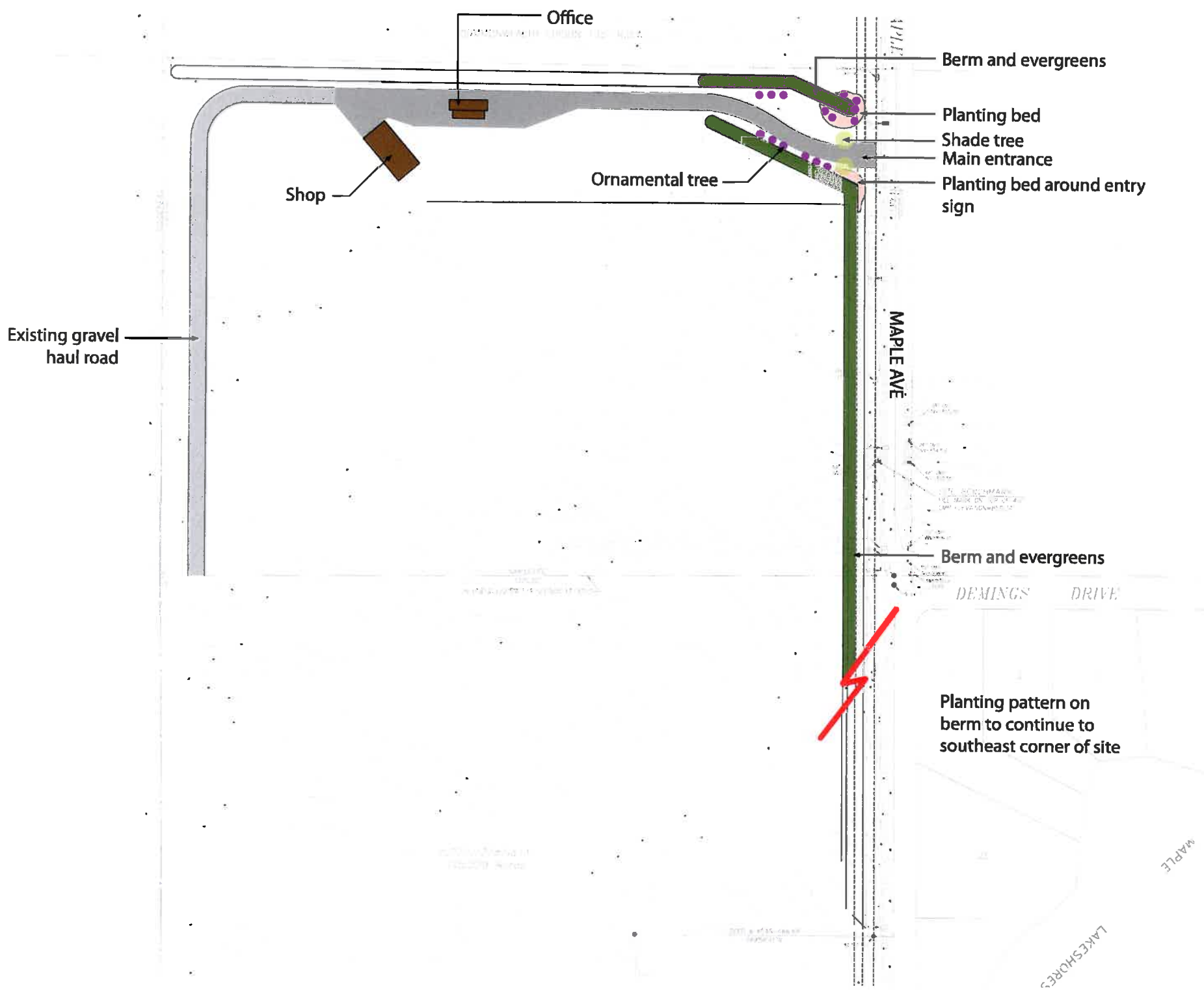
(Applies to "Arterial" and "Other" County Highway Classifications)

EXHIBIT 5-2.4.b

APPENDIX D

LANDSCAPE PLAN





HITCHCOCK DESIGN GROUP
creating better places

Landscape Plan
Maple Valley Materials
Marengo, Illinois

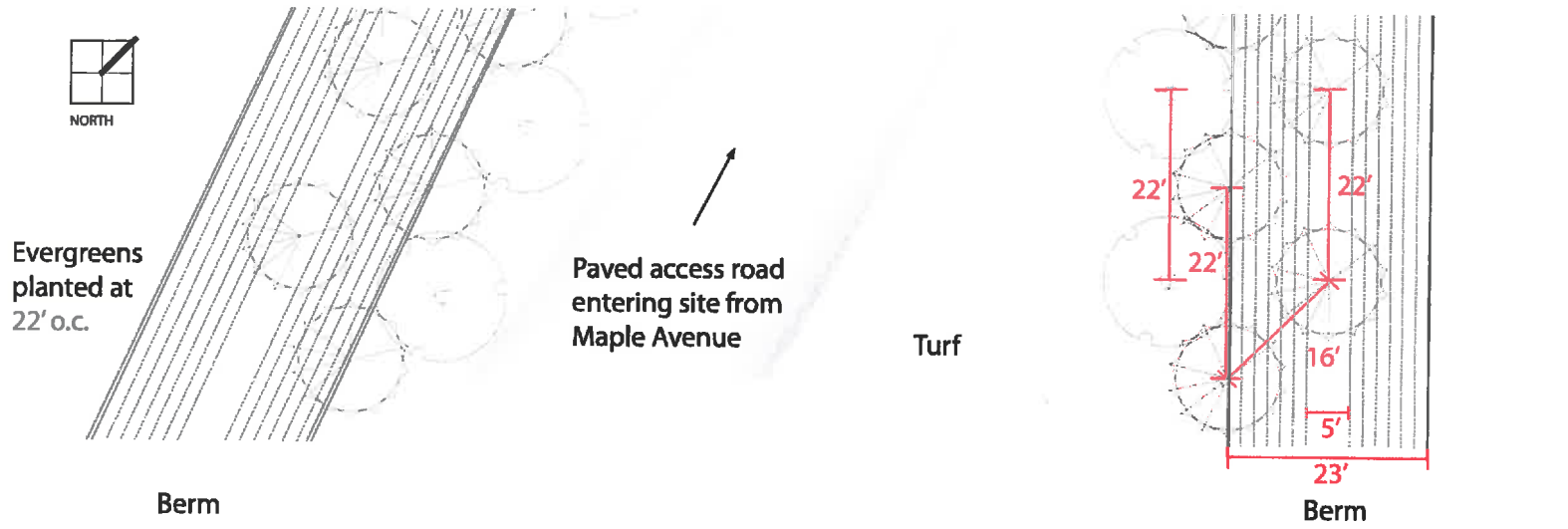
NORTH

SCALE: 1"=100'

0' 50' 100' 200'

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-064-01-01

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering



View looking north on Maple Avenue approximately five years after installment

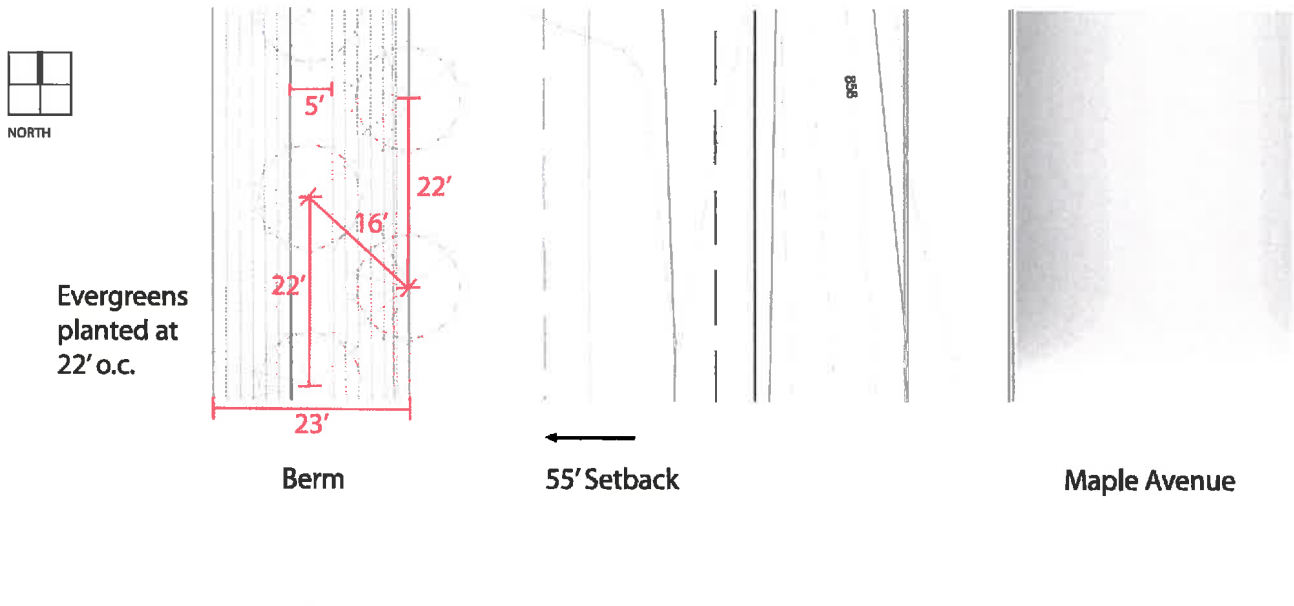
View of entry sign approximately five years after installment

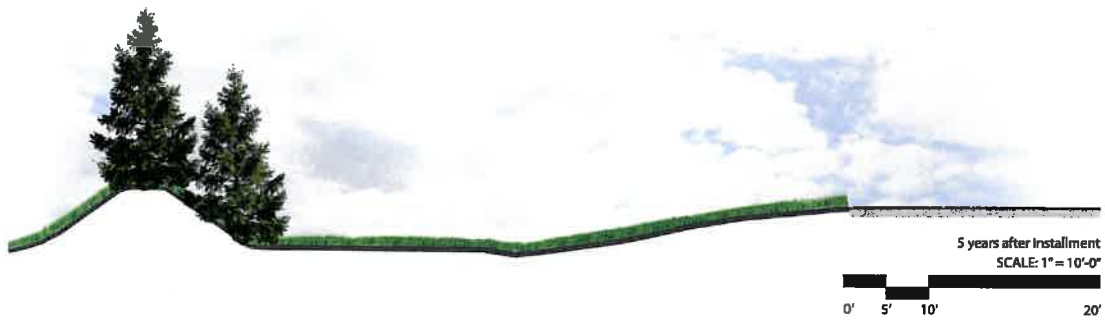
HITCHCOCK DESIGN GROUP
creating better places

Cross Section & Perspectives
Maple Valley Materials
Marengo, Illinois

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-004-01-01

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering





View looking north on Maple Avenue at maturity

View of entry sign at maturity

HITCHCOCK DESIGN GROUP
creating better places

Cross Section & Perspectives

Maple Valley Materials

Marengo, Illinois

ISSUE DATE: October 22, 2013
PROJECT NUMBER: 04-0565-004-01-01
All drawings are preliminary and subject to change.

PREPARED FOR:
Maple Valley Materials
IN ASSOCIATION WITH:
Patrick Engineering

APPENDIX E

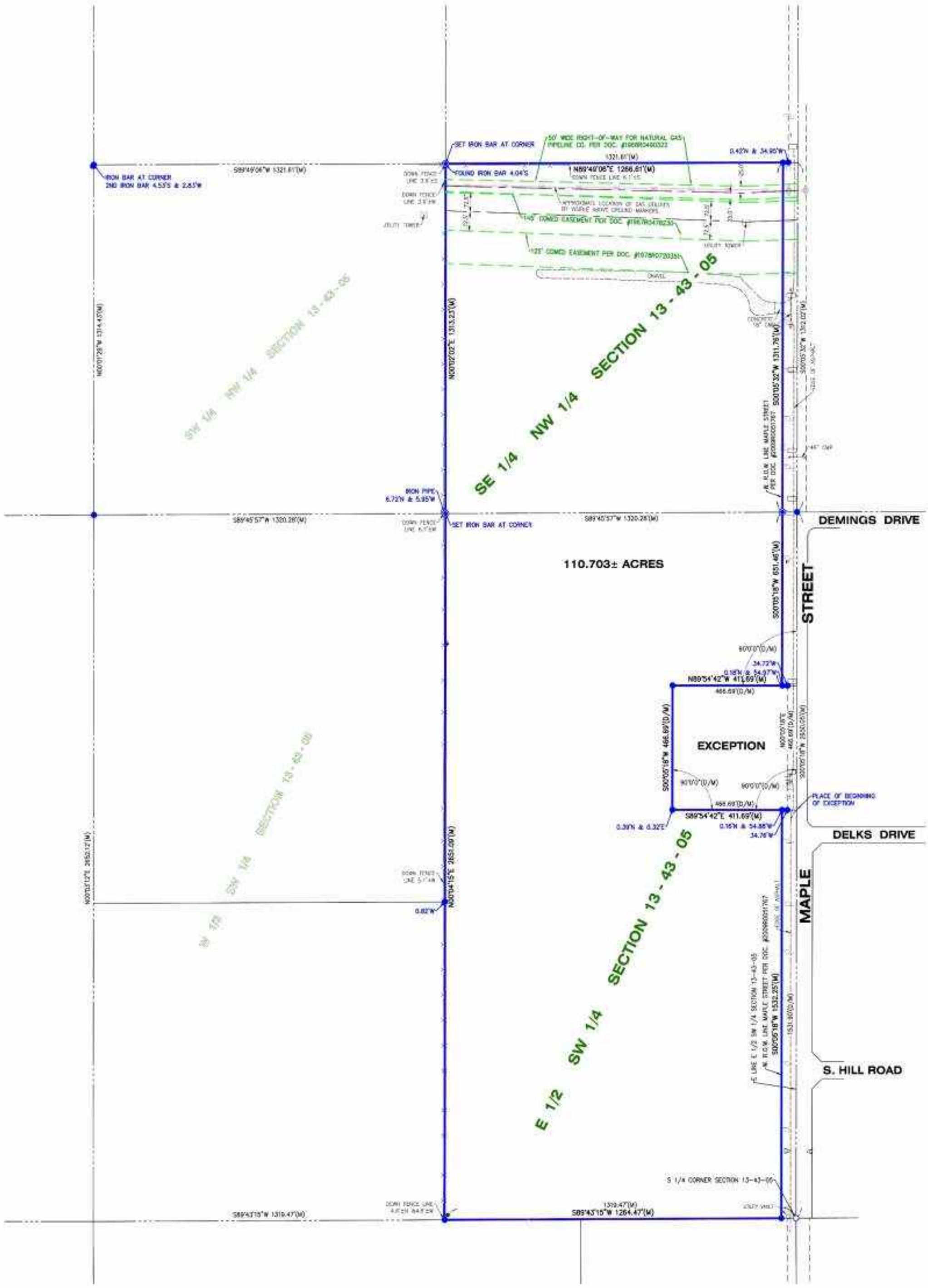
ALTA SURVEY (1/18/2024)
AND
WELL SURVEY (REVISED 6/24/24)

FULL SIZE SURVEYS SUBMITTED UNDER SEPARATE COVER

Vanderstappen
Land Surveying, Inc.

PLAT OF SURVEY

The East half of the Southwest Quarter of Section 13 lying West of the Right-of-Way of Maple Street as dedicated by Document No. 2009R0051767; ALSO the Southeast Quarter of the Northwest Quarter of said Section 13, lying West of the Right-of-Way of Maple Street as dedicated by Document No. 2009R0051767, all in Township 43 North, Range 5 East of the Third Principal Meridian (except that part of the West half of Section 13, Township 43 North, Range 5 East of the Third Principal Meridian, described as follows: Commencing at the South Quarter corner of said Section 13; thence Northerly, along the East line of the West half of said Section 13, a distance of 1531.9 feet for the Place of Beginning; thence continuing Northerly along the East line of said West half, a distance of 466.69 feet; thence Westerly, at right angles to the East line of said West half, a distance of 466.69 feet; thence Southerly, parallel with the East line of said West half, a distance of 466.69 feet; thence Easterly, at right angles to the last described course, a distance of 466.69 feet to the Place of Beginning), in McHenry County, Illinois.



LEGEND	
	DOWN GUY
	FLARED END SECTION
	FOUND IRON BAR
	FOUND IRON PIPE
	GAS METER
	GAS PIPELINE MARKER
	MAIL BOX
	MONITORING WELL
	SET IRON BAR
	SIGN
	UTILITY POLE
R.O.W.	RIGHT-OF-WAY
(D)	DEED
(M)	MEASURE

CLIENT: ZANCK COEN WRIGHT & SALADIN, P.C.
DRAWN BY: SES CHECKED BY: APG
SCALE: 1"=200' SEC. 13 T. 43 R. 05 E.
BASIS OF BEARING: IL EAST ZONE NAD83 (2011)
P.I.N.: 16-13-300-006
JOB NO.: 231079 I.D. UPD
FIELDWORK COMP.: 12/22/23 BK. ___ PG. ___
ALL DISTANCES SHOWN IN FEET AND DECIMAL PARTS THEREOF CORRECTED TO 68° F. REF: 130378

SCALE: 1" = 200'

NOTE: Only those Building Line Restrictions or Easements shown on a Recorded Subdivision Plat are shown hereon unless the description ordered to be surveyed contains a proper description of the required building lines or easements.
* No distance should be assumed by scaling.
* No underground improvements have been located unless shown and noted.
* No representation as to ownership, use, or possession should be hereon implied.
* This Survey and Plat of Survey are void without original embossed or colored seal and signature affixed.

Compare your description and site markings with this plat and AT ONCE report any discrepancies which you may find.

ARTHUR P. GRITMACHER
035-003857
PROFESSIONAL LAND SURVEYOR
STATE OF ILLINOIS
EXP. 11/30/2024
WOODSTOCK, ILLINOIS

STATE OF ILLINOIS)
) S.S.
COUNTY OF McHENRY)

In my professional opinion, and based on my observations, I hereby certify that we have surveyed the premises above described, and that the plat hereon is a true representation of the said survey. This professional service conforms to the current Illinois minimum standards for a boundary survey.

Dated at Woodstock, McHenry County, Illinois 01/18 A.D., 20 24.

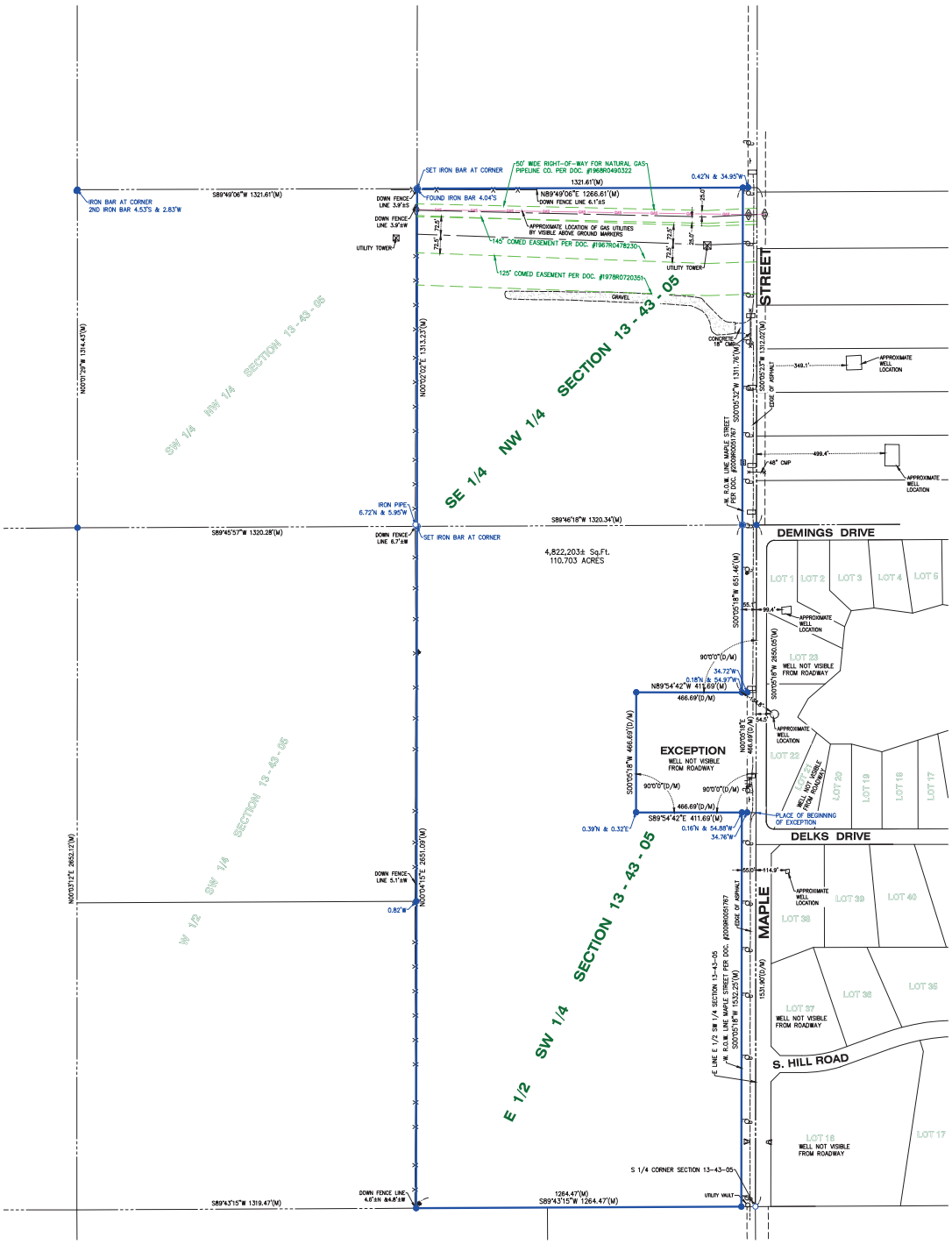
Vanderstappen Land Surveying Inc.
Design Firm No. 184-002792

By: ______________________
Illinois Professional Land Surveyor No. 3857

Vanderstappen
Land Surveying, Inc.
www.vanderslinc.com
1316 N. Madison St.
Woodstock, Illinois 60098
ph. 815-337-8310 fax 815-337-8314
"Always faithful to the property line"

PLAT OF SURVEY

The East Half of the Southwest Quarter of Section 13 lying West of the right-of-Way of Maple Street as dedicated by Document No. 2009R0051767; ALSO; the Southeast Quarter of the Northwest Quarter of said Section 13, lying West of the right-of-Way of Maple Street as dedicated by Document No. 2009R0051767, all in Township 43 North, Range 5 East of the Third Principal Meridian (except that part of the West Half of Section 13, Township 43 North, Range 5 East of the Third Principal Meridian, described as follows: Commencing at the South Quarter corner of said Section 13; thence Northerly, along the East line of the West Half of said Section 13, a distance of 1531.9 feet for the Place of Beginning; thence continuing Northerly along the East line of said West Half, a distance of 466.69 feet; thence Westerly, at right angles to the East line of said West Half, a distance of 466.69 feet; thence Southerly, parallel with the East line of said West Half, a distance of 466.69 feet; thence Easterly, at right angles to the last described course, a distance of 466.69 feet to the Place of Beginning), in McHenry County, Illinois.



LEGEND	
	DOWN GUY
	FLARED END SECTION
	FOUND IRON BAR
	FOUND IRON PIPE
	GAS METER
	GAS PIPELINE MARKER
	MAIL BOX
	MONITORING WELL
	SET IRON BAR
	SIGN
	UTILITY POLE
R.O.W.	RIGHT-OF-WAY
(D)	DEED
(M)	MEASURE

200' 0' 200' 400'
SCALE: 1" = 200'

*** WELL LOCATIONS ARE SCALED IN BASED OFF MCHENRY COUNTY PUBLIC RECORDS AND AERIAL SATELLITE
*** LOTS NOT NOTED HAVE NO WELL INFORMATION FIELD ACCESS TO PARCELS NOT ALLOWED

CLIENT: ZANCK COEN WRIGHT & SALADIN, P.C.
DRAWN BY: SES,BRJ **CHECKED BY:** APG
SCALE: 1"=200' **SEC.** 13 **T.** 43 **R.** 05 **E.**
BASIS OF BEARING: IL EAST ZONE NAD83 (2011)
P.I.N.: 16-13-300-006
JOB NO.: 231079 **I.D.** UPD
FIELDWORK COMP.: 06/12/24 **BK.** ___ **PG.** ___
ALL DISTANCES SHOWN IN FEET AND DECIMAL PARTS THEREOF CORRECTED TO 68° F. REF: 130376

NOTE: Only those Building Line Restrictions or Easements shown on a Recorded Subdivision Plat are shown hereon unless the description ordered to be surveyed contains a proper description of the required building lines or easements.
*** No distance should be assumed by scaling.**
*** No underground improvements have been located unless shown and noted.**
*** No representation as to ownership, use, or possession should be hereon implied.**
*** This Survey and Plat of Survey are valid without original embossed or colored seal and signature affixed.**

Compare your description and site markings with this plat and AT ONCE report any discrepancies which you may find.

REVISED – 6/24/24 – BJ – ADD ADDITIONAL WELL NOTES
REVISED – 6/12/24 – BJ – ADD APPROXIMATE WELL LOCATIONS

PETER P. GRITMACHER
035-003857
PROFESSIONAL LAND SURVEYOR
STATE OF ILLINOIS
EXP. 11/30/2024
WOODSTOCK, ILLINOIS

STATE OF ILLINOIS)
) S.S.
COUNTY OF McHENRY)

In my professional opinion, and based on my observations, I hereby certify that we have surveyed the premises above described, and that the plat hereon is a true representation of the said survey. This professional service conforms to the current Illinois minimum standards for a boundary survey.

Dated at Woodstock, McHenry County, Illinois 1/18 **A.D., 20** 24.

Vanderstappen Land Surveying Inc.
Design Firm No. 184-002792

By: _____
Illinois Professional Land Surveyor No. 3857

APPENDIX F

ECOCAT CORRESPONDENCE

Illinois Department of
Natural Resources

One Natural Resources Way Springfield, Illinois 62702-1271
http://dnr.state.il.us

JB Pritzker, Governor
Natalie Phelps Finnie, Director

September 22, 2023

Steve Gavers
Maple Valley Materials, LLC
1100 Borden Lane
Woodstock, IL 60098 2320

RE: Maple Valley Materials, LLC Sand & Gravel Mine
Project Number(s): 2404970 [2404958]
County: McHenry

Dear Applicant:

This letter is in reference to the project you recently submitted for consultation. The natural resource review provided by EcoCAT identified protected resources that may be in the vicinity of the proposed action. The Department has evaluated this information and concluded that adverse effects are unlikely. Therefore, consultation under 17 Ill. Adm. Code Part 1075 is terminated.

This consultation is valid for two years unless new information becomes available that was not previously considered; the proposed action is modified; or additional species, essential habitat, or Natural Areas are identified in the vicinity. If the project has not been implemented within two years of the date of this letter, or any of the above listed conditions develop, a new consultation is necessary.

The natural resource review reflects the information existing in the Illinois Natural Heritage Database at the time of the project submittal, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, you must comply with the applicable statutes and regulations. Also, note that termination does not imply IDNR's authorization or endorsement of the proposed action.

Please contact me if you have questions regarding this review.

Adam Rawe
Division of Ecosystems and Environment
217-785-5500

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

Applicant: Patrick Engineering
Contact: Luying Li
Address: 55 East Monroe St, Suite 3450
Chicago, IL 60603

IDNR Project Number: 2404958
Date: 09/22/2023

Project: Maple Valley Materials, LLC Sand & Gravel Mine
Address: 1100 Borden Lane, Woodstock

Description: Maple Valley Materials, LLC will be petitioning McHenry County for a Conditional Use Permit renewal for the existing operation of a commercial sand and gravel mine on the property of concern. The property is located in Riley Township on the west side of Maple Street, approximately 1/2-mile south of the intersection of Maple Street and Coral West Road about1-mile south of the City of Marengo, IL in McHenry County.

Natural Resource Review Results

Consultation for Endangered Species Protection and Natural Areas Preservation (Part 1075)

The Illinois Natural Heritage Database shows the following protected resources may be in the vicinity of the project location:

Swainson's Hawk *(Buteo swainsoni)*
Swainson's Hawk *(Buteo swainsoni)*

An IDNR staff member will evaluate this information and contact you to request additional information or to terminate consultation if adverse effects are unlikely.

Location

The applicant is responsible for the accuracy of the location submitted for the project.

County: McHenry

Township, Range, Section:
43N, 5E, 13
43N, 5E, 24

IL Department of Natural Resources Contact
Bradley Hayes
217-785-5500
Division of Ecosystems & Environment

Government Jurisdiction
McHenry County Department of Planning&Development
Adam Wallen
2200 North Seminary Ave
Woodstock, Illinois 60098

Disclaimer

The Illinois Natural Heritage Database cannot provide a conclusive statement on the presence, absence, or condition of natural resources in Illinois. This review reflects the information existing in the Database at the time of this inquiry, and should not be regarded as a final statement on the site being considered, nor should it be a substitute for detailed site surveys or field surveys required for environmental assessments. If additional protected resources are encountered during the project's implementation, compliance with applicable statutes and regulations is required.

Terms of Use

By using this website, you acknowledge that you have read and agree to these terms. These terms may be revised by IDNR as necessary. If you continue to use the EcoCAT application after we post changes to these terms, it will mean that you accept such changes. If at any time you do not accept the Terms of Use, you may not continue to use the website.

1. The IDNR EcoCAT website was developed so that units of local government, state agencies and the public could request information or begin natural resource consultations on-line for the Illinois Endangered Species Protection Act, Illinois Natural Areas Preservation Act, and Illinois Interagency Wetland Policy Act. EcoCAT uses databases, Geographic Information System mapping, and a set of programmed decision rules to determine if proposed actions are in the vicinity of protected natural resources. By indicating your agreement to the Terms of Use for this application, you warrant that you will not use this web site for any other purpose.

2. Unauthorized attempts to upload, download, or change information on this website are strictly prohibited and may be punishable under the Computer Fraud and Abuse Act of 1986 and/or the National Information Infrastructure Protection Act.

3. IDNR reserves the right to enhance, modify, alter, or suspend the website at any time without notice, or to terminate or restrict access.

Security

EcoCAT operates on a state of Illinois computer system. We may use software to monitor traffic and to identify unauthorized attempts to upload, download, or change information, to cause harm or otherwise to damage this site. Unauthorized attempts to upload, download, or change information on this server is strictly prohibited by law.

Unauthorized use, tampering with or modification of this system, including supporting hardware or software, may subject the violator to criminal and civil penalties. In the event of unauthorized intrusion, all relevant information regarding possible violation of law may be provided to law enforcement officials.

Privacy

EcoCAT generates a public record subject to disclosure under the Freedom of Information Act. Otherwise, IDNR uses the information submitted to EcoCAT solely for internal tracking purposes.

EcoCAT
Ecological Compliance Assessment Tool

ILLINOIS DEPARTMENT OF NATURAL RESOURCES

EcoCAT Receipt

Project Code 2404958

APPLICANT	DATE
Patrick Engineering Luying Li 55 East Monroe St, Suite 3450 Chicago, IL 60603	9/22/2023

DESCRIPTION	FEE	CONVENIENCE FEE	TOTAL PAID
EcoCAT Consultation	$ 125.00	$ 2.81	$ 127.81

TOTAL PAID $ 127.81

Illinois Department of Natural Resources
One Natural Resources Way
Springfield, IL 62702
217-785-5500
dnr.ecocat@illinois.gov

APPENDIX G

GROUNDWATER QUALITY DATA

SUBURBAN LABORATORIES, Inc.

1950 S. Batavia Ave., Suite 150 Geneva, Illinois 60134
Tel. (708) 544-3260 • Toll Free (800) 783-LABS
Fax (708) 544-8587
www.suburbanlabs.com

December 21, 2023

Workorder: 2312B79

Brandon Raleigh
Patrick Engineering
4970 Varsity Drive
Lisle, IL 60532

TEL:
FAX:
RE: Maple Valley Materials

Dear Brandon Raleigh:

Suburban Laboratories, Inc. received 3 sample(s) on 12/14/2023 for the analyses presented in the following report.

All data for the associated quality control (QC) met EPA, method, or internal laboratory specifications except where noted in the case narrative. If you are comparing these results to external QC specifications or compliance limits and have any questions, please contact us.

This final report of laboratory analysis consists of this cover letter, case narrative, analytical report, dates report, and any accompanying documentation including, but not limited to, chain of custody records, raw data, and letters of explanation or reliance. This report may not be reproduced, except in full, without the prior written approval of Suburban Laboratories, Inc.

If you have any questions regarding these test results, please call me at (708) 544-3260.

Sincerely,

Dan Galeher
Project Manager
708-544-3260 ext 216
dan@SuburbanLabs.com

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Case Narrative

Client: Patrick Engineering
Project: Maple Valley Materials
WorkOrder: 2312B79
Temperature of samples upon receipt at SLI: 2.3 C

Date: December 21, 2023
PO #:
QC Level: LEVEL I
Chain of Custody #:

General Comments:
- All results reported in wet weight unless otherwise indicated. (dry = Dry Weight)
- Sample results relate only to the analytes of interest tested and to sample as received by the laboratory.
- Environmental compliance sample results meet the requirements of 35 IAC Part 186 unless otherwise indicated.
- Waste water analysis follows the rules set forth in 40 CFR part 136 except where otherwise noted.
- Accreditation by the State of Illinois is not an endorsement or a guarantee of the validity of data generated.
- For more information about the laboratories' scope of accreditation, please contact us at (708) 544-3260 or the Agency at (217) 782-6455.
- All radiological results are reported to the 95% confidence level.

Abbreviations:
- Reporting Limit: The concentration at which an analyte can be routinely detected on a day to day basis, and which also meets regulatory and client needs.
- Quantitation Limit: The lowest concentration at which results can be accurately quantitated.
- J: The analyte was positively identified above our Method Detection Limit and is considered detectable and usable; however, the associated numerical value is the approximate concentration of the analyte in the sample.
- ATC: Automatic Temperature Correction. - TNTC: Too Numerous To Count
- TIC: Tentatively Identified Compound (GCMS library search identification, concentration estimated to nearest internal standard).
- SS: (Surrogate Standard): Quality control compound added to the sample by the lab.
-LA: Lab Accident - No valid data to report.
-VO: Insufficient Volume provided
-BR: Received broken
-IP: Invalid Sampling

Method References:
For a complete list of method references please contact us.
- E: USEPA Reference methods
- SW: USEPA, Test Methods for Evaluating Solid Waste (SW-846)
- M: Standard Methods for the Examination of Water and Wastewater
- USP: Latest version of United States Pharmacopeia

Workorder Specific Comments:

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: 2312B79

Client Sample ID: MW-1
Lab ID: 2312B79-001
Date Received: 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 12:45 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96				Analyst: RWM	
Benzene	ND	0.00100		mg/L	1	12/15/2023 2:37 PM	R171215
Ethylbenzene	ND	0.00100		mg/L	1	12/15/2023 2:37 PM	R171215
m,p-Xylene	ND	0.00200		mg/L	1	12/15/2023 2:37 PM	R171215
o-Xylene	ND	0.00100		mg/L	1	12/15/2023 2:37 PM	R171215
Total Xylenes	ND	0.00200		mg/L	1	12/15/2023 2:37 PM	R171215
Toluene	ND	0.00100		mg/L	1	12/15/2023 2:37 PM	R171215
Internal Quality Control Compounds							
SS: 4-Bromofluorobenzene	103	76-119		%Rec	1	12/15/2023 2:37 PM	R171215
SS: Dibromofluoromethane	74.6	66-137		%Rec	1	12/15/2023 2:37 PM	R171215
SS: Toluene-d8	101	80-120		%Rec	1	12/15/2023 2:37 PM	R171215
SEMIVOLATILE ORGANICS, BY GCMS SIM		Method: EPA-8270C-Rev 3, Dec-96				Analyst: BM	
Acenaphthene	ND	0.0000770		mg/L	1	12/15/2023 7:34 PM	94371
Acenaphthylene	ND	0.0000370		mg/L	1	12/15/2023 7:34 PM	94371
Anthracene	ND	0.0000340		mg/L	1	12/15/2023 7:34 PM	94371
Benzo(a)anthracene	0.000120	0.0000810		mg/L	1	12/15/2023 7:34 PM	94371
Benzo(a)pyrene	0.000153	0.0000660		mg/L	1	12/15/2023 7:34 PM	94371
Benzo(b)fluoranthene	0.000160	0.0000390		mg/L	1	12/15/2023 7:34 PM	94371
Benzo(g,h,i)perylene	0.000238	0.0000460		mg/L	1	12/15/2023 7:34 PM	94371
Benzo(k)fluoranthene	0.0000677	0.0000480	J	mg/L	1	12/15/2023 7:34 PM	94371
Chrysene	0.000266	0.0000360		mg/L	1	12/15/2023 7:34 PM	94371
Dibenzo(a,h)anthracene	ND	0.0000470		mg/L	1	12/15/2023 7:34 PM	94371
Fluoranthene	0.000231	0.0000350		mg/L	1	12/15/2023 7:34 PM	94371
Fluorene	0.0000460	0.0000350	J	mg/L	1	12/15/2023 7:34 PM	94371
Indeno(1,2,3-cd)pyrene	0.000117	0.0000360		mg/L	1	12/15/2023 7:34 PM	94371
Naphthalene	ND	0.0000480		mg/L	1	12/15/2023 7:34 PM	94371
Phenanthrene	0.000152	0.0000840		mg/L	1	12/15/2023 7:34 PM	94371
Pyrene	0.000257	0.0000860		mg/L	1	12/15/2023 7:34 PM	94371
Internal Quality Control Compounds							
SS: 2-Fluorobiphenyl	42.8	34-130		%Rec	1	12/15/2023 7:34 PM	94371
SS: 4-Terphenyl-d14	16.7	10-168		%Rec	1	12/15/2023 7:34 PM	94371
SS: Nitrobenzene-d5	75.7	39-144		%Rec	1	12/15/2023 7:34 PM	94371
CHLORIDE		Method: SM-4500Cl-E--Rev 1997				Analyst: EM	
Chloride	116	6.70	c	mg/L	1	12/14/2023 5:22 PM	R171126
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	

Created: 12/21/2023 2:27:57 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: **2312B79**

Client Sample ID: **MW-1**
Lab ID: 2312B79-001 **Date Received:** 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 12:45 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	
Specific Conductivity	998	1.00		µmhos/cm	1	12/15/2023 10:48 AM	R171141
AMMONIA		Method: SM-4500NH3 G-Rev 1997				Analyst: EM	
Nitrogen, Ammonia (As N)	4.11	0.18	c	mg/L	1	12/19/2023 2:14 PM	R171273
TOTAL NITRATES		Method: MCAWW-E353.2-Rev 2.0, August 1993				Analyst: EM	
Total Nitrates (Nitrate+Nitrite)	0.293	0.093		mg/L	1	12/14/2023 5:34 PM	R171128
PH (IN LABORATORY) <ATC>		Method: EPA-SW9040B-Rev 3, Jan-95				Analyst: ESI	
pH	7.45	1.00	V c	pH Units	1	12/15/2023 12:42 PM	R171158
Temperature	23.1	0		°C	1	12/15/2023 12:42 PM	R171158

Created: 12/21/2023 2:27:58 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: 2312B79

Client Sample ID: MW-2
Lab ID: 2312B79-002
Date Received: 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 1:40 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96				Analyst: RWM	
Benzene	ND	0.00100		mg/L	1	12/15/2023 3:03 PM	R171215
Ethylbenzene	ND	0.00100		mg/L	1	12/15/2023 3:03 PM	R171215
m,p-Xylene	ND	0.00200		mg/L	1	12/15/2023 3:03 PM	R171215
o-Xylene	ND	0.00100		mg/L	1	12/15/2023 3:03 PM	R171215
Total Xylenes	ND	0.00200		mg/L	1	12/15/2023 3:03 PM	R171215
Toluene	ND	0.00100		mg/L	1	12/15/2023 3:03 PM	R171215
Internal Quality Control Compounds							
SS: 4-Bromofluorobenzene	103	76-119		%Rec	1	12/15/2023 3:03 PM	R171215
SS: Dibromofluoromethane	75.4	66-137		%Rec	1	12/15/2023 3:03 PM	R171215
SS: Toluene-d8	101	80-120		%Rec	1	12/15/2023 3:03 PM	R171215
SEMIVOLATILE ORGANICS, BY GCMS SIM		Method: EPA-8270C-Rev 3, Dec-96				Analyst: BM	
Acenaphthene	ND	0.0000770		mg/L	1	12/15/2023 8:07 PM	94371
Acenaphthylene	ND	0.0000370		mg/L	1	12/15/2023 8:07 PM	94371
Anthracene	ND	0.0000340		mg/L	1	12/15/2023 8:07 PM	94371
Benzo(a)anthracene	ND	0.0000810		mg/L	1	12/15/2023 8:07 PM	94371
Benzo(a)pyrene	ND	0.0000660		mg/L	1	12/15/2023 8:07 PM	94371
Benzo(b)fluoranthene	ND	0.0000390		mg/L	1	12/15/2023 8:07 PM	94371
Benzo(g,h,i)perylene	ND	0.0000460		mg/L	1	12/15/2023 8:07 PM	94371
Benzo(k)fluoranthene	ND	0.0000480		mg/L	1	12/15/2023 8:07 PM	94371
Chrysene	ND	0.0000360		mg/L	1	12/15/2023 8:07 PM	94371
Dibenzo(a,h)anthracene	ND	0.0000470		mg/L	1	12/15/2023 8:07 PM	94371
Fluoranthene	ND	0.0000350		mg/L	1	12/15/2023 8:07 PM	94371
Fluorene	ND	0.0000350		mg/L	1	12/15/2023 8:07 PM	94371
Indeno(1,2,3-cd)pyrene	ND	0.0000360		mg/L	1	12/15/2023 8:07 PM	94371
Naphthalene	ND	0.0000480		mg/L	1	12/15/2023 8:07 PM	94371
Phenanthrene	ND	0.0000840		mg/L	1	12/15/2023 8:07 PM	94371
Pyrene	ND	0.0000860		mg/L	1	12/15/2023 8:07 PM	94371
Internal Quality Control Compounds							
SS: 2-Fluorobiphenyl	67.1	34-130		%Rec	1	12/15/2023 8:07 PM	94371
SS: 4-Terphenyl-d14	52.0	10-168		%Rec	1	12/15/2023 8:07 PM	94371
SS: Nitrobenzene-d5	75.1	39-144		%Rec	1	12/15/2023 8:07 PM	94371
CHLORIDE		Method: SM-4500Cl-E--Rev 1997				Analyst: EM	
Chloride	67.0	6.70	c	mg/L	1	12/14/2023 5:23 PM	R171126
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	

Created: 12/21/2023 2:27:58 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: **2312B79**

Client Sample ID: **MW-2**
Lab ID: 2312B79-002
Date Received: 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 1:40 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	
Specific Conductivity	947	1.00		µmhos/cm	1	12/15/2023 10:48 AM	R171141
AMMONIA		Method: SM-4500NH3 G-Rev 1997				Analyst: EM	
Nitrogen, Ammonia (As N)	ND	0.18	c	mg/L	1	12/19/2023 2:16 PM	R171273
TOTAL NITRATES		Method: MCAWW-E353.2-Rev 2.0, August 1993				Analyst: EM	
Total Nitrates (Nitrate+Nitrite)	12.8	0.465		mg/L	5	12/14/2023 6:36 PM	R171128
PH (IN LABORATORY) <ATC>		Method: EPA-SW9040B-Rev 3, Jan-95				Analyst: ESI	
pH	7.74	1.00	V c	pH Units	1	12/15/2023 12:52 PM	R171158
Temperature	22.7	0		°C	1	12/15/2023 12:52 PM	R171158

Created: 12/21/2023 2:27:58 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: 2312B79

Client Sample ID: MW-3
Lab ID: 2312B79-003
Date Received: 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 2:25 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
VOLATILE ORGANIC COMPOUNDS		Method: EPA-SW8260B-Rev 2, Dec-96				Analyst: RWM	
Benzene	ND	0.00100		mg/L	1	12/15/2023 3:29 PM	R171215
Ethylbenzene	ND	0.00100		mg/L	1	12/15/2023 3:29 PM	R171215
m,p-Xylene	ND	0.00200		mg/L	1	12/15/2023 3:29 PM	R171215
o-Xylene	ND	0.00100		mg/L	1	12/15/2023 3:29 PM	R171215
Total Xylenes	ND	0.00200		mg/L	1	12/15/2023 3:29 PM	R171215
Toluene	ND	0.00100		mg/L	1	12/15/2023 3:29 PM	R171215
Internal Quality Control Compounds							
SS: 4-Bromofluorobenzene	103	76-119		%Rec	1	12/15/2023 3:29 PM	R171215
SS: Dibromofluoromethane	75.0	66-137		%Rec	1	12/15/2023 3:29 PM	R171215
SS: Toluene-d8	102	80-120		%Rec	1	12/15/2023 3:29 PM	R171215
SEMIVOLATILE ORGANICS, BY GCMS SIM		Method: EPA-8270C-Rev 3, Dec-96				Analyst: BM	
Acenaphthene	ND	0.0000770		mg/L	1	12/15/2023 8:40 PM	94371
Acenaphthylene	ND	0.0000370		mg/L	1	12/15/2023 8:40 PM	94371
Anthracene	ND	0.0000340		mg/L	1	12/15/2023 8:40 PM	94371
Benzo(a)anthracene	ND	0.0000810		mg/L	1	12/15/2023 8:40 PM	94371
Benzo(a)pyrene	ND	0.0000660		mg/L	1	12/15/2023 8:40 PM	94371
Benzo(b)fluoranthene	ND	0.0000390		mg/L	1	12/15/2023 8:40 PM	94371
Benzo(g,h,i)perylene	ND	0.0000460		mg/L	1	12/15/2023 8:40 PM	94371
Benzo(k)fluoranthene	ND	0.0000480		mg/L	1	12/15/2023 8:40 PM	94371
Chrysene	ND	0.0000360		mg/L	1	12/15/2023 8:40 PM	94371
Dibenzo(a,h)anthracene	ND	0.0000470		mg/L	1	12/15/2023 8:40 PM	94371
Fluoranthene	ND	0.0000350		mg/L	1	12/15/2023 8:40 PM	94371
Fluorene	ND	0.0000350		mg/L	1	12/15/2023 8:40 PM	94371
Indeno(1,2,3-cd)pyrene	ND	0.0000360		mg/L	1	12/15/2023 8:40 PM	94371
Naphthalene	ND	0.0000480		mg/L	1	12/15/2023 8:40 PM	94371
Phenanthrene	ND	0.0000840		mg/L	1	12/15/2023 8:40 PM	94371
Pyrene	ND	0.0000860		mg/L	1	12/15/2023 8:40 PM	94371
Internal Quality Control Compounds							
SS: 2-Fluorobiphenyl	68.5	34-130		%Rec	1	12/15/2023 8:40 PM	94371
SS: 4-Terphenyl-d14	61.3	10-168		%Rec	1	12/15/2023 8:40 PM	94371
SS: Nitrobenzene-d5	75.3	39-144		%Rec	1	12/15/2023 8:40 PM	94371
CHLORIDE		Method: SM-4500Cl-E--Rev 1997				Analyst: EM	
Chloride	22.9	6.70	c	mg/L	1	12/14/2023 5:25 PM	R171126
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	

Created: 12/21/2023 2:27:58 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Laboratory Results

Client ID: Patrick Engineering
Project Name: Maple Valley Materials

Report Date: December 21, 2023
Workorder: **2312B79**

Client Sample ID: **MW-3**
Lab ID: 2312B79-003
Date Received: 12/14/2023 3:40 PM

Matrix: GROUNDWATER
Collection Date: 12/14/2023 2:25 PM

Parameter	Result	Report Limit	Qual.	Units	Dilution Factor	Date Analyzed	Batch ID
CONDUCTIVITY AT 25 DEGREES C.		Method: SM-2510B-Rev 1997				Analyst: ESI	
Specific Conductivity	701	1.00		µmhos/cm	1	12/15/2023 10:48 AM	R171141
AMMONIA		Method: SM-4500NH3 G-Rev 1997				Analyst: EM	
Nitrogen, Ammonia (As N)	ND	0.18	c	mg/L	1	12/19/2023 2:17 PM	R171273
TOTAL NITRATES		Method: MCAWW-E353.2-Rev 2.0, August 1993				Analyst: EM	
Total Nitrates (Nitrate+Nitrite)	0.135	0.093		mg/L	1	12/14/2023 5:37 PM	R171128
PH (IN LABORATORY) <ATC>		Method: EPA-SW9040B-Rev 3, Jan-95				Analyst: ESI	
pH	7.27	1.00	V c	pH Units	1	12/15/2023 12:39 PM	R171158
Temperature	24.0	0		°C	1	12/15/2023 12:39 PM	R171158

Created: 12/21/2023 2:27:58 PM

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

PREP DATES REPORT

Client: Patrick Engineering, Inc.
Project: Maple Valley Materials

Report Date: December 21, 2023
Lab Order: **2312B79**

Sample ID	Collection Date	Batch ID	Prep Test Name	TCLP Date	Prep Date
2312B79-001D	12/14/2023 12:45:00 PM	94371	AQUEOUS PREP SEP FUNNEL: BNA		12/15/2023
2312B79-002D	12/14/2023 1:40:00 PM	94371	AQUEOUS PREP SEP FUNNEL: BNA		12/15/2023
2312B79-003D	12/14/2023 2:25:00 PM	94371	AQUEOUS PREP SEP FUNNEL: BNA		12/15/2023

Suburban Laboratories, Inc.
1950 S. Batavia Ave., Suite 150, Geneva, IL 60134 (708) 544-3260

Qualifier Definitions

WO#: **2312B79**
Date: **12/21/2023**

Qualifiers:

*/x	Value exceeds Maximum Contaminant Level
B	Analyte detected in the associated Method Blank
C	Value is below Minimum Concentration Limit
c	Analyte not in TNI/NELAC scope of accreditation
E	Estimated, detected above quantitation range
G	Refer to case narrative page for specific comments
H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limit (QL)
N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit
P	Present
Q	Accreditation is not available from Wisconsin
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
T	Analyte detected in sample trip blank
V	EPA requires field analysis/filtration. Lab analysis would be considered past hold time.
WI	This sample was ran at the Wisconsin Laboratory, WI DNR Certified #246179890

METIRI

1950 S. Batavia Ave., Suite 150, Geneva, IL 60134

CHAIN OF CUSTODY RECORD

Tel. (708) 544-3260 login@metirigroup.com www.metirigroup.com

Company Name: Patrick Engineering
Company Address: 55 East Monroe St. Suite 3450
City: Chicago State: IL Zip: 60603
Office: 312-201-7900 Mobile: Fax:
Email Address: braleigh@patrickco.com
Project ID / Location: Maple Valley Materials
Project Manager (Report to): Brandon Raleigh
Sample Collector(s): Brandon Raleigh

TURNAROUND TIME REQUESTED

[X] Normal [ ] RUSH*

* Must be pre-approved and surcharges apply. Checking this box indicates your approval of surcharges.

Date and Time Report Needed:

Specify Regulatory Program: [X] None/Info Only

[ ] LUST [ ] SRP [ ] SDWA
[ ] 503 Sludge [ ] NPDES [ ] MWRDGC
[ ] Disposal [ ] CCDD [ ] OTHER - Specify Below

ANALYSIS & METHOD REQUESTED
Enter an "X" in box below for request

Chloride, Nitrate, pH | Ammonium Nitrogen, Conductivity | BTEX, PNAs

Report Type: [X] Normal [ ] Special*
* Additional charges apply for QC reports and raw data. Specify in comments section

Shipping Method:

LAB USE ONLY

Work Order # 2312B79
Temperature of Received Samples: -2.3 °C
Received within 24 hours of collection? [ ] No [ ] Yes

	SAMPLE IDENTIFICATION (Use 1 line per container type)	COLLECTION DATE	COLLECTION TIME	MATRIX	GRAB/ COMP.	CONTAINERS Qty	CONTAINERS SIZE & TYPE	PRESERVATIVE	Chloride, Nitrate, pH	Ammonium Nitrogen, Conductivity	BTEX, PNAs	Lab Comment	LAB #
1	MW-1	12/14/23	12:45	GW	G	5	40mL vial/250mL 500mL/1L	HCl/H2SO4/ None/None	X	X	X		
2	MW-2	↓	13:40	↓	↓	↓	↓	↓	↓	↓	↓		
3	MW-3	↓	14:25	↓	↓	↓	↓	↓	↓	↓	↓		
4													
5													
6													
7													
8													
9													
10													
11													
12													

MATRIX: Drinking Water (DW), Soil (S), Waste Water (WW), Surface Water(SW), Ground Water (GW), Solid Waste (WA), Sludge (U), Wipe (P) **CONTAINER:** 2oz, 4oz, 8oz, 40ml Vial, 500ml, Liter (L), Tube, Glass (G), Plastic (P) **PRESERVATIVE:** H_2SO_4, HCl, HNO_3, Methanol (MeOH) NaOH, Sodium Bisulfate (NaB), NaThio

COMMENTS & SPECIAL INSTRUCTIONS:

1. Relinquished By	Date	2. Relinquished By	Date	3. Relinquished By	Date	4. Relinquished By	Date
Brandon Raleigh	12/14/23						
Received By	**Time**	**Received By**	**Time**	**Received By**	**Time**	**Received By**	**Time**
[ ] Ice	15:40	[ ] Ice		[ ] Ice		[ ] Ice	

THIS FORM MUST BE FILLED OUT COMPLETELY BY THE SAMPLE COLLECTOR OR SUBMITTER AND ORIGINAL FORM MUST ACCOMPANY SAMPLES AT ALL TIMES.

Rev 2/17

APPENDIX H

SEPTIC STUDY REPORT

John A. Raber and Associates, Inc.

4310-G W. Crystal Lake Rd., McHenry, IL 60050 ● 815 344-4020 ● FAX 1-815 331-0800

"Serving northern Illinois for over 30 years."

August 28, 2024

Jeff Schuh
Rina North America
55 E. Monroe St., Ste. 3450
Chicago, IL. 60603

RE: Maple Street, Marengo

Dear Mr. Schuh:

The soil analysis for septic suitability on the above referenced property has been completed.

Six (6) borings were made at the proposed septic location.

The slope at Boring #1 was 2%, Boring #2, 2%, Boring #3, 1%, Boring #4, 1%, Boring #5, 1% and Boring #6, 1%.

Depth to seasonally high water table was 24 inches at Boring #1, 20 inches at Boring #2, 58 inches at Boring #3, 50 inches at Boring #4, 59 inches at Boring #5 and 50 inches at Boring #6.

This is the depth at which the fluctuating water table reaches during the wettest season of the year.

No limiting permeability was found at Boring #1, Boring #2, Boring #3, Boring #4, Boring #5 or Boring #6.

No wells were found within 75 feet of the boring locations.

The soil profiles taken by John A. Raber & Assoc., Inc., indicate only the soil characteristics present in the area reviewed at the time it was made. These soil profile descriptions are intended solely to permit evaluation by an engineer or local governmental authority to determine the suitability of the site for construction of an on-site wastewater disposal system. John A. Raber & Assoc. Inc. does not evaluate the suitability of the soils and makes no representation as to the suitability of the site.

Sincerely,

JOHN A. RABER & ASSOC., INC.

Bob Oja

Bob Oja, C.P.S.S./S.C.
Soil Scientist/Classifier

js/enc.

LOCATION: Maple Street, Marengo PIN # 16-13-300-006 TOWNSHIP: Riley

NEW CONSTRUCTION: ☒ REPAIR: ☐ PROPERTY ALTERATION: ☐ COUNTY: McHenry FILE # 1434-24

BORING # 1 SOIL SERIES: Kane OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 24" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE E 2%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-7	10yr2/1			1 vf-msbk	sil	Friable	Lower Moderate		
Ab	7-14	10yr2/1			2 f&msbk	sicl	Friable	Lower Moderate		
Bt	14-21	10yr5/4	c2d 10yr6/2 At 24"	3 f10yr4/3	3 f&msbk	cl	Friable	Upper Moderate		
C	21-60	10yr5/4	c2d 10yr6/2		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Somewhat Poorly DEPTH OF COMPACTED LAYERS: 0-14 Slight

BORING # 2 SOIL SERIES: Kane OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 20" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE: SE 2%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-10	10yr2/1			1 vf-msbk	sil-l	Friable	Lower Moderate		
Bt	10-18	10yr5/4			2 f&msbk	sicl-cl	Friable	Upper Moderate		
C	18-60	10yr5/4	c2d 10yr6/2 At 20"		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Somewhat Poorly DEPTH OF COMPACTED LAYERS: 0-10 Slight

Bob Oja

JOHN A. RABER & ASSOCIATES, INC.
4310-G CRYSTAL LAKE ROAD
MCHENRY, ILLINOIS 60050
(815) 344-4020
TEST DATE: 08/28/2024

Bob Oja, C.P.S.S./S.C.

ISCA No. 65

BORING # 3 SOIL SERIES: Warsaw OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 58" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE S 1%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-8	10yr2/2			1 vf&fsbk	l	Friable	Upper Moderate		
Ab	8-13	10yr2/2			2 fsbk	cl	Friable	Upper Moderate		
Bt	13-21	10yr5/4		4 f10yr4/3	2 f&msbk	cl	Friable	Upper Moderate		
C	21-60	10yr5/4	At 58" c2d 10yr6/2		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Moderately Well DEPTH OF COMPACTED LAYERS: None

BORING # 4 SOIL SERIES: Lorenzo OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 50" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE: S 1%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-8	10yr2/2			1 vf&fsbk	l	Friable	Upper Moderate		
Ab	8-12	10yr3/2			2 fsbk	cl	Friable	Upper Moderate		
Bt	17-19	10yr5/4		4 f10yr4/3	2 f&msbk	cl	Friable	Upper Moderate		
C	19-60	10yr5/4	At 50" c2d 10yr6/2		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Moderately Well DEPTH OF COMPACTED LAYERS: None

Bob Oja

JOHN A. RABER & ASSOCIATES, INC.
4310-G CRYSTAL LAKE ROAD
MCHENRY, ILLINOIS
(815) 344-4020

Bob Oja, C.P.S.S./S.C.

ISCA No. 65

TEST DATE: 08/28/2024

BORING # 5 SOIL SERIES: Warsaw OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 59" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE S 1%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-13	10yr2/2			1 vf-msbk	l	Friable	Upper Moderate		
Bt	13-21	10yr5/4		3 f10yr4/3	2 f&msbk	cl	Friable	Upper Moderate		
C	21-60	10yr5/4	c2d 10yr6/2 At 59"		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Moderately Well DEPTH OF COMPACTED LAYERS: None

BORING # 6 SOIL SERIES: Lorenzo OBSERVED WATER: None

DEPTH TO SEASONALLY HIGH WATERTABLE: 50" DEPTH TO LIMITING LOADING RATE: >60" ASPECT/SLOPE: S 1%

HORIZON	DEPTH	DMNT.COLOR	REDOX	COATINGS	STRUCTURE	TEXTURE	CONSISTENCE	PERMEABILITY	LOADING RATE	SOIL DESIGN GROUP
A	0-10	10yr2/2			1 vf-msbk	l	Friable	Upper Moderate		
Bt	10-15	10yr5/4		3 f10yr4/3	2 f&msbk	cl	Friable	Upper Moderate		
C	15-60	10yr5/4	c2d 10yr6/2 At 50"		sg	grs&s	Loose	Rapid		

INTERNAL DRAINAGE: Moderately Well DEPTH OF COMPACTED LAYERS: None

Bob Oja

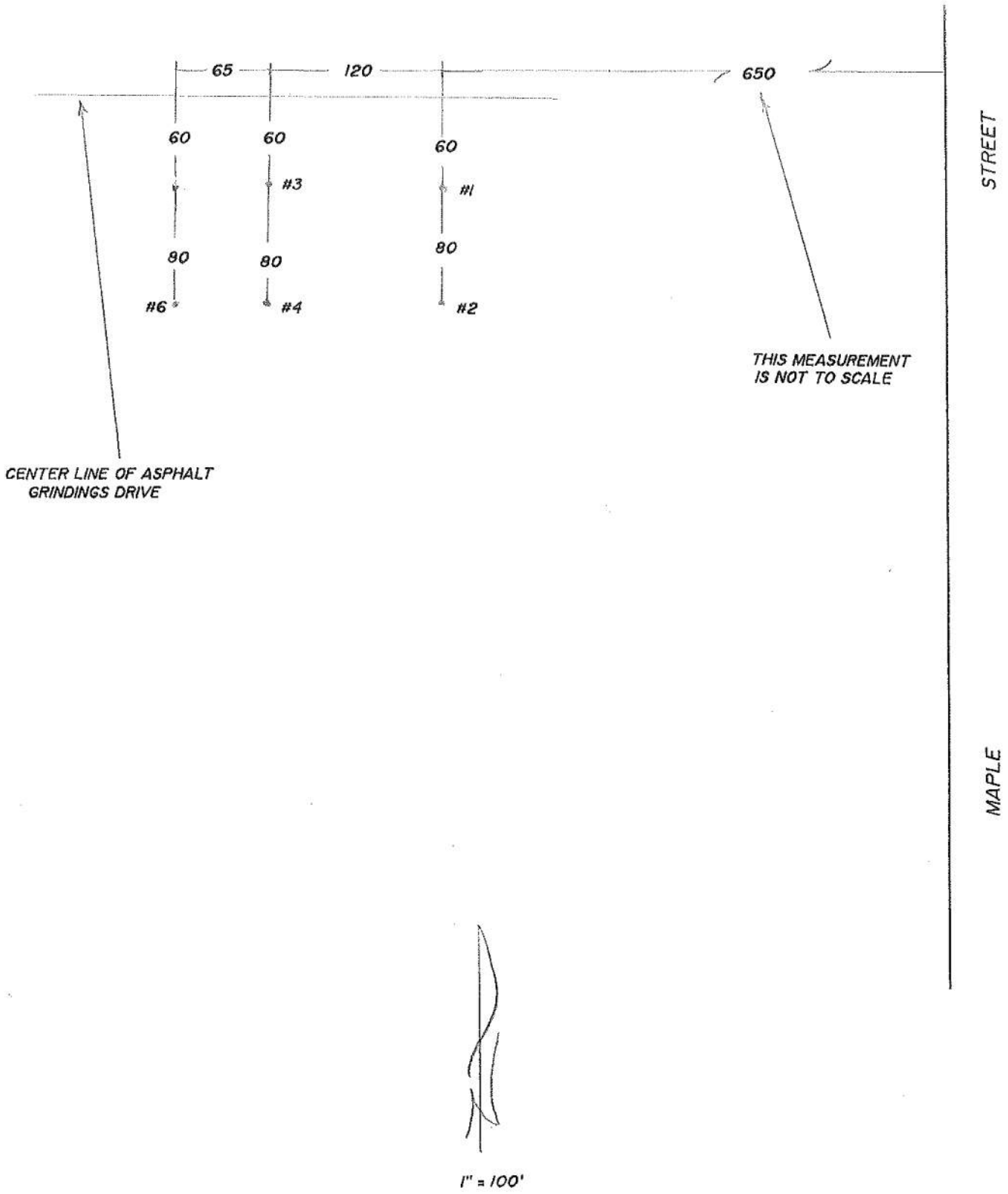
JOHN A. RABER & ASSOCIATES, INC.
4310-G CRYSTAL LAKE ROAD
MCHENRY, ILLINOIS
(815) 344-4020

Bob Oja, C.P.S.S./S.C.

ISCA No. 65

TEST DATE: 08/28/2024

MAPLE STREET, MARENGO
16-13-300-006



JOHN A. RABER & ASSOC. INC.
4310-G CRYSTAL LAKE ROAD
MCHENRY, IL. 60050
815-344-4020
soils@johnraber.com

PREPARED BY BOB OJA
CERTIFIED PROFESSIONAL
SOIL CLASSIFIER
ISCA No. 65

APPENDIX I

SPCC PLAN

Tier I Qualified Facility SPCC Plan

This template constitutes the SPCC Plan for the facility, when completed and signed by the owner or operator of a facility that meets the applicability criteria in §112.3(g)(1). This template addresses the requirements of 40 CFR part 112. Maintain a complete copy of the Plan at the facility if the facility is normally attended at least four hours per day, or for a facility attended fewer than four hours per day, at the nearest field office. When making operational changes at a facility that are necessary to comply with the rule requirements, the owner/operator should follow state and local requirements (such as for permitting, design and construction) and obtain professional assistance, as appropriate.

Facility Description

Facility Name: Maple Valley Materials

Facility Address: Maple Street (Address to be determined prior to site development)

City: Marengo State: Illinois ZIP:

County: McHenry Tel. Number: (815) 338-0831

Owner or Operator Name: Steve Gavers

Owner or Operator Address: 1100 Borden Lane

City: Woodstock State: Illinois ZIP: 60098

County: McHenry Tel. Number: (815) 338-0831

I. Self-Certification Statement (§112.6(a)(1))

The owner or operator of a facility certifies that each of the following is true in order to utilize this template to comply with the SPCC requirements:

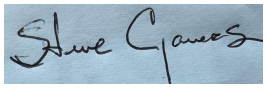
I Steve Gavers certify that the following is accurate:

1. I am familiar with the applicable requirements of 40 CFR part 112;
2. I have visited and examined the facility;
3. This Plan was prepared in accordance with accepted and sound industry practices and standards;
4. Procedures for required inspections and testing have been established in accordance with industry inspection and testing standards or recommended practices;
5. I will fully implement the Plan;
6. This facility meets the following qualification criteria (under §112.3(g)(1)):
    a. The aggregate aboveground oil storage capacity of the facility is 10,000 U.S. gallons or less; and
    b. The facility has had no single discharge as described in §112.1(b) exceeding 1,000 U.S. gallons and no two discharges as described in §112.1(b) each exceeding 42 U.S. gallons within any twelve month period in the three years prior to the SPCC Plan self-certification date, or since becoming subject to 40 CFR part 112 if the facility has been in operation for less than three years (not including oil discharges as described in §112.1(b) that are the result of natural disasters, acts of war, or terrorism); and
    c. There is no individual oil storage container at the facility with an aboveground capacity greater than 5,000 U.S. gallons.
7. This Plan does not deviate from any requirement of 40 CFR part 112 as allowed by §112.7(a)(2) (environmental equivalence) and §112.7(d) (impracticability of secondary containment) or include any measures pursuant to §112.9(c)(6) for produced water containers and any associated piping;
8. This Plan and individual(s) responsible for implementing this Plan have the full approval of management and I have committed the necessary resources to fully implement this Plan.

I also understand my other obligations relating to the storage of oil at this facility, including, among others:

1. To report any oil discharge to navigable waters or adjoining shorelines to the appropriate authorities. Notification information is included in this Plan.
2. To review and amend this Plan whenever there is a material change at the facility that affects the potential for an oil discharge, and at least once every five years. Reviews and amendments are recorded in an attached log [See Five Year Review Log and Technical Amendment Log in Attachments 1.1 and 1.2.]
3. Optional use of a contingency plan. A contingency plan:
    a. May be used in lieu of secondary containment for qualified oil-filled operational equipment, in accordance with the requirements under §112.7(k), and;
    b. Must be prepared for flowlines and/or intra-facility gathering lines which do not have secondary containment at an oil production facility, and;
    c. Must include an established and documented inspection or monitoring program; must follow the provisions of 40 CFR part 109; and must include a written commitment of manpower, equipment and materials to expeditiously remove any quantity of oil discharged that may be harmful. If applicable, a copy of the contingency plan and any additional documentation will be attached to this Plan as Attachment 2.

I certify that I have satisfied the requirement to prepare and implement a Plan under §112.3 and all of the requirements under §112.6(a). I certify that the information contained in this Plan is true.

Signature  Title: President

Name Steve Gavers Date: 09 /18 / 20 24

II. Record of Plan Review and Amendments

Five Year Review (§112.5(b)):

Complete a review and evaluation of this SPCC Plan at least once every five years. As a result of the review, amend this Plan within six months to include more effective prevention and control measures for the facility**,** if applicable. Implement any SPCC Plan amendment as soon as possible**,** but no later than six months following Plan amendment. Document completion of the review and evaluation, and complete the Five Year Review Log in Attachment 1.1. If the facility no longer meets Tier I qualified facility eligibility, the owner or operator must revise the Plan to meet Tier II qualified facility requirements, or complete a full PE certified Plan.

Table G-1 Technical Amendments (§§112.5(a), (c) and 112.6(a)(2))	
This SPCC Plan will be amended when there is a change in the facility design, construction, operation, or maintenance that materially affects the potential for a discharge to navigable waters or adjoining shorelines. Examples include adding or removing containers, reconstruction, replacement, or installation of piping systems, changes to secondary containment systems, changes in product stored at this facility, or revisions to standard operating procedures.	☒
Any technical amendments to this Plan will be re-certified in accordance with Section I of this Plan template. *[§112.6(a)(2)]* **[See Technical Amendment Log in Attachment 1.2]**	☒

III. Plan Requirements

1. Oil Storage Containers (§112.7(a)(3)(i)):

Table G-2 Oil Storage Containers and Capacities	
This table includes a complete list of all oil storage containers (aboveground containers[a] and completely buried tanks[b]) with capacity of 55 U.S. gallons or more, unless otherwise exempt from the rule. For mobile/portable containers, an estimated number of containers, types of oil, and anticipated capacities are provided.	☒

Oil Storage Container *(indicate whether aboveground (A) or completely buried (B))*	**Type of Oil**	**Shell Capacity (gallons)**
Above Ground Fuel Tank	Diesel Fuel	1,200 gallons
Fueling Truck	Diesel Fuel	200 gallons
1 Drum (in the shop or in service truck)	Motor Oil	55 gallons
1 Drum (in the shop or in service truck)	Hydraulic Oil	55 gallons

Total Aboveground Storage Capacity [c] 1,510 gallons
Total Completely Buried Storage Capacity 0 gallons
Facility Total Oil Storage Capacity 1,510 gallons

[a] Aboveground storage containers that must be included when calculating total facility oil storage capacity include: tanks and mobile or portable containers; oil-filled operational equipment (e.g. transformers); other oil-filled equipment**,** such as flow-through process equipment. Exempt containers that are not included in the capacity calculation include: any container with a storage capacity of less than 55 gallons of oil; containers used exclusively for wastewater treatment; permanently closed containers; motive power containers; hot-mix asphalt containers; heating oil containers used solely at a single-family residence; and pesticide application equipment or related mix containers.

[b] Although the criteria to determine eligibility for qualified facilities focuses on the aboveground oil storage containers at the facility, the completely buried tanks at a qualified facility are still subject to the rule requirements and must be addressed in the template; however, they are not counted toward the qualified facility applicability threshold.

[c] Counts toward qualified facility applicability threshold.

2. Secondary Containment and Oil Spill Control (§§112.6(a)(3)(i) and (ii), 112.7(c) and 112.9(c)(2)):

Table G-3 Secondary Containment and Oil Spill Control	
Appropriate secondary containment and/or diversionary structures or equipment[a] is provided for all oil handling containers, equipment, and transfer areas to prevent a discharge to navigable waters or adjoining shorelines. The entire secondary containment system, including walls and floor, is capable of containing oil and is constructed so that any discharge from a primary containment system, such as a tank or pipe, will not escape the containment system before cleanup occurs.	☒

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

Table G-4 below identifies the tanks and containers at the facility with the potential for an oil discharge; the mode of failure; the flow direction and potential quantity of the discharge; and the secondary containment method and containment capacity that is provided.

Table G-4 Containers with Potential for an Oil Discharge

Area	Type of failure (discharge scenario)	Potential discharge volume (gallons)	Direction of flow for uncontained discharge	Secondary containment method[a]	Secondary containment capacity (gallons)
Bulk Storage Containers and Mobile/Portable Containers[b]					
Fuel AST (1,200 gal)	Tank failure	0	contained	concrete containment or Double Wall Tank	1750 gallons if not DW tank
Fuel Truck (200 gal)	Hose or handle failure	3 - 5		sorbent materials	5 gallons
Motor Oil drum (55 gal)	transfer operation	.3 gal		sorbent materials	1 gallon
Hydraulic Oil drum (55 gal)	transfer operation	.3 gal		sorbent materials	1 gallon
Oil-filled Operational Equipment (e.g., hydraulic equipment, transformers)[c]					
Piping, Valves, etc.					
Product Transfer Areas (location where oil is loaded to or from a container, pipe or other piece of equipment.)					
Other Oil-Handling Areas or Oil-Filled Equipment (e.g. flow-through process vessels at an oil production facility)					

[a] Use one of the following methods of secondary containment or its equivalent: (1) Dikes, berms, or retaining walls sufficiently impervious to contain oil; (2) Curbing; (3) Culverting, gutters, or other drainage systems; (4) Weirs, booms, or other barriers; (5) Spill diversion ponds; (6) Retention ponds; or (7) Sorbent materials.

[b] For storage tanks and bulk storage containers, the secondary containment capacity must be at least the capacity of the largest container plus additional capacity to contain rainfall or other precipitation.

[c] For oil-filled operational equipment: Document in the table above if alternative measures to secondary containment (as described in §112.7(k)) are implemented at the facility.

3. Inspections, Testing, Recordkeeping and Personnel Training (§§112.7(e) and (f), 112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)):

Table G-5 Inspections, Testing, Recordkeeping and Personnel Training	
An inspection and/or testing program is implemented for all aboveground bulk storage containers and piping at this facility. *[§§112.8(c)(6) and (d)(4), 112.9(c)(3), 112.12(c)(6) and (d)(4)]*	☒
The following is a description of the inspection and/or testing program (e.g. reference to industry standard utilized, scope, frequency, method of inspection or test, and person conducting the inspection) for all aboveground bulk storage containers and piping at this facility: The aboveground fuel storage tank will be inspected weekly while the mine is operating. The tank will be emptied when the mine is not in operation for a period longer than one month. No underground piping will be used at the mine.	
Inspections, tests, and records are conducted in accordance with written procedures developed for the facility. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph. *[§112.7(e)]*	☒
A record of the inspections and tests are kept at the facility or with the SPCC Plan for a period of three years. *[§112.7(e)]* **[See Inspection Log and Schedule in Attachment 3.1]**	☒
Inspections and tests are signed by the appropriate supervisor or inspector. *[§112.7(e)]*	☒
Personnel, training, and discharge prevention procedures [§112.7(f)]	
Oil-handling personnel are trained in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan. *[§112.7(f)]*	☒
A person who reports to facility management is designated and accountable for discharge prevention. *[§112.7(f)]* Name/Title: Steve Gavers / President	☒
Discharge prevention briefings are conducted for oil-handling personnel annually to assure adequate understanding of the SPCC Plan for that facility. Such briefings highlight and describe past reportable discharges or failures, malfunctioning components, and any recently developed precautionary measures. *[§112.7(f)]* **[See Oil-handling Personnel Training and Briefing Log in Attachment 3.4]**	☒

4. Security (excluding oil production facilities) §112.7(g):

Table G-6 Implementation and Description of Security Measures	
Security measures are implemented at this facility to prevent unauthorized access to oil handling, processing, and storage area.	☒

The following is a description of how you secure and control access to the oil handling, processing and storage areas; secure master flow and drain valves; prevent unauthorized access to starter controls on oil pumps; secure out-of-service and loading/unloading connections of oil pipelines; address the appropriateness of security lighting to both prevent acts of vandalism and assist in the discovery of oil discharges:

All petroleum products are stored in vehicles or buildings that are locked as are pumps/nozzles that pump fuel from trucks to equipment. The AST will have a locked nozzle.

5. Emergency Procedures and Notifications (§112.7(a)(3)(iv) and 112.7(a)(5)):

Table G-7 Description of Emergency Procedures and Notifications

The following is a description of the immediate actions to be taken by facility personnel in the event of a discharge to navigable waters or adjoining shorelines *[§112.7(a)(3)(iv) and 112.7(a)(5)]*:

Place sorbent materials to prevent movement of product off site.

Place earth material as needed to prevent movement of product off site.

Excavate any soil impacted by release and transfer to a suitable on-site location for future disposal at an off-site location.

Contact the appropriate agencies for assistance.

6. Contact List (§112.7(a)(3)(vi)):

Table G-8 Contact List	
Contact Organization / Person	**Telephone Number**
National Response Center (NRC)	1-800-424-8802
Cleanup Contractor(s)	
Key Facility Personnel	
Designated Person Accountable for Discharge Prevention: Steve Gavers	Office: 815- 338-0831
	Emergency: 815-482-8350
	Office:
	Emergency:
	Office:
	Emergency:
	Office:
	Emergency:
State Oil Pollution Control Agencies	
Other State, Federal, and Local Agencies: National Response Center	800-424-8802
Local Fire Department: Marengo Fire Department	815-568-8912
Local Police Department: Marengo Police	815-568-7231
Hospital: Northwestern Medicine Emergency -3701 Doty Road, Woodstock	815-338-2500
Other Contact References (e.g., downstream water intakes or neighboring facilities)	

7. NRC Notification Procedure (§112.7(a)(4) and (a)(5)):

Table G-9 NRC Notification Procedure	
In the event of a discharge of oil to navigable waters or adjoining shorelines, the following information identified in Attachment 4 will be provided to the National Response Center immediately following identification of a discharge to navigable waters or adjoining shorelines **[See Discharge Notification Form in Attachment 4]**: *[§112.7(a)(4)]*	☒

- The exact address or location and phone number of the facility;
- Date and time of the discharge;
- Type of material discharged;
- Estimate of the total quantity discharged;
- Estimate of the quantity discharged to navigable waters;
- Source of the discharge;
- Description of all affected media;
- Cause of the discharge;
- Any damages or injuries caused by the discharge;
- Actions being used to stop, remove, and mitigate the effects of the discharge;
- Whether an evacuation may be needed; and
- Names of individuals and/or organizations who have also been contacted.

8. SPCC Spill Reporting Requirements (Report within 60 days) (§112.4):

Submit information to the EPA Regional Administrator (RA) and the appropriate agency or agencies in charge of oil pollution control activities in the State in which the facility is located within 60 days from one of the following discharge events:

A single discharge of more than 1,000 U.S. gallons of oil to navigable waters or adjoining shorelines or
Two discharges to navigable waters or adjoining shorelines each more than 42 U.S. gallons of oil occurring within any twelve month period

You must submit the following information to the RA:

(1) Name of the facility;
(2) Your name;
(3) Location of the facility;
(4) Maximum storage or handling capacity of the facility and normal daily throughput;
(5) Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements;
(6) An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary;
(7) The cause of the reportable discharge, including a failure analysis of the system or subsystem in which the failure occurred; and
(8) Additional preventive measures you have taken or contemplated to minimize the possibility of recurrence
(9) Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge

* * * * *

NOTE: Complete one of the following sections (A, B or C) as appropriate for the facility type.

A. Onshore Facilities (excluding production) (§§112.8(b) through (d), 112.12(b) through (d)):

The owner or operator must meet the general rule requirements as well as requirements under this section. Note that not all provisions may be applicable to all owners/operators. For example, a facility may not maintain completely buried metallic storage tanks installed after January 10, 1974, and thus would not have to abide by requirements in §§112.8(c)(4) and 112.12(c)(4), listed below. **In cases where a provision is not applicable, write "N/A".**

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Drainage from diked storage areas is restrained by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. Diked areas may be emptied by pumps or ejectors that must be manually activated after inspecting the condition of the accumulation to ensure no oil will be discharged. *[§§112.8(b)(1) and 112.12(b)(1)]*	☐	☒
Valves of manual, open-and-closed design are used for the drainage of diked areas. *[§§112.8(b)(2) and 112.12(b)(2)]*	☐	☒
The containers at the facility are compatible with materials stored and conditions of storage such as pressure and temperature. *[§§112.8(c)(1) and 112.12(c)(1)]*	☒	☐
Secondary containment for the bulk storage containers (including mobile/portable oil storage containers) holds the capacity of the largest container plus additional capacity to contain precipitation. Mobile or portable oil storage containers are positioned to prevent a discharge as described in §112.1(b). *[§112.6(a)(3)(ii)]*	☒	☐
If uncontaminated rainwater from diked areas drains into a storm drain or open watercourse the following procedures will be implemented at the facility: *[§§112.8(c)(3) and 112.12(c)(3)]*		
• Bypass valve is normally sealed closed	☒	☐
• Retained rainwater is inspected to ensure that its presence will not cause a discharge to navigable waters or adjoining shorelines	☒	☐
• Bypass valve is opened and resealed under responsible supervision	☒	☐
• Adequate records of drainage are kept **[See Dike Drainage Log in Attachment 3.3]**	☒	☐
For completely buried metallic tanks installed on or after January 10, 1974 at this facility *[§§112.8(c)(4) and 112.12(c)(4)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	☒
• Regular leak testing is conducted.	☐	☒
For partially buried or bunkered metallic tanks *[§112.8(c)(5) and §112.12(c)(5)]*:		
• Tanks have corrosion protection with coatings or cathodic protection compatible with local soil conditions.	☐	☒
Each aboveground bulk container is tested or inspected for integrity on a regular schedule and whenever material repairs are made. Scope and frequency of the inspections and inspector qualifications are in accordance with industry standards. Container supports and foundations are regularly inspected. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2]** *[§112.8(c)(6) and §112.12(c)(6)(i)]*	☒	☐
Outsides of bulk storage containers are frequently inspected for signs of deterioration, discharges, or accumulation of oil inside diked areas. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(c)(6) and 112.12(c)(6)]*	☒	☐
For bulk storage containers that are subject to 21 CFR part 110 which are shop-fabricated, constructed of austenitic stainless steel, elevated and have no external insulation, formal visual inspection is conducted on a regular schedule. Appropriate qualifications for personnel performing tests and inspections are documented. **[See Inspection Log and Schedule and Bulk Storage Container Inspection Schedule in Attachments 3.1 and 3.2]** *[§112.12(c)(6)(ii)]*	☐	☒

Table G-10 General Rule Requirements for Onshore Facilities		N/A
Each container is provided with a system or documented procedure to prevent overfills for the container. Describe: A sight glass / float is used to check tank contents.	☒	☐
Liquid level sensing devices are regularly tested to ensure proper operation **[See Inspection Log and Schedule in Attachment 3.1]**. *[§112.6(a)(3)(iii)]*	☒	☐
Visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts are promptly corrected and oil in diked areas is promptly removed. *[§§112.8(c)(10) and 112.12(c)(10)]*	☐	☒
Aboveground valves, piping, and appurtenances such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces are inspected regularly. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☒	☐
Integrity and leak testing are conducted on buried piping at the time of installation, modification, construction, relocation, or replacement. **[See Inspection Log and Schedule in Attachment 3.1]** *[§§112.8(d)(4) and 112.12(d)(4)]*	☐	☒

EXHIBITS 1 - 8

TOPOGRAPHIC SURVEY SOURCE: VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098 DATED SEPTEMBER 22, 2013.

AERIAL PHOTOGRAPHY SOURCE: GOOGLE MAPS, 2023.

LEGEND

TOPOGRAPHIC CONTOUR (INTERVAL 1')

REV. No.	DATE	DESCRIPTION

PATRICK
a RJN company

55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

ADJOINING PROPERTY AND ZONING MAP

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

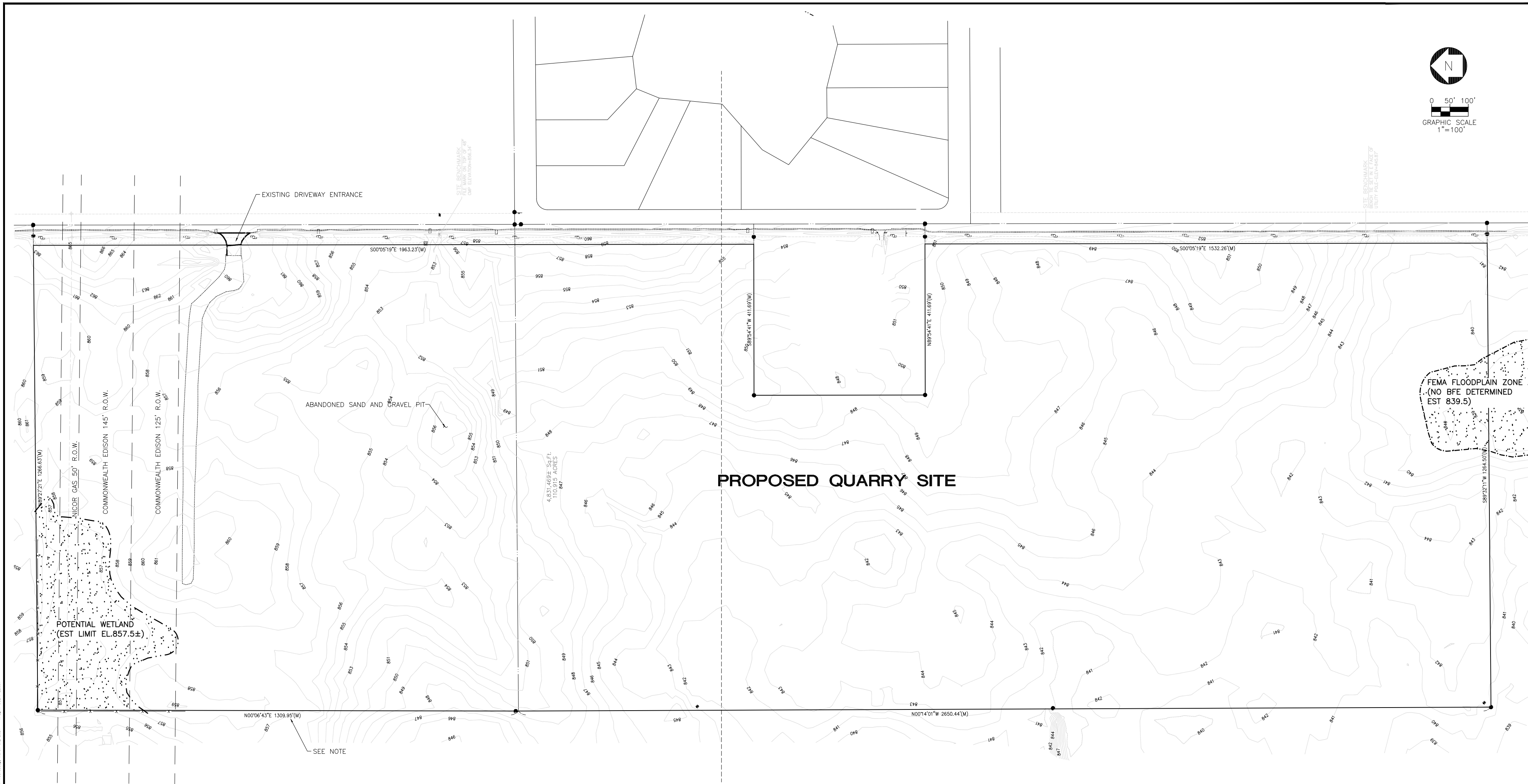
SCALE:	1"=200'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024

PROJECT No.: 22353.043

EXHIBIT 1

1 OF 8 EXHIBITS



LEGEND

TOPOGRAPHIC CONTOUR (INTERVAL 1')

NOTES:

TOPOGRAPHIC SURVEY SOURCE:
VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098 DATED SEPTEMBER 22, 2013.

BOUNDARY SURVEY INFORMATION
PROPERTY BOUNDARY INFORMATION SHOWN ON THIS SHEET IS SUPERSEDED BY PLAT OF SURVEY DATED 1/18/2024 BY VANDERSTAPPAN LAND SURVEYING INC.

PATRICK
a RINA company
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

EXISTING CONDITIONS MAP

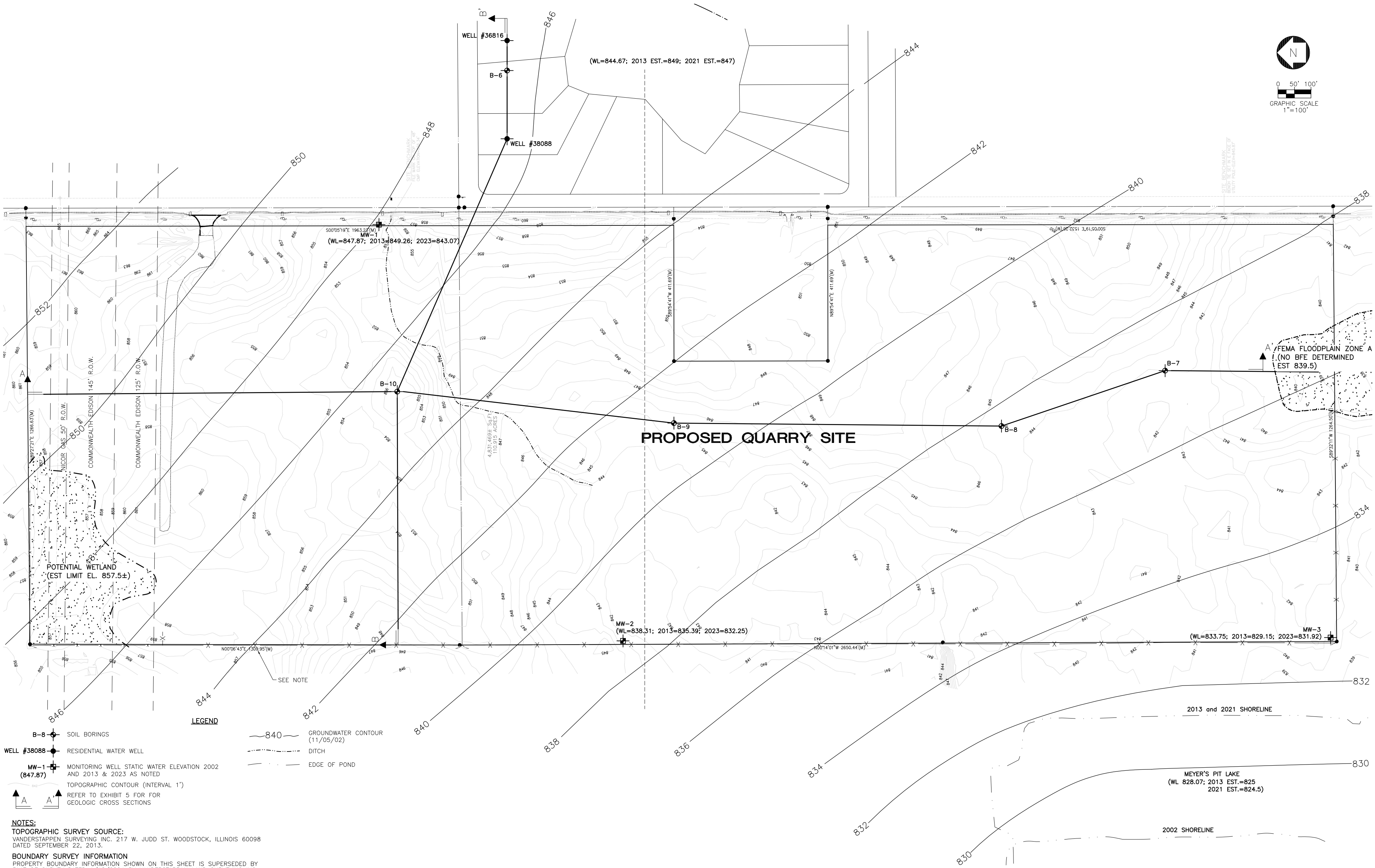
PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024

PROJECT No.: 22353.043

EXHIBIT 2



LEGEND

- B-8 — SOIL BORINGS
- WELL #38088 — RESIDENTIAL WATER WELL
- MW-1 (847.87) — MONITORING WELL STATIC WATER ELEVATION 2002 AND 2013 & 2023 AS NOTED
- TOPOGRAPHIC CONTOUR (INTERVAL 1')
- A A' — REFER TO EXHIBIT 5 FOR FOR GEOLOGIC CROSS SECTIONS
- 840 — GROUNDWATER CONTOUR (11/05/02)
- DITCH
- EDGE OF POND

NOTES:

TOPOGRAPHIC SURVEY SOURCE:
VANDERSTAPPEN SURVEYING INC. 217 W. JUDD ST. WOODSTOCK, ILLINOIS 60098
DATED SEPTEMBER 22, 2013.

BOUNDARY SURVEY INFORMATION
PROPERTY BOUNDARY INFORMATION SHOWN ON THIS SHEET IS SUPERSEDED BY PLAT OF SURVEY DATED 1/18/2024 BY VANDERSTAPPAN LAND SURVEYING INC.

PATRICK
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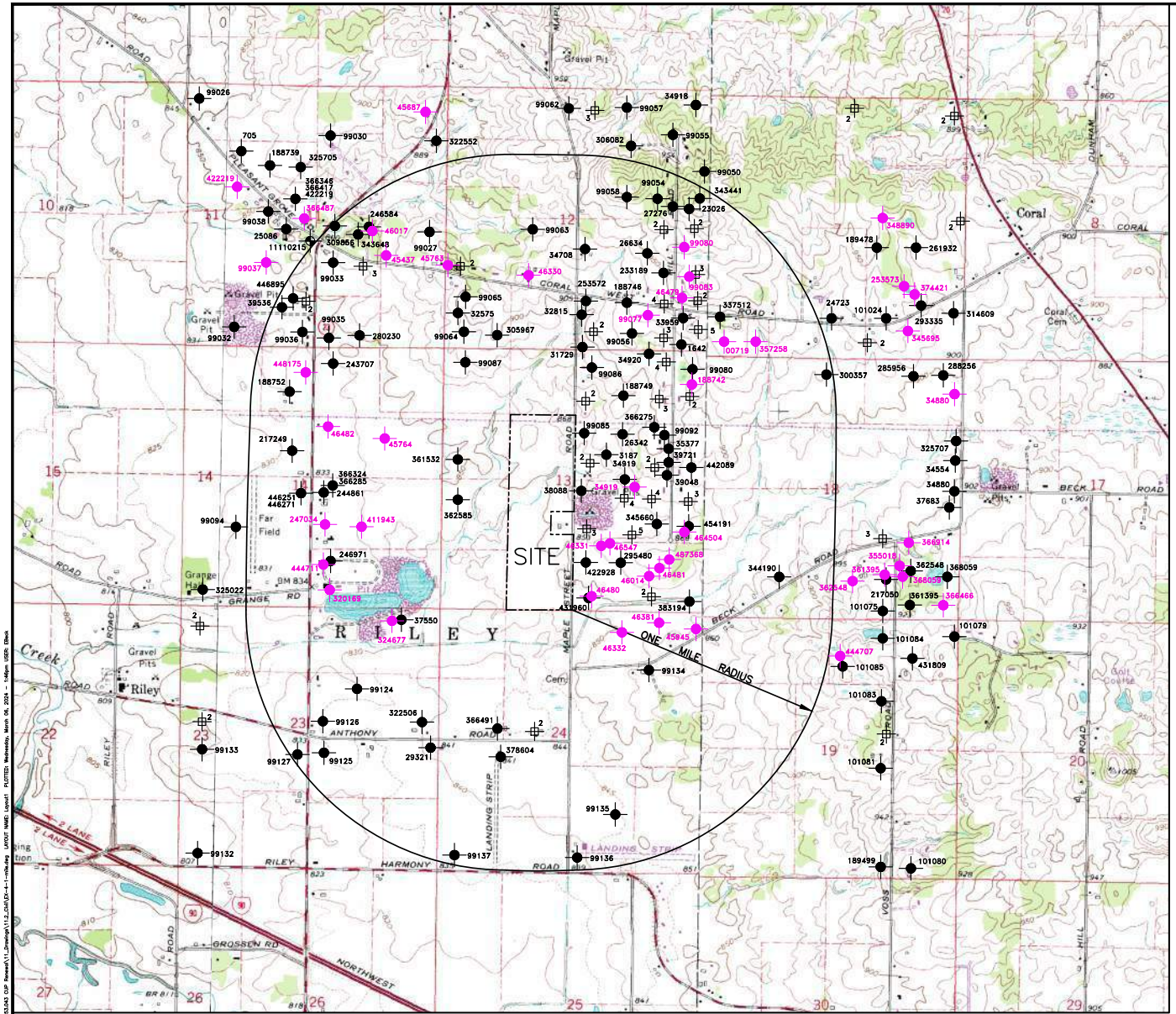
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

BORING LOCATION AND WATER TABLE MAP
(CIRCA 2002; UPDATED 2013 AND 2023)

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'	DATE:	MARCH 2024
DESIGNED BY	JCS	PROJECT No.:	22353.043
DRAWN BY	EJB		
CHECKED BY	JCS	EXHIBIT 3	
APPROVED BY	JCS	3 OF 8 EXHIBITS	



N

0 500' 1000'

GRAPHIC SCALE
1"=1000'

LEGEND

222111 — PRIVATE WATER WELL
WELL ID. (ISWS) 2013

348890 — PRIVATE WATER WELL IN THE ISWS
WATER WELL GIS (NOV 2023)

8 — MULTIPLE WELLS

WELL IDENTIFICATION TABLE

WELLS ON FILE FOR 2013 CUP RENEWAL

U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER
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11	99026	*22544
11	99027	*23296
11	99028	*22758
11	99029	23863
11	99030	*22175
11	99031	*1714
11	99032	*23298
11	99033	*23294
11	99034	*23295
11	99035	*23297
11	99036	25276
11	99038	*23535
11	188737	*631
11	188738	26825
11	188739	29985
11	233187	
11		25086
11		*705
11	233188	
11	246584	32768
11	280230	34357
11	306856	36598
11	322502	37406
11	325705	37851
11	343648	40115
11	446895	43841
12	98984	*707
12	99039	25277
12	99040	
12	99041	26063
12	99042	24866
12	99043	
12	99044	*1207
12	99045	*22176
12	99046	*1413
12	99047	*22320
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12	99054	
12	99055	*22757
12	99056	*22759
12	99057	*23306
12	99058	*1798
12	99059	*23304
12	99060	*23295
12	99061	*22177
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12	99063	*1412
12	99064	*22002
12	99065	*23299
12	99066	*23302
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12	188745	26634
12	188746	27043
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12	253572	
12		31729
12		34708
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12		34918
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12		33959
12		*23026
12		26834
12		32815
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12	312649	36814
12	319612	37255
12	319701	37519
12	320291	37256
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13	99068	25597
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13	99070	*23537
13	99071	*23539
13	99072	24690
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13	99074	27422
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13	99077	*22761
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13	99079	*1412
13	99080	*23536
13	99081	*23538
13	99082	*22545
13	99083	23886
13	99085	23887
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13		26342
13		34920
13	312664	36546
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13	313122	36816
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13	322486	37469
13	322491	37464
13	330053	38068
13	334156	39314
13	345660	40328
13	346726	40580
13	348908	40930
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13	362585	41563
13	366275	41806
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13	375256	42497
13	383194	42842
13	420765	42928
13	422482	42696
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13	442060	43691
13	454191	44094
14	99094	*23312
14	188752	26979
14	217249	29988
14	243707	32576
14	244861	32577
14	246971	
14	325022	37593
14	366285	41869
14	446251	43519
23	99124	26539
23	99125	25413
23	99126	
23		26321
23		37580
23	99127	
23	99128	*695
23	99129	*22763
23	99130	*657
23	99131	23891
23	99132	*23030
23	99133	*23318
23	233203	
23	322506	37460
24	99134	*23543
24	99135	*22650
24	99136	23892
24	99137	29322
24	325697	37781
7	101020	25489
7	101021	
7		24723
7	337512	29536
7	101022	
7	101023	23896
7	101024	24723
7	101025	23900
7	189478	26914
7	189481	
7	233233	*1407
7	233234	*284
7	233237	
7	233238	
7	261932	32904
7	296245	34382
7	293335	34926
7	304886	35977
7	314609	36818
18	101075	
18		34554
18		34880
18	101076	26065
18	101077	
18	101078	*23332
18	217050	30005
18	233273	
18	285856	
18	288256	34554
18	300357	35256
18	325707	37883
18	344190	40182
19	101079	*22548
19	101080	*22109
19	101081	26206
19	101082	
19	101083	23868
19	101084	*23333
19	101085	
19	189499	30007
19	189502	27115

ADDITIONAL WELLS ON FILE WITH THE ISWS AS OF NOVEMBER 2023

U.S.G.S. SECTION NUMBER	I.S.W.S. I.D. NUMBER	I.S.G.S. I.D. NUMBER
7	253573	*44864
7	345695	*40329
7	348890	*40951
7	357258	*41194
7	374421	*42309
7		*00719
11		*45687
11	366487	*41805
11		*46017
11		*45437
11	422219	*42995
11	99037	*25086
12		*45763
12		*46330
12		*46479
12	99083	*23886
12	99080	*23536
12	99077	*22761
13		*34919
13		*46014
13		*46331
13		*46480
13		*46481
13		*46547
13	188742	*26341
13	464504	*44865
13	487368	*45281
14	247034	*32771
14	320169	*37343
14	411943	*42307
14	444711	43364
14	448175	*43890
14		*45784
14		*46482
18		*34880
18	355018	*41065
18	361395	*41420
18	362548	*41565
18	366466	*41812
18	366914	*41878
18	368059	*41932
19	444707	*43781
23	324677	*37550
24		*45945
24		*46332
24		*46581

* DENOTES COUNTY NUMBER INSTEAD OF ISGS NUMBER.

PATRICK ENGINEERING
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

PRIVATE AND PICS WATER WELL SURVEY
ONE MILE RADIUS

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

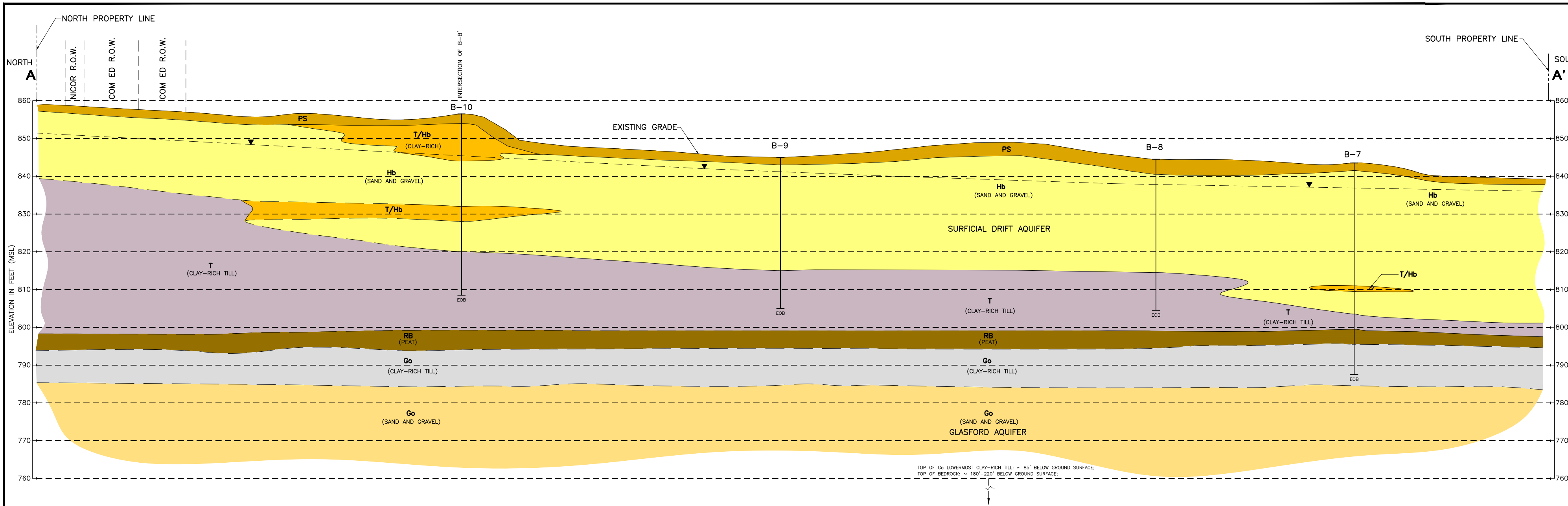
SCALE:	1"=1000'
DESIGNED BY	BE
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

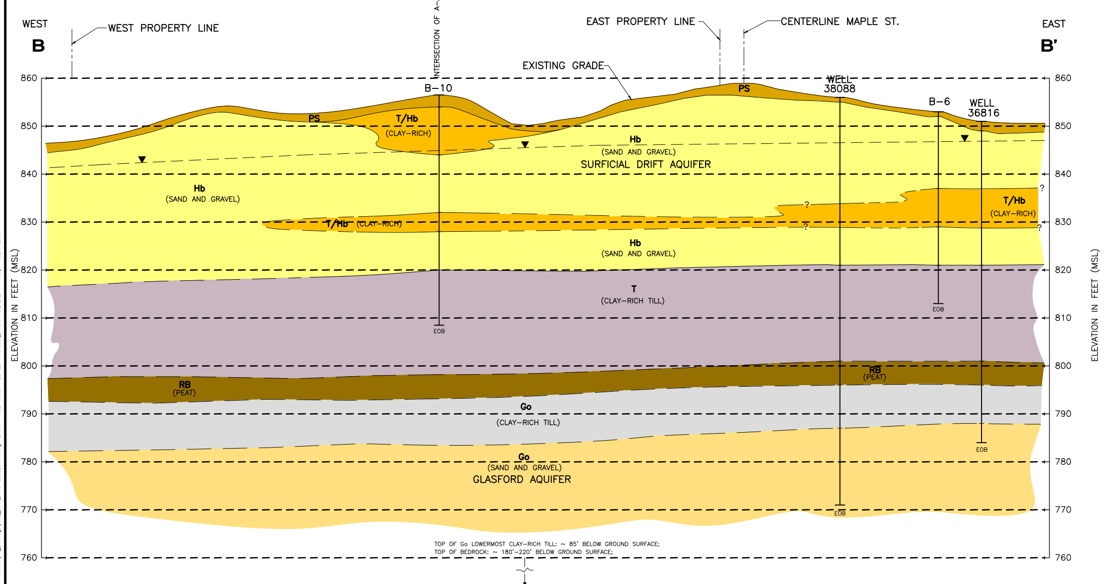
DATE: MARCH 2024

PROJECT No.: 22353.043

EXHIBIT 4

4 OF 8 EXHIBITS





LEGEND

WISCONSIN EPISODE

MASON GROUP

- PS — PEORIA SILT FORMATION: Silt and Clay-rich Glacial Loess with Strong Modern Soil Development

WEDRON GROUP

- Hb — HENRY FORMATION, BEVERLY TONGUE: Stratified Sand and Gravel-rich with Lenses of Silt and Clay; Glacial Outwash Deposits
- T/Hb — Either Lenses of Silt and Clay of the HENRY (Hb) or TISKILWA (T) Till
- T — TISKILWA FORMATION: Clay-rich Diamicton, Glacial Till Deposits

WISCONSIN, SANGAMON, AND ILLINOIS EPISODES

- RB — MORTON TONGUE-ROBEIN MEMBER-BERRY CLAY MEMBER COMPLEX: Organic-rich Silt, Clay and Peat, Former Pre-Wisconsinan to Wisconsinan Soil/Wetlands Horizon (Undifferentiated)

ILLINOIS EPISODE

- Go (CLAY-RICH TILL) / Go (SAND AND GRAVEL) — GLASFORD FORMATION, OREGON MEMBER: Interbedded Clay-rich Diamicton and Sand and Gravel-rich Glacial Till and Ice Marginal Fluvial Deposits

— ▼ — WATER TABLE (11/05/02)

VERTICAL SCALE 0 5' 10' — HORIZONTAL SCALE 0 50' 100' — VERTICAL EXAGGERATION=10X

REFER TO EXHIBIT 3 FOR THE LOCATIONS OF EACH CROSS SECTION.

REV. No.	DATE	DESCRIPTION

PATRICK — a RINA company
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL (312) 201-7900
FAX (312) 220-0722
www.patrickco.com

ILLINOIS ENGINEERING FIRM
LICENSE NO. 184000409-0014

GEOLOGIC CROSS SECTIONS A-A' AND B-B'

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

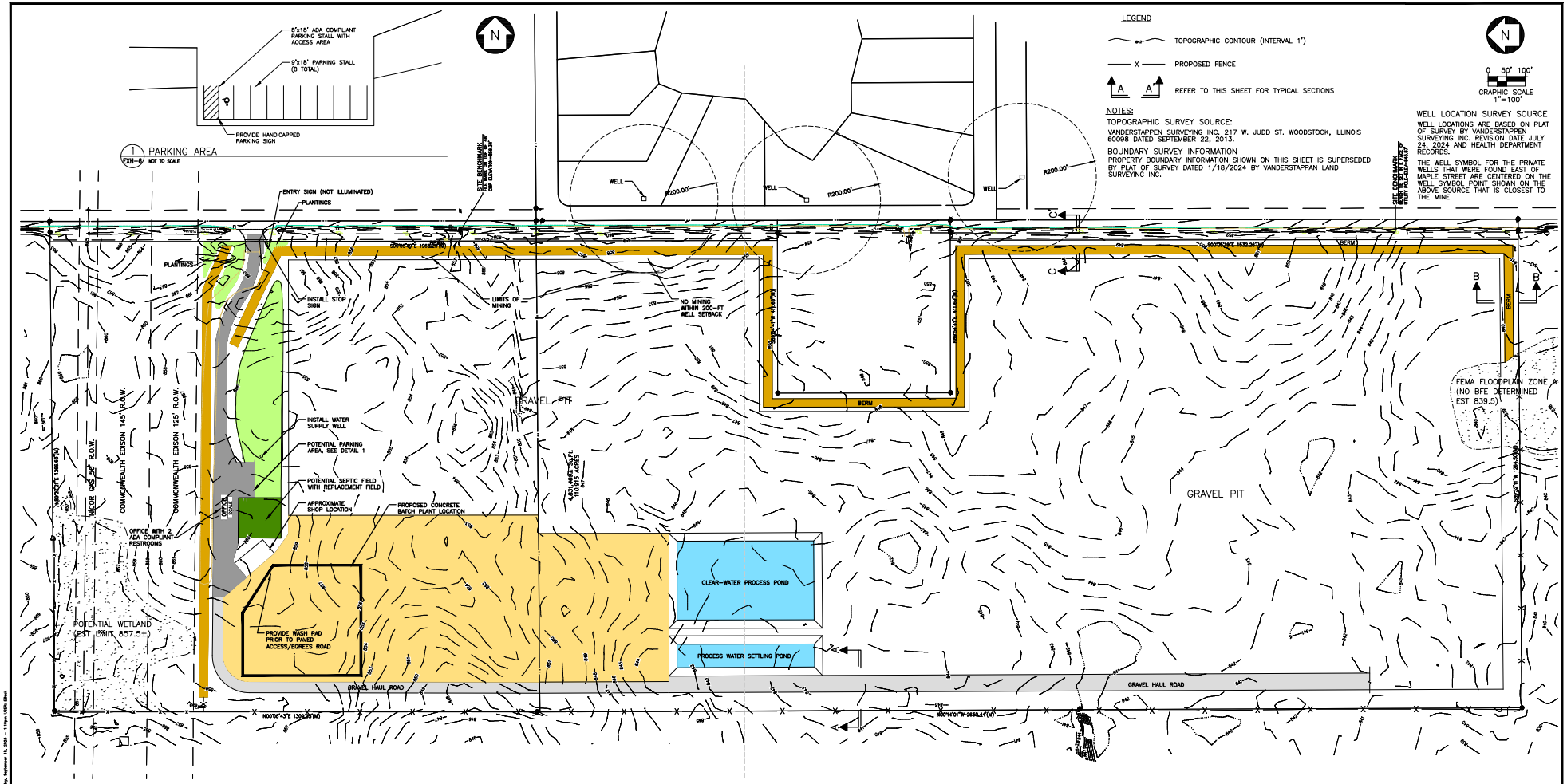
SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024
PROJECT No.: 22353.043

EXHIBIT 5

5 OF 8 EXHIBITS

FILE NAME: P:\J\Maple Valley Materials\22353.043 CUP Renewal\11_Drawings\11.2_CAD\EX-5-GEOSECTION.dwg LAYOUT NAME: Model PLOTTED: Wednesday, March 06, 2024 - 1:50pm USER: EBeck



REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS AND ADD FOUND OFFSITE WELL LOCATIONS

PATRICK engineering
55 East Monroe
Suite 3450
Chicago, IL 60603
TEL. (312) 201-7600
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184003439-0014

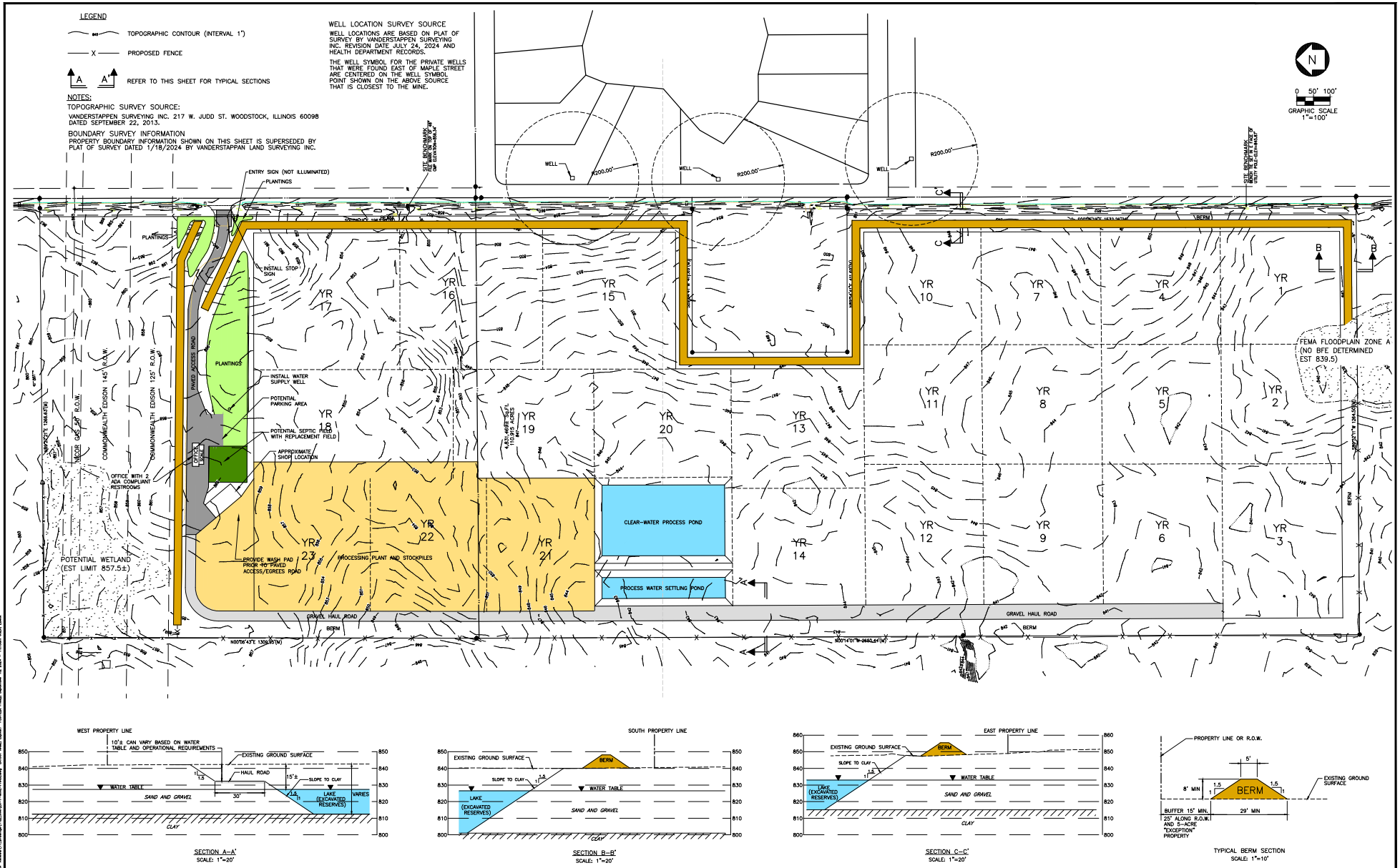
MINING PLAN

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS
DATE:	MARCH 2024
PROJECT No.:	22353.043

EXHIBIT 6

6 OF 8 EXHIBITS



SECTION A–A'
SCALE: 1"=20'

SECTION B–B'
SCALE: 1"=20'

SECTION C–C'
SCALE: 1"=20'

TYPICAL BERM SECTION
SCALE: 1"=10'

REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS AND ADD FOUND OFFSITE WELL LOCATIONS

PATRICK
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Chicago, IL 60603
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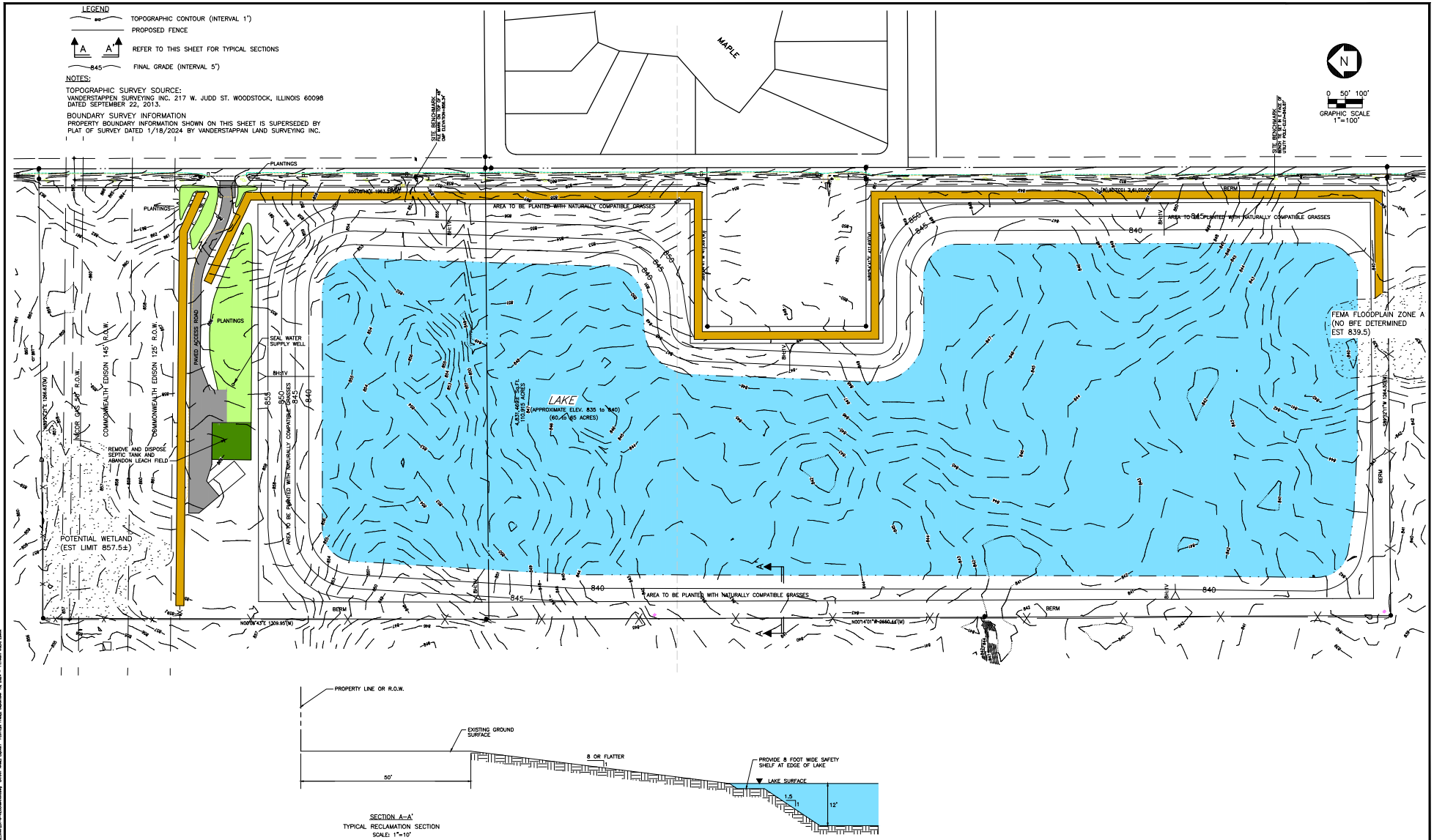
FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184003409-0014

MINE PHASING PLAN

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS
DATE:	MARCH 2024
PROJECT No.:	22353.043

EXHIBIT 7
7 OF 8 EXHIBITS



REV. No.	DATE	DESCRIPTION
1	6/25/24	REVISIONS TO ADDRESS COUNTY COMMENTS

PATRICK ENGINEERING
55 East Monroe
Suite 3450
Chicago, IL 60603
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FAX (312) 220-0722
www.patrickco.com
ILLINOIS ENGINEERING FIRM
LICENSE NO. 184-003439-0014

MINE RECLAMATION PLAN

PROPOSED MARENGO QUARRY
MAPLE VALLEY MATERIALS, L.L.C.
MARENGO, ILLINOIS

SCALE:	1"=100'
DESIGNED BY	JCS
DRAWN BY	EJB
CHECKED BY	JCS
APPROVED BY	JCS

DATE: MARCH 2024
PROJECT No.: 22353.043

EXHIBIT 8
8 OF 8 EXHIBITS

a RISR company

Jeffrey C. Schuh

Jeffrey C. Schuh
jschuh@patrickco.com
2024.06.26
10:56:51-04'00'

JEFFREY C. SCHUH
42614
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS

6/26/24

License
Expires
11/30/2025

ENGINEER'S OPINION OF PROBABLE RECLAMATION COST

Project: Maple Valley Materials Marengo
Project No.: 22353.043
Owner: Maple Valley Materials
Engineer: Patrick Engineering Inc.
Date: June 25, 2024

Reference: Heavybid with equipment and crew costs
PEI Past Project Cost File
Prepared: JCS Checked RED

Item	Unit	Quantity	Unit Cost ($)	Total ($)
General				
Mobilization/Demobilization	LS	1	$15,000.00	$15,000.00
subtotal				**$15,000.00**
Demolition/Abandonment				
Equipment and Conveyor systems	LS	1	$10,000.00	$10,000.00
Monitoring Well Removal	EA	3	$1,500.00	$4,500.00
Water well abandonment	LS	1	$2,500.00	$2,500.00
Septic Field and Tank removal / abandonment	LS	1	$6,000.00	$6,000.00
subtotal				**$23,000.00**
Earthwork				
Mass Grading Operation Area (8H:1V)	Acres	10	$2,500.00	$25,000.00
Mass Grade Mine area slopes (8H:1V)	Acres	3	$2,500.00	$7,500.00
Grade Slopes at Water Use Ponds	Acres	1	$2,500.00	$2,500.00
Topsoil Respread (6 inches assumed)	CY	12,000	$4.50	$54,000.00
Fine Grading and seeding preparation	Acres	14	$1,500.00	$21,000.00
subtotal				**$110,000.00**
Erosion and Sediment Control				
Silt Fence (temporary erosion control)	LF	1,000	$5.25	$5,250.00
subtotal				**$5,250.00**
Vegetation				
Seeding	Acres	14	$2,800.00	$39,200.00
Maintenance until healthy stand established	LS	1	$10,000.00	$10,000.00
subtotal				**$49,200.00**
Construction Staking and As-built				
Survey (staking and as-built)	LS	1	$10,000.00	$10,000.00
subtotal				**$10,000.00**
Estimated Reclamation Cost				**$212,450.00**

SEE PAGE 2 FOR ESTIMATE OF COST ASSUMPTIONS

MINE RECLAMATION COST ESTIMATE ASSUMPTIONS

1. Mine is fully operational at time of closure.
2. Existing conveyors and any other equipment left at the site will have salvage value to offset cost to demolish/remove/dispose.
3. Existing aggregate in stockpiles has value and can be removed or used to offset costs.
4. The septic field will need to be properly abandoned.
5. The well will need to be properly abandoned.
6. Monitoring wells will need to be properly abandoned.
7. The lake is formed and cells are presumed to be reclaimed as new cells are opened. For this estimate, the cost is for when one cell is just opened while the prior 2 cell slopes are being reclaimed. (The lake is progressively enlarged with the slopes above water graded to 8H:1V or flatter.)
8. Topsoil is in temporary stockpiles with an average haul distance less than 1,000 feet. No import of topsoil is needed. No screening of topsoil is required.
9. Grades will be provided by dozing soils down slope to provide 8H:1V maximum slope. Cut to equals fill. It is assumed the area requiring shaping is 3 acres.
10. The processing area will require minor grading and placement of topsoil. Processing district area is approximately 10 acres.
11. Grade slopes at Settling and Clean Water Ponds to provide 8H:1V maximum slopes. Area requiring grading estimated at approximately 1 acre.
12. Spread topsoil and seed with native vegetation. Maintain until healthy stand of vegetation is achieved.
13. Silt fence is only needed to prevent off-site migration of silt. Assume 1,000 lf of silt fence is adequate.
14. Surveying and layout / topographic survey to demonstrate compliance.

Petitioner's Group Ex. 2

Jeffrey C. Schuh, PE Senior Engineer

Mr. Schuh began his career in the industry in 1982, joining Patrick in 1984. He has 40+ years of professional experience in the planning, design, and management of civil and geotechnical engineering projects. He is responsible for directing the investigation of project sites for buildings, transportation infrastructure, and mines. He provides quality control, technical review, and value engineering support on major projects and has provided expert testimony in support of project construction.

Mine Reclamation, Confidential Coal Company, *Southern Illinois*
Geologic and Hydrogeologic investigation to determine reclamation/grading requirements for 360± acre disposal area. Designed embankment slope protection, groundwater control system, pump stations, spillways and drainage systems, wetland mitigation areas, and NPDES outfall structures. Designed detention facilities, emergency overflow structures, underdrain systems, and cap linear systems.

Fen Study, Lake in the Hills, *Lake in the Hills, Illinois*
Project Director for the determination of groundwater flow conditions and groundwater quality. Planned the installation of numerous piezometers and performing slug tests. Provided testimony for construction of Village Hall on property adjacent to the Fen.

Gentry Ridge Subdivision, McHenry County Conservation District, *McHenry County, Illinois*
Directed comprehensive hydrogeologic investigation to determine groundwater flow conditions and possible impacts of project construction on a fen. Installed piezometers and performed slug tests. Consulted with IDNR to resolve concerns on groundwater impact.

Site Development Concept Planning, McHenry County College, *Illinois*
Project director for assessing storm water management requirements and possible environmental impacts of planned construction at the Crystal Lake campus. Directed storm water management analyses, wetland determinations, and geotechnical and hydrogeologic studies. Prepared reports of findings for review by local agencies. Provided QA/QC for design of detention and infiltration facilities.

McGuire Road Stone Quarry, Merryman Aggregate, *Harvard, Illinois*
Project Director for the preparation of mine plans for a 100 acre aggregate mine and site development. The project included determination of the Base Flood Elevation for the adjacent creek, performing a groundwater investigation and study to define

Years of Experience
Began career in industry: 1982
Joined Patrick: 1984

Education
M.S., Civil Engineering, Purdue University, 1981
B.S., Civil Engineering, Valparaiso University, 1980

Registration
Licensed Professional Engineer: AZ, CO, FL, GA, IL, IN, KS, MA, MI, MO, MT, ND, NE, OH, PA, TX, WI, WV, WY

Affiliations
American Society of Civil Engineers

Awards
Chicago Young Civil Engineer of the Year Award, American Society of Civil Engineers, 1989

Publications
Effects of Sampling Disturbance on Shear Strength of Glacial till and Compacted Fill
Reinforced Earth® Wall Distress Caused by Embankment Failure - A Case Study

groundwater conditions and the possible impact of mining on water levels, and preparation of mine phasing and reclamation plans. Oversaw the preparation of permit applications to the IDNR-OMM and IEPA. Provided expert testimony at a public hearing.

Cary/Algonquin Pit Expansion, Meyer Material Company, *Cary, Illinois*
Project Manager and Lead Engineer for the investigation, analysis, and preparation of the mine plan for a 100+ acre expansion to an existing aggregate mine. The project included watershed assessment, installing piezometers to define groundwater conditions, and preparing mine phasing and reclamation plans for project approval and permitting. Provided expert witness testimony at public hearing.

Harvard Pit Expansion, Meyer Material Company, *Harvard, Illinois*
Project Manager and Lead Engineer for the investigation, analysis, and preparation of the mine plan for a 500+ acre aggregate mine. The project included hydraulic modeling of Lawrence Creek to establish floodplain conditions, installing piezometers to define groundwater conditions, and preparing mine phasing and reclamation plans for project approval and permitting. Provided expert witness testimony at public hearing.

Virginia Road Pit Expansion, Meyer Material Company, *Crystal Lake, Illinois*
Project Manager and Lead Engineer for the investigation and assessment of groundwater conditions for a new mine located near environmentally sensitive areas. Oversaw groundwater investigation and performed analyses to determine allowable mining depth and verify mining would not impact the Larsen Fen and Lake in the Hills Fen. Provided expert testimony at public hearing.

Linden Lakes Gravel Pit, Tonyan, *Hebron, Illinois*
Project Manager and Lead Engineer for the investigation of groundwater conditions for a new aggregate mine. Oversaw the installation of piezometers and collection of surface water information to assess groundwater flow and quality. Prepared maps and exhibits for presentation at public hearings. Provided expert witness testimony.

Big Foot Gravel Pit Expansion, Meyer Material Company, *Wisconsin*
Project Manager and Lead Engineer for the hydrogeologic investigation for aggregate mine expansion. Reviewed groundwater data and prepared technical report to support permitting of mine expansion.

Gravel Pit Expansion, Lafarge, *Dyer Lake, Wisconsin*
Project Manager and Lead Engineer for the investigation and preparation of mine plans for expansion of existing gravel pit. Prepared hydrogeologic assessments and a mine application report. Prepared engineer's estimate of construction cost for bonding.

Rose Farm Road Gravel Pit, Merryman Aggregate, *McHenry County, Illinois*
Project Manager and Lead Engineer for the permitting of a new aggregate mine. Responsible for performing a hydrogeologic investigation including drilling of soil borings and installation of monitoring wells, defining groundwater conditions, and preparing mine phasing and reclamation plans. Provided expert testimony at a public hearing.

Petitioner's Exhibit 3

855-566-7488 www.ThunderHearing.com

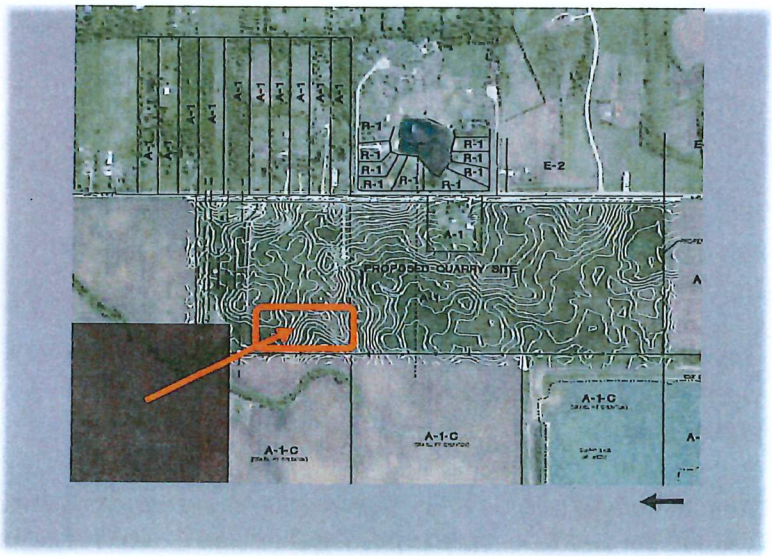
Thunder Hearing & Sound, LLC
847 South Randall Road, #218 Elgin, IL 60123

Maple Valley Materials Marengo Quarry Noise Study

June 20th, 2024

Prepared for:
Patrick Engineering – 4970 Varsity Drive, Lisle, IL 60532

Maple Valley Materials, LLC is renewing an approximately 95-acre quarry site in Marengo, IL on Maple Street. This parcel is shown in **FIGURE 1**. Thunder Hearing & Sound was retained to evaluate the noise generated by the planned operations relative to McHenry County Ordinances and State Requirements.



The office, shop, and mo: equipment will be in the northwest corner of the property, with a haul roa and conveyor belt along t west edge of the propert move material. The equipment area will inclu screening equipment, a crusher, conveyor belts, stockpiles, and a concret ready-mix filling station. Outside this area, there v be various mining equipn based on the needs at th time, with the location changing as mining progresses. This equipme typically includes a dragline, frontend loader, haul trucks, and conveyor belts.

Applicable Regulations

The Environmental Performance Standards section (16.60.040) of the McHenry ordinance, states that" *...all uses shall be constructed, maintained, and operated as not to be injurious to the use and occupation of the adjacent premises by reason of the emission or creation of noise..."*

In addition, the use also needs to conform to State standards, specifically the Illinois Pollution Control Standards Title 35: Environmental Protection, Subtitle H: Noise. The IL State Noise code limits the noise level at each of the nine octave-band frequencies from 32 Hz to 8,000 Hz, nearly the full range of hearing. For simplicity, when no particular frequency dominates the sound (like the humming of a blower), these limits can be logarithmically summed to establish a single, overall noise level limit. For noise radiated from mining property (Class C) to residential property (Class A), this overall limit is 61 dB(A) for the daytime hours and 51 dB(A) during the nighttime hours (defined as 10:00 PM to 7:00 AM). For reference, 60 dB(A) is the level of casual conversation while 50 dB(A) is half as loud and is the typical level of a dishwasher.

Ambient Noise Assessment

To determine if noise from the quarry is "injurious" the degree of impact needs to be assessed. The impact of a noise source depends mostly on its audibility. To assess the degree of audibility, the existing ambient noise must be evaluated. We conducted this work by visiting the site on Wednesday, Feb 14th, 2024. During this visit, we inspected the topography of the site, examined the surrounding area, characterized the ambient noise, identified its sources, and set up professional-grade equipment to record the noise. The equipment was set up on the northeast side of the property, about 100 ft from Maple Street, as shown in **FIGURE 2.**

Figure 2 - View of the digital audio equipment

The recording ran for 24 hours and was later analyzed to determine the sound levels at 1-second intervals. The result of this analysis can be seen in **FIGURE 3**. Here, several noise sources are identified which were mostly traffic on Maple Street. Because of the time of year, many other noises in the area (e.g., the mines to the west) were shut down; so this likely represents the lowest ambient noise for the area. Also shown in this figure are the proposed mine's normal hours of operation and the additional allowed hours by McHenry County.

To better visualize the trend of the ambient noise, we computed the 1-minute Leq which varies between 40-68 dB(A). We also computed the 10-min L25, which is the level exceeded 25% of the time. This noise environment is very diverse in its noise character having periods of higher noise when there is a lot of traffic (i.e. morning and evening rush) combined with very low levels during periods of little traffic. Therefore, it's our opinion that the L25 best characterizes the ambient noise experience for residents in the area.

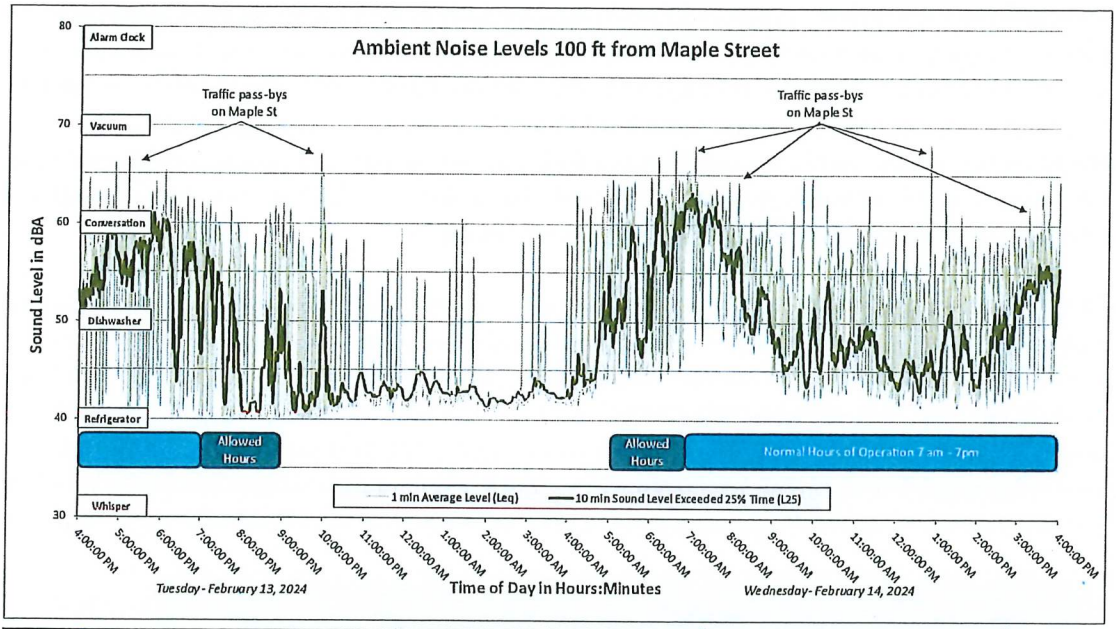


Figure 3 – Sound level trace of ambient noise at the site on 2/13/2024 and 2/14/20024

Source Noise

To predict the noise levels at locations surrounding the quarry, we measured noise from the Ranger ready-mix concrete plant in Woodstock, IL. This consists of a station that fills a truck with concrete. The truck then moves to another area to get washed before leaving the site. Our equipment was set up 100 ft from the ready-mix concrete plant as shown in **FIGURE 4** on December 8th, 2023. Filling the truck takes approximately 6 minutes. During this time the truck revs its engine, which is a primary noise source for this operation. After the fill, the truck wash took approximately 1½ minutes. The time-average level (Leq) of the concrete filling at 100 ft was **76 dBA** and the truck wash was **70 dBA**.

For all other sound sources, we used existing data we had in our software program for similar equipment. Much of this data we collected from a similar mining site in 2022.

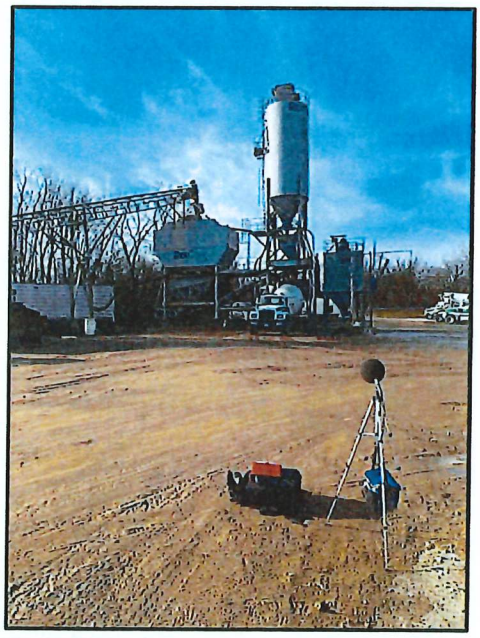


Figure 4 - Digital audio equipment 100 ft from the Ready-Mix Concrete Plant

Computer Modeling

To predict the sound levels radiated from the quarry, we used an Internationally accepted software program called SoundPlan™. This program calculates the sound level at millions of distant points based on the source sound levels, the topography of the site, reflections from buildings/lakes, ground absorption, absorption by the atmosphere and vegetation, and shielding from berms and structures. Based on these calculations, the program then generates color sound-level contours surrounding the site. The program calculates the time-average levels based on our source data and the expected hourly operations.

To model the noise from the quarry equipment, the sound source data of the equipment were input into the program. Stationary sources such as the screens, crusher, and dragline were modeled as stationary "point sources". Long stationary sources such as the conveyor belts were modeled as "line" sources. Moving sources such as a loader and bulldozer were modeled as "point" sources moving on a path. Because some equipment will move throughout the pit, we chose the approximate worst-case positions to model. The model includes the ready-mix plant, truck washes, and truck backup alarms for 6 trucks each hour. Also included were stockpiles of

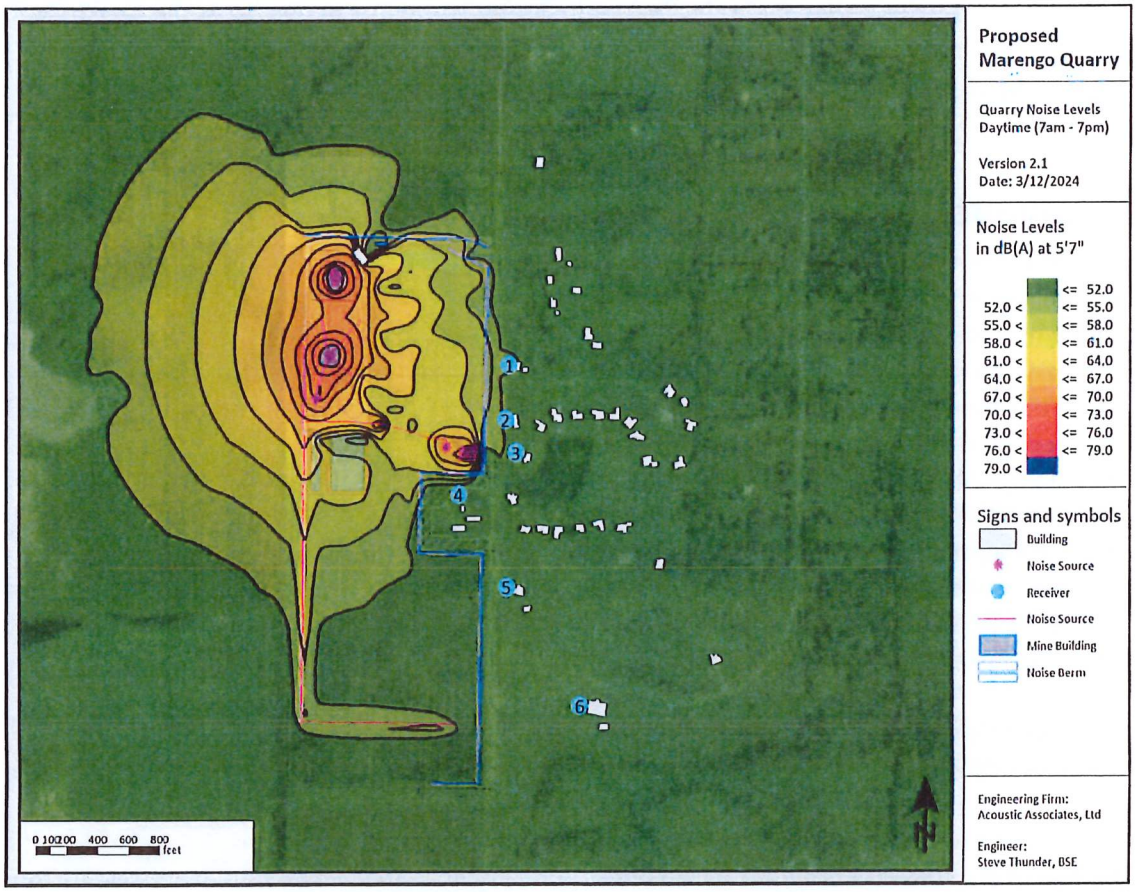


Figure 5 – Audibility level contours around the proposed quarry during normal operation hours (7am – 7pm)

processed aggregate and 8 ft high perimeter berms, which reduced noise emitted from the processing area.

FIGURE 5 shows the projected contours for daytime hours and the typical operation hours of 7 am to 7 pm. For illustration, we set the green color on the legend to 52 dB(A), the average ambient noise level during daytime hours (7 am to 7 pm). Each color change on the contours represents a 3 dB level change (see **TABLE 2 on page 7**). We chose this because 3 dB is considered a "just noticeable" change to the typical person. We also chose six points to virtually "measure" the sound levels, represented by blue dots (see **TABLE 1**).

Table 1 – Noise Levels at Receivers (blue dots)

Receiver Location	Projected Noise Levels dB(A)
1	53
2	52
3	51
4	51
5	45
6	43

FIGURE 6 shows the projected contours for the Noon hour only. For illustration, we set the green color on the legend to 45 dB(A), the ambient noise level at 12:00 PM. During this time the projected noise levels from the mine do not change, but the ambient noise levels drop to their lowest level because of decreased activity on Maple St.

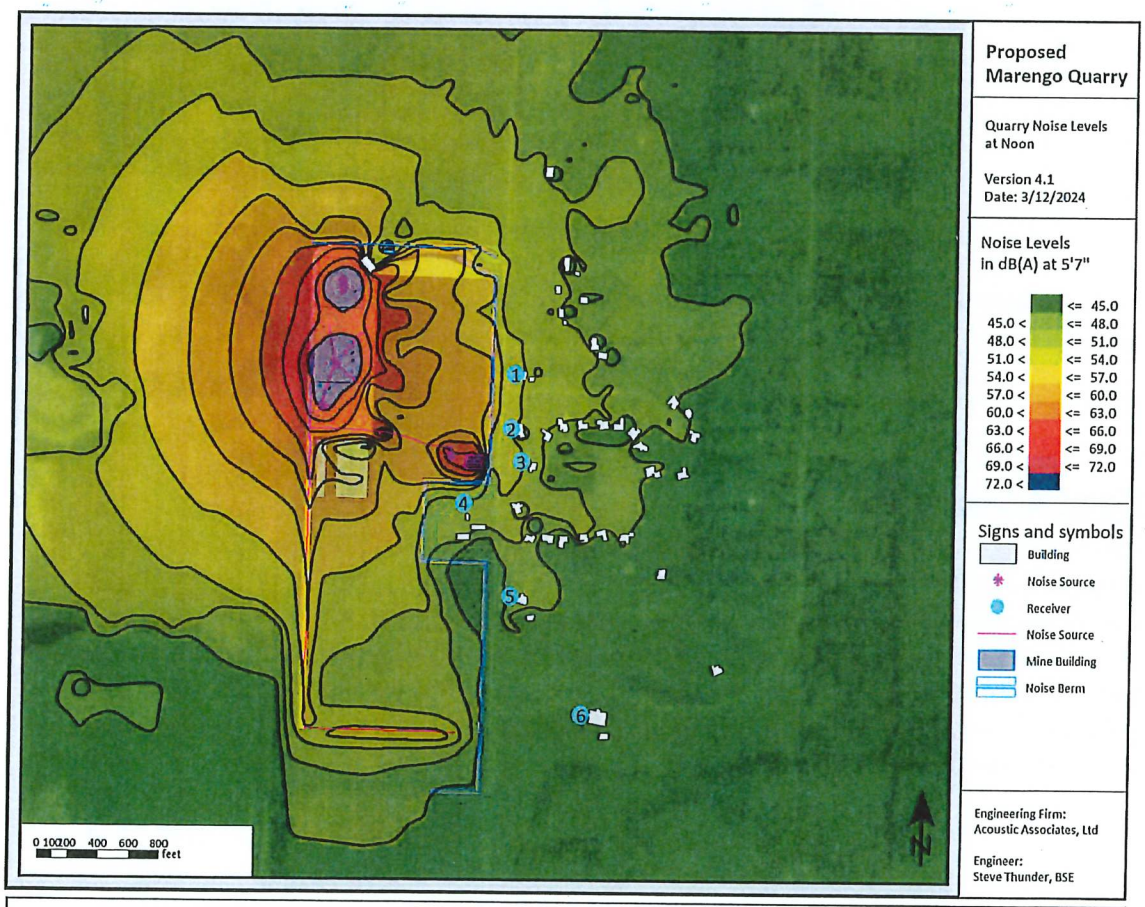


Figure 6 – Audibility level contours around the proposed quarry at Noon

While **FIGURES 5 and 6** show the 2-dimensional radiation of sound from the site, we also prepared a time-series graph showing the hourly LEQ of the quarry noise compared with the estimated hourly ambient sound levels. This graph, given in **FIGURE 7**, shows that the projected quarry noise at location #1 is above the existing ambient noise during the middle of the day.

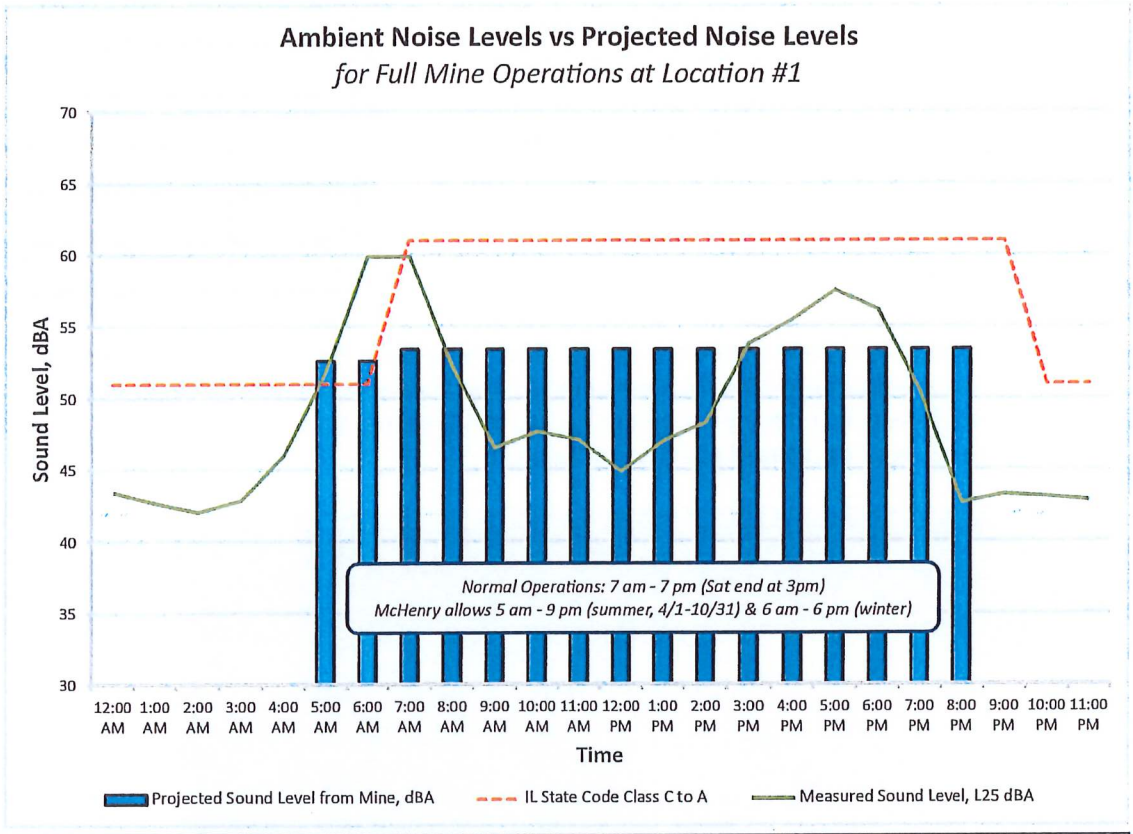


Figure 7 – Hourly sound levels at Location 1 (blue dot #1)

Conclusions

Based on the noise emissions of the equipment, the topography of the area, and our propagation analysis using a sophisticated computer modeling program, we conclude that the quarry operations will meet the daytime Class C to Class A noise limits in the IL state code (61 dBA). Under normal conditions, the quarry will not be operating from 5 AM to 7 AM. However, when it does need to operate during this time, there is significantly more traffic than at other times of the day, causing higher ambient noise levels. Therefore, there will be no impact on the community during the early morning.

As discussed earlier, the impact for a resident is based on a comparison of the ambient noise levels and the projected noise levels due to the source. These impact levels can be seen in **TABLE 2**. We would consider noise to be *"injurious"* for moderate or substantial impacts. That is levels at 7 dB above the ambient or greater. **Table 3** shows this could happen during the hours of the day with the lowest ambient noise (i.e. at noon) for 2 locations. Note, that our analysis was conservative, projecting noise levels for typical maximums during each hour, and in the worst-case locations, we would expect the noise to be lower than this for most hours of the day. Also, remember that the ambient noise measurements were done at a time when many other activities in the area were shut down, so the ambient noise during the operation season may be higher as well, reducing the noise impact. Therefore, it is our opinion, that the quarry operations are likely to meet the Environmental Performance Standards section (16.60.040) of the McHenry ordinance.

Table 2 – Perceptual Difference as a Function of the Decibel Increase

Decibel Increase	Perceptual Difference	Impact
1-2 dB	Negligible	None
3-4 dB	Just Noticeable	Slight
5-6 dB	Clearly Noticeable	Mild
7-8 dB	Strongly Noticeable	Moderate
9-10 dB	Doubling in Loudness	Substantial

Table 3 – Projected and Ambient Noise Levels at Receivers (blue dots)

Receiver Location	Projected Noise Levels (dBA)	Ambient Noise Level, Daytime Average (dBA)	Ambient Noise Level, Noon (dBA)	Difference, Daytime (dBA)	Difference, Noon (dBA)
1	53	52	45	1	8
2	52	52	45	0	7
3	51	52	45	-1	6
4	51	52	45	-1	6
5	45	52	45	-7	0
6	43	52	45	-9	-2

Summary

The report conducted by Thunder Hearing & Sound assesses the potential noise impact of Maple Valley Materials, LLC's proposed quarry site in Marengo, IL. The study aimed to address concerns about noise emissions during quarry operations, focusing on compliance with McHenry County ordinances and Illinois state noise regulations.

Key findings include:

1. **Ambient Noise Assessment:** A detailed evaluation of existing ambient noise levels was conducted to establish a baseline for comparison with projected noise levels from quarry operations. The study identified traffic on Maple Street as the primary ambient noise source.

2. **Source Noise Analysis:** Noise measurements were taken from the ready-mix concrete plant, with the primary noise sources identified as truck engine noise during concrete filling and truck washing activities. Other sound sources were modeled using existing data for similar equipment.

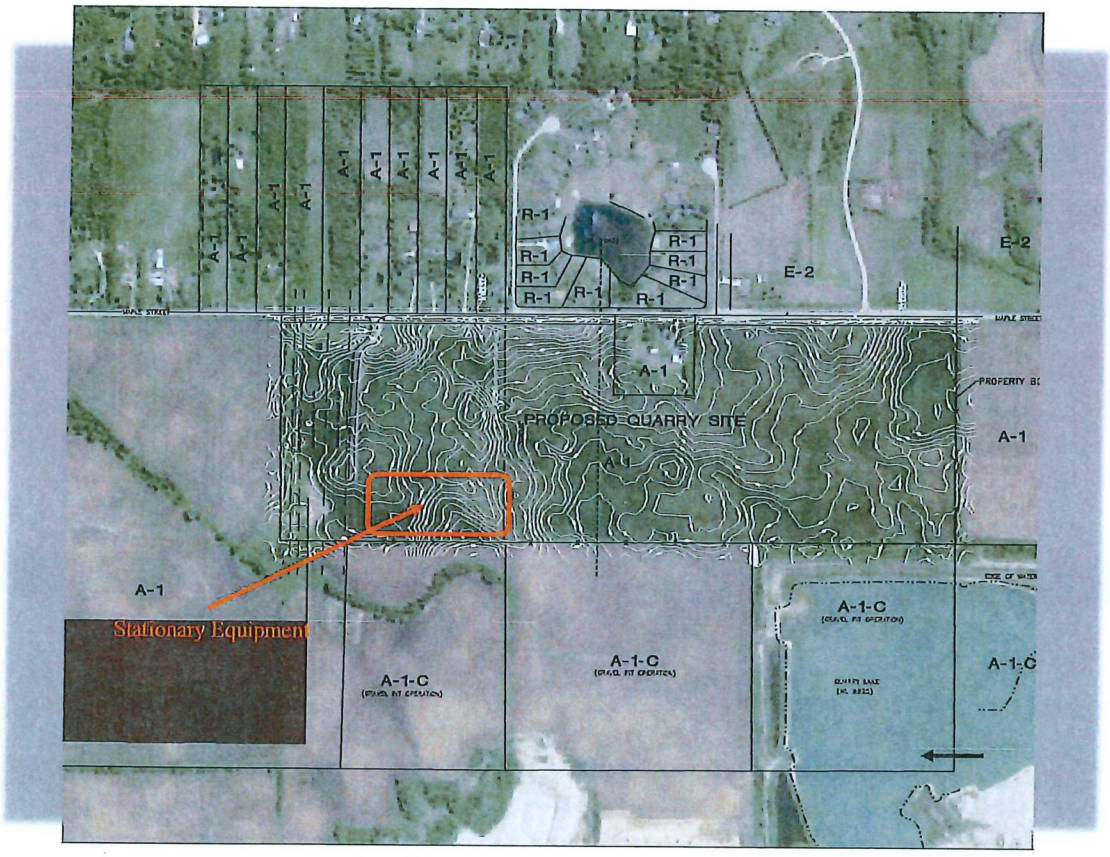
3. **Computer Modeling:** SoundPlan™ software was utilized to predict noise levels radiated from the quarry. The modeling considered various factors such as equipment operation, topography, and environmental conditions.

4. **Conclusions:** Based on noise emissions, topography, and computer modeling analysis, it was concluded that the quarry operations would comply with daytime noise limits specified by Illinois state code. Additionally, projections suggested that noise impacts on nearby residents would be acceptable, with moderate impacts unlikely during real-world use.

In summary, Thunder Hearing & Sound's comprehensive study provides valuable insights into the potential noise impact of the proposed quarry site.

Submitted by:

Steve Thunder, BSE
Principal Acoustical Engineer


A-1
R-1
E-2
PROPOSED QUARRY SITE
PROPERTY BI
Stationary Equipment
A-1-C
A-1-C
A-1-C
A-1-C

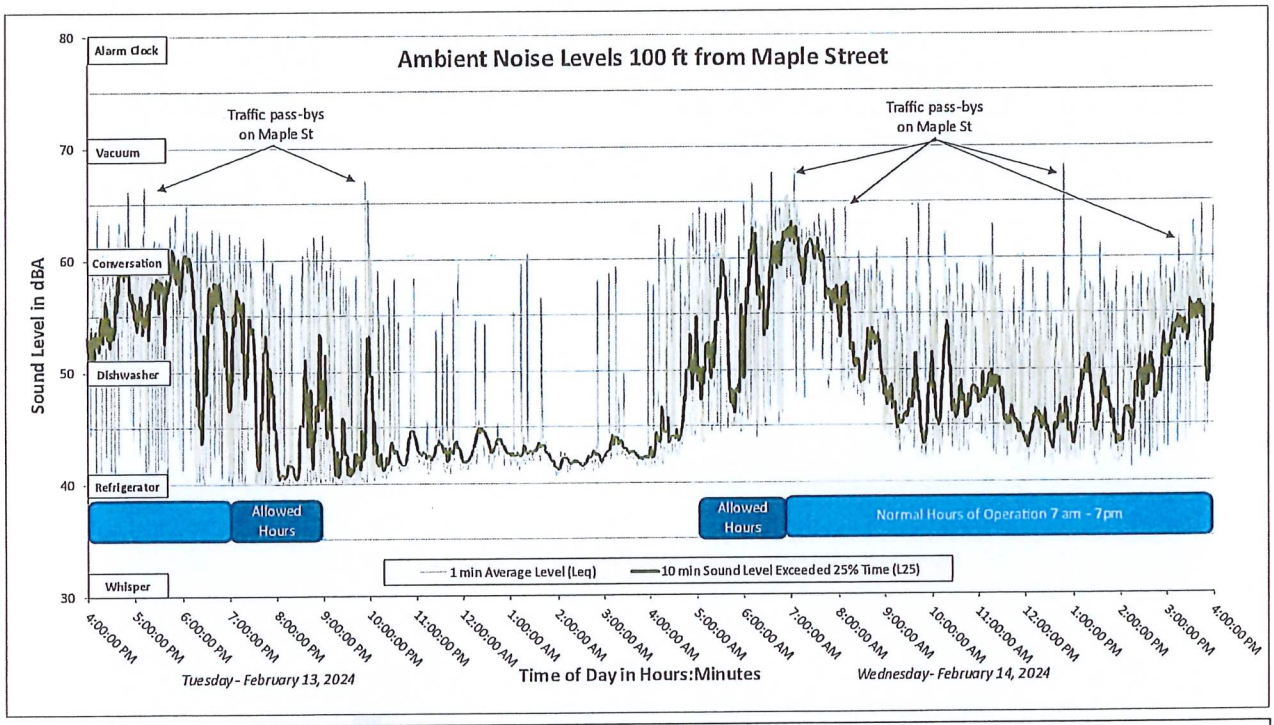
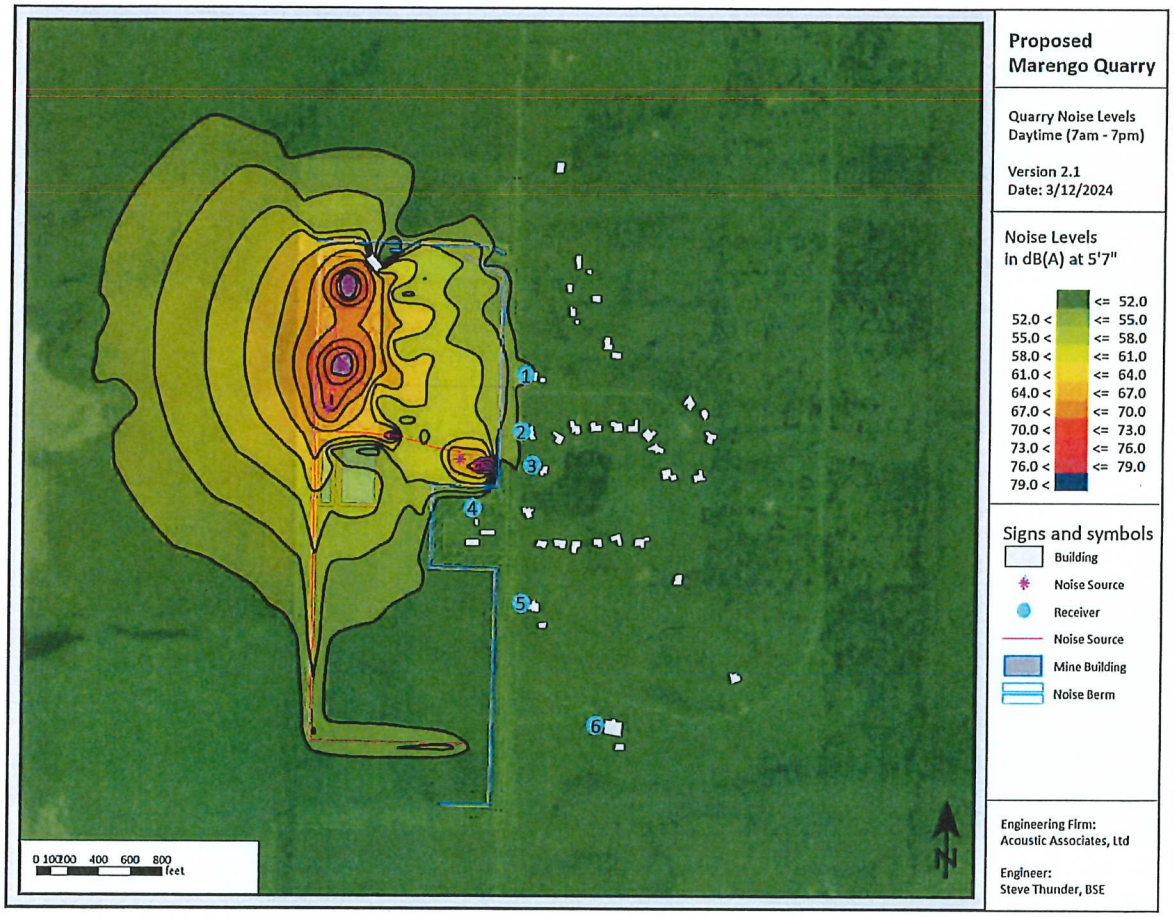
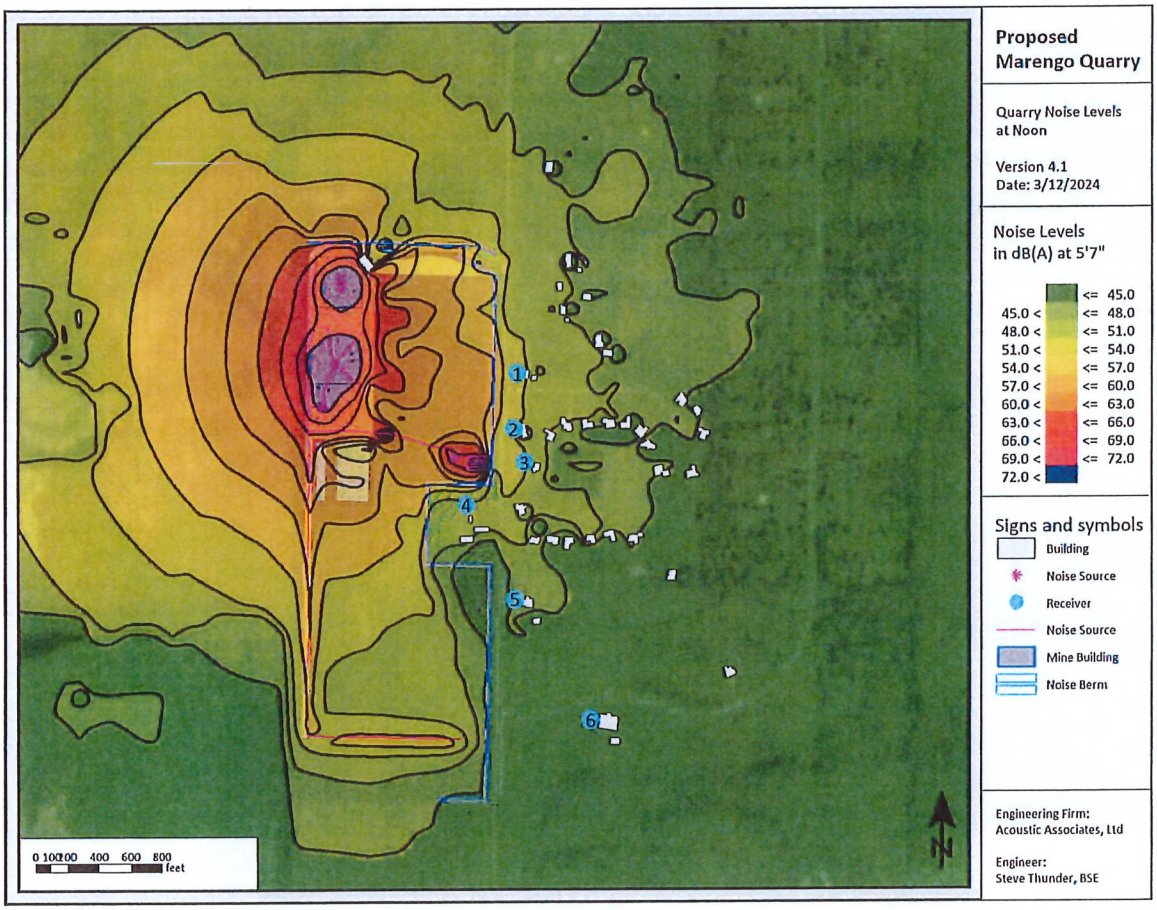
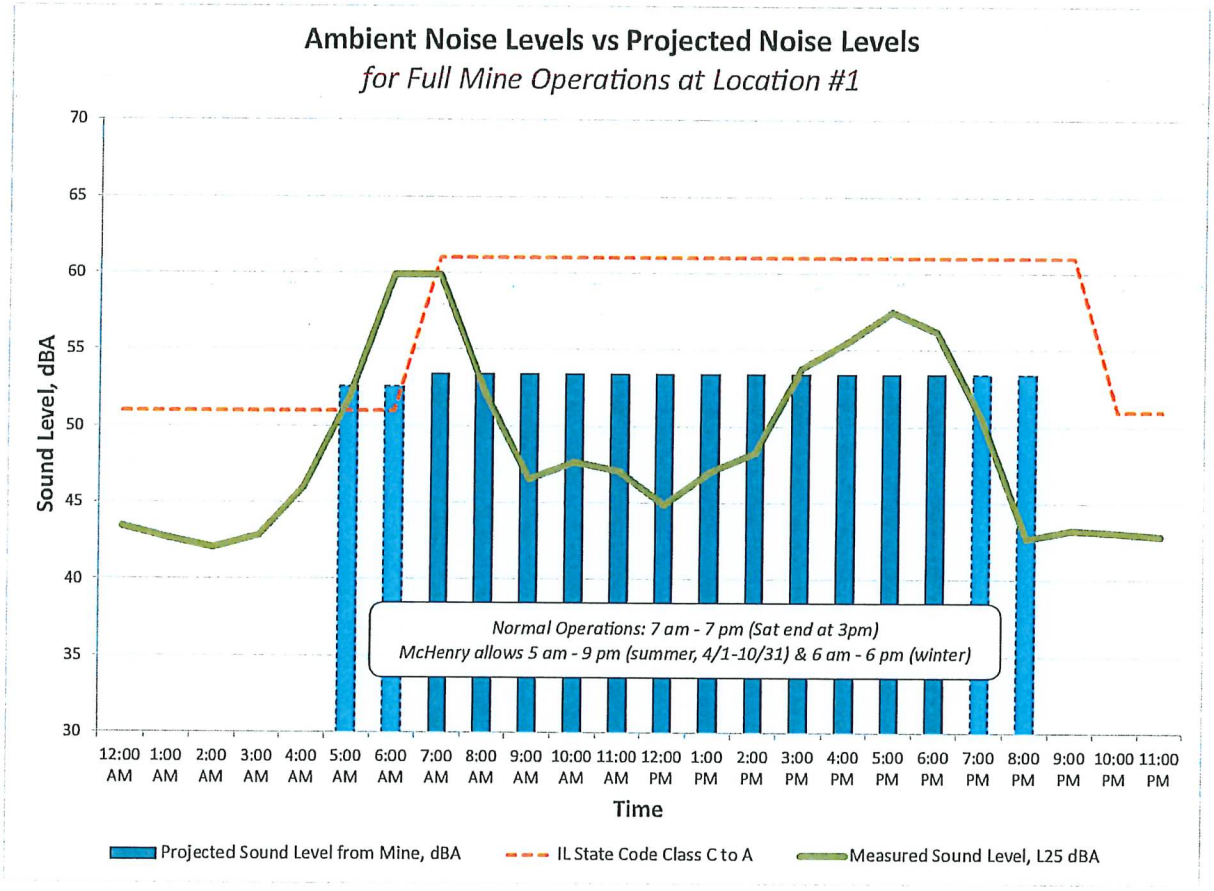


Figure 3 – Sound level trace of ambient noise at the site on 2/13/2024 and 2/14/20024


Proposed
Marengo Quarry
Quarry Noise Levels
Daytime (7am - 7pm)
Version 2.1
Date: 3/12/2024
Noise Levels
in dB(A) at 5'7"
52.0 < <= 52.0
55.0 < <= 55.0
58.0 < <= 58.0
61.0 < <= 61.0
64.0 < <= 64.0
67.0 < <= 70.0
70.0 < <= 73.0
73.0 < <= 76.0
76.0 < <= 79.0
79.0 <
Signs and symbols
Building
Noise Source
Receiver
Noise Source
Mine Building
Noise Berm
Engineering Firm:
Acoustic Associates, Ltd
Engineer:
Steve Thunder, BSE
0 100 200 400 600 800
feet
N
1
2
3
4
5
6


Proposed
Marengo Quarry
Quarry Noise Levels
at Noon
Version 4.1
Date: 3/12/2024
Noise Levels
in dB(A) at 5'7"
<= 45.0
45.0 < <= 48.0
48.0 < <= 51.0
51.0 < <= 54.0
54.0 < <= 57.0
57.0 < <= 60.0
60.0 < <= 63.0
63.0 < <= 66.0
66.0 < <= 69.0
69.0 < <= 72.0
72.0 <
Signs and symbols
Building
Noise Source
Receiver
Noise Source
Mine Building
Noise Berm
Engineering Firm:
Acoustic Associates, Ltd
Engineer:
Steve Thunder, BSE
0 100 200 400 600 800
feet
N
1
2
3
4
5
6


Ambient Noise Levels vs Projected Noise Levels
for Full Mine Operations at Location #1
Sound Level, dBA
70
65
60
55
50
45
40
35
30
12:00 AM
1:00 AM
2:00 AM
3:00 AM
4:00 AM
5:00 AM
6:00 AM
7:00 AM
8:00 AM
9:00 AM
10:00 AM
11:00 AM
12:00 PM
1:00 PM
2:00 PM
3:00 PM
4:00 PM
5:00 PM
6:00 PM
7:00 PM
8:00 PM
9:00 PM
10:00 PM
11:00 PM
Time
Normal Operations: 7 am - 7 pm (Sat end at 3pm)
McHenry allows 5 am - 9 pm (summer, 4/1-10/31) & 6 am - 6 pm (winter)
Projected Sound Level from Mine, dBA
IL State Code Class C to A
Measured Sound Level, L25 dBA

Thunder Hearing & Sound, LLC
847 South Randall Road, #218 Elgin, IL 60123
855-566-7488 www.ThunderHearing.com

Maple Valley Materials Marengo Quarry Noise Study Question Responses

January 2nd, 2025

Prepared for:
Patrick Engineering – 4970 Varsity Drive, Lisle, IL 60532

To Members of the Zoning Board

I was made aware of several questions by zoning board members at the public hearing for the Maple Valley Mine held on November 21, 2024. Please find below the answers to these questions. (Questions are in BOLD and answers follow.)

1. **Does humidity and temperature affect the travel of sound.**

   A. Yes, temperature and humidity do affect how sound travels over long distances, but generally not in a major way. The sound modeling program used to model the mine uses conservative propagation conditions (louder), so this was already accounted for. Also, the ambient noise was measured in February. Typically, ambient noise is louder in the summer because there is more general outdoor activity and traffic. When the ambient noise is higher the impact of a new noise source is less, as such, the modeling was conservative.

2. **If 2 emitters are sounding at the same time, is the dB additive?**

   A. No, sounds do not add by simple addition, but instead they add logarithmically. For example (these are not real numbers for this situation) if one emitter is 50 dB at a given location and a second one starts sounding from the same distance away the level would increase to 53 dB, not 100 dB. The real environment is more complex than this; it has many different sound sources, with different operation times, different locations, different propagation paths, all made up of different frequencies. The program used for this study accounts for all this complexity. That is one of the biggest advantages of using a noise modeling program.

3. **Was the worst-case scenario performed?** If so, what were the assumptions? How were the assumptions validated? Were the assumptions based on existing plant and proposed mine operations? Were all emitters sounded at the same time?

   A. Yes, the worst-case realistic conditions were used.

B. Regarding added traffic noise, adding 6 trucks an hour to existing road traffic will only be a 0.5 dB increase in noise level. This is such a small change in level that it's not even detectable to the human ear under lab conditions.
C. Regarding all noise sources, the following sources were used with realistic worst-case conditions: Back up alarms, ready-mix plant, bulldozer, many conveyor belts, dragline, crusher, front loader, screens, and the truck wash. All sources are included in the results shown from the model. As noted in our report, the ready-mix plant and truck wash were directly measured. All other source data was from previous work on similar equipment.
D. Each sound source in the model is based on the expected use in the scenario we are studying. The details for that sound source include the position (or path in the case of a moving source), the frequency spectrum, the output sound level, the operation cycle, and the path that the sound travels to receivers (including barriers, berms, height of the source, ground effects, standard wind and humidity effects). These details are input for each sound source. Then the results from each are logarithmically added to produce an overall sound level at each receptor location.

4. **Where did the emitter information come from?**

A. As noted in our report, the ready-mix plant and truck wash were directly measured as part of this study. All other source data was from previous noise sampling in a similar mine with similar equipment that we measured in 2022.

5. **There was concern about the 8dB increase at noon for a few receptors.**

A. The charts show the audibility, or the difference between ambient and the sound level output of the plant. This is what determines annoyance. The output of the plant remains the same in the model because we used a realistic worst-case scenario for each hour. The only exception to this is the 5 am and 6 am hours when the mine is expected to have reduced activity. The 8 dB increase in audibility is due to the low background measured in February (which is likely conservative compared to summer months). The predicted noise levels for the mine meet State numerical requirements.

6. **Please define ambient conditions and how they were determined.**

Ambient noise conditions are noises produced by the environment, in this case the area at and surrounding the proposed mine and include all existing noises such as traffic and planes. As detailed in my 6/20/2024 report, the ambient conditions were determined by measuring noises at 1-second intervals at and surrounding the site for a 24-hour period on February 14, 2024. The results were analyzed to identify ambient conditions for the area without the proposed mine in operation.

7. **The locations of the receivers (Exhibits 5 and 6) is not clear. Is Receiver 4 located in the square exception parcel west of Maple Street? Are Receivers 1 and 2 located in the NE and SE corners of Demings Drive and Maple Street?**

Thunder Hearing & Sound, LLC
847 South Randall Road, #218 Elgin, IL 60123
855-566-7488 www.ThunderHearing.com

All sound levels are the levels outside the houses. The property addresses of the receivers are:

1- 8318 Maple St
2- 20509 Demings Dr
3- 8606 Maple St
4- 8703 Maple St – Yes this is in the exception parcel west of Maple Street
5- 20513 Delks Dr
6- 9108 S Hill Rd

Submitted by:

Steve Thunder, BSE
Principal Acoustical Engineer

And finally, I'd like to basically indicate that the petitioner in the prior hearing had hired an appraiser who did the appraisal of the adjoining property owners relative the adjacent property values. I would point out that to the county board that this particular petitioner has, in reliance on the conditional use, actually engaged in part performance. He hasn't necessarily just left this lay dormant. Unfortunately due to economic circumstances, which we heard testimony from, that we couldn't be able to start the mining, because we have installed the entry road access number one, but number two, we gave to the county approximately a little over 1.4 acres of land, giving up a strip of land relative to McDodd's request for a dedication of roadway.

So it was Mr. Stone's opinion that he believes that if the county board did not approve this particular petition, that it's indefensible in a court proceeding, therefore he was going to vote in favor of it.

In conclusion, I feel that we've met the standards that you have. It's not to say that there won't be some dust, it's not to say that there won't be some noise, but it is to say that those will not be unreasonable. And we would ask that you favorably look at this petition when you make your recommendation to the county board. Thank you.

Madam Chair:

At this time, the hearing portion of this meeting is closed, and we'll move on to the voting portion. Again, this is for application 2023-051. It's a request for a renewal of a conditional use permit, 2013-046, to allow earth extraction and adding a ready-mix batch plant in the A-1C district. The applicant is Maple Valley Materials LLC. It's located on Maple Street in Marengo, 111 acre tract, located on the west side of Maple Street, approximately 1,475 feet south of the intersection of Maple Street and West Coral Road in Riley Township. If the board has no objections, we will just adopt the conditional use conditions that were in our packet, and you've all had those for a long time. And then, I'll just read the extra ones that we added that were not in the packet. Is there any objection to anyone on the board?

Charles Eldredge:

No objection.

Kurt Schnable:

No objection.

Tony Kyriazes:

No objection.

Robert Kosin:

No objection.

Madam Chair:

Okay. So I will start out with number 27. That's up on the screen. The new 27 will be before an operations permit can be issued by the McHenry County Code Enforcement Officer. Maple Valley Materials LLC shall cause to be installed a new well on the property identified as exception on the plaintiff's survey dated October 11th, 2002, signed and sealed by William Vandersteppen. Parcel identification number 16-13-300-004, submitted as part of this conditional use request, the well shall be drilled to provide water of adequate quality and quantity.

Number 28, lighting on the property shall be directed so that it falls within the property and so as not to affect the neighboring property, excluding lighting required by the Highway Commissioner for ingress and egress. Number 29, all of the federal, state, and local laws shall be met. And Number 30, the owner

and/or operator shall erect a sign at the exit of the property reminding truck operators to adhere to designated truck routes. Said signs shall be erected within three months of issuance of an operations permit and shall remain clearly visible during the duration of this conditional use permit. Are there any other proposed conditions by this board?

Charles Eldredge:

Madam Chairman, I move to accept the conditions as presented.

Mary Donner:

Second.

Madam Chair:

It's been moved by Mr. Eldredge to accept the conditions. Second by Ms. Donner. Are there any discussions on the conditions. And I'll call for the vote. Mr. Eldredge?

Charles Eldredge:

Yes.

Madam Chair:

Ms. Gartner?

Vicki Gartner:

Yes.

Madam Chair:

Mr. Kosin?

Robert Kosin:

Yes.

Madam Chair:

Mr. Schnabel?

Kurt Schnable:

Yes.

Madam Chair:

Ms. Donner?

Mary Donner:

Yes.

Madam Chair:

Mr. Kurnik?

Tony Kyriazes:
Yes.

Madam Chair:
And I'll vote yes. So the conditions are approved seven to zero. At this time I take a motion on the-

Charles Eldredge:
Madam Chairman, I move acceptance of the petition subject to the conditions.

Madam Chair:
We move by Mr. Eldredge to accept the petition. Is there a second?

Vicki Gartner:
I'll second.

Madam Chair:
Moved by Mr. Eldredge. And seconded by Ms. Gartner. Discussion, Mr. Eldredge?

William Kurnik:
Madam Chair, I'd like a motion to amend the motion to delete the reference to or approval of the ready-mix plant, so that we're only voting on the quarry and mining operation portion, because I think those matters should be voted on separately.

Madam Chair:
Is there a second to the motion?

Charles Eldredge:
I will amend my motion.

Madam Chair:
Second.

Vicki Gartner:
I'll second the amendment if it's permitted.

Madam Chair:
I think it's permitted.

William Kurnik:
That satisfies me, Madam Chair.

Kurt Schnable:
Madam Chair, will we have any discussion on this before we call?

Madam Chair:

Yes. Yes. So before us is an amendment to the recommendation to approve the total petition, and that we were going to separate to allow a vote on the earth extraction and a separate vote on the ready-mix batch plan.

Kurt Schnable:

Since I'm neither moved or seconded, I'd be interested to hear the discussion on the need to separate this matter.

Madam Chair:

Mr. Kurnik, would you like to address that?

William Kurnik:

The principal reason is the addition of the ready-mix plant at this site is an expansion of use, clearly. And I don't feel, as I indicated at our last meeting, I have some serious questions about the noise aspect given the addition of the ready-mix plant. And in particular it was the report of Mr. Thunder. And referring to page seven of his report, talks about the perception, and there's a table too, and it talks about perceptual difference as a function of the decibel increase. And it notes here that if there's a decibel increase between seven and eight, that's strongly noticeable, and the impact is considered moderate. Here on the page, referring to that table, it states, "These impact levels can be seen in table three. We would consider noise to be 'injurious' for moderate or substantial impacts that is at seven dB above the ambient or greater." Table three shows that ambient increases shows a difference at noon of eight decibels. According to Mr. Thunder's own report, that is "injurious" to the people.

And under our ordinance, one of the aspects on our ordinance, section 16.20.040(e)(4) is that petitioner has to show that the conditional use shall not be injurious to the use and enjoyment of other property. I think that the petitioner's own testimony shows that at least the noise level would be injurious. I looked at the addendum or the additional report that we received, and this is a document that we received that was at least dated January 2nd, 2025, which addresses the concern that I expressed at the last meeting. And all it says, this is on page two of that, number 5A, it just concludes that, "The eight decibel increase in audibility is due to the low background measure in February, which is likely conservative compared to summer months." Well, what about other months, such as January, such as December, such as March, such as months that are not summer months? So I don't think the petitioners carry this burden to show that the noise level increase as a result of this operation is not injurious to the neighbors. And that's the reason for why separate consideration.

Madam Chair:

Okay, thank you. So the vote before us is to separate the two into two separate votes. So I'll call for the vote on that. Mr. Eldredge?

Charles Eldredge:

Yes.

Madam Chair:

Ms. Gartner?

Vicki Gartner:

Yes.

Madam Chair:
Mr. Kosin?

Robert Kosin:
Yes.

Madam Chair:
Mr. Schnabel?

Kurt Schnable:
No.

Madam Chair:
Ms. Donner?

Mary Donner:
Yes.

Madam Chair:
Mr. Kurnik?

William Kurnik:
Yes.

Madam Chair:
And I'll vote yes. So it's six to one to separate the two, so we will be separating the two. So I will go to a motion. First of all, on the renewal. Do I have a motion for the renewal of the earth extraction?

Charles Eldredge:
So moved.

Mary Donner:
Second.

Madam Chair:
Moved by Mr. Eldredge. Second by Ms. Donner. Discussion, Mr. Eldredge?

Charles Eldredge:
Yes. Earth extraction is, in terms of its history in McHenry County, the second only to agriculture as the oldest business that has been significant in the county. As Mr. Saladin pointed out, not very many years ago there were a lot more gravel pits than there are now. And when I was a child in this county, a great many years ago, virtually every farm had its own gravel pit for its own use and the use of neighbors who might not have as much gravel as they wished.

This county has been blessed with being a location of a lot of gravel. And the gravel industry provides lots of jobs, and very good jobs, mostly skilled jobs. This corridor in particular, on both sides of Route 23

has been an area for gravel extraction really long before any of these people in the audience, or most anybody who lived in McHenry County moved here. Most of the people who are in the audience, by their own admission, live on a reclaimed gravel pit, which is where the subdivision across the street is. The people have been concerned about the fact that this is a SARA area and a potential for contamination. And that is true of everywhere gravel is located.

Gravel by its nature transmits water to the aquifer very much more rapidly and thoroughly than other kinds of soil do. However, 20, 25 years ago, this county adopted a very stringent set of rules for monitoring the groundwater and protecting the groundwater from contamination as a result of gravel pits. And since that time, there's been virtually no issue at any gravel pit in the county, whether unincorporated or unincorporated because of those regulations at the county level and at the state level. And this was jointly done by the-

At the state level, and this was jointly done by the gravel industry, the EPA, the county, and has in my view, worked extraordinarily well. In particular, the Gavers establishment have a very good reputation in their industry as being good operators who follow the law, do not get cited, and are good at operating it.

Any kind of rudimentary due diligence on the part of people who've moved to the area of Maple Street in the last 40 years would've indicated that there was a great deal of gravel mining going on. Anybody who's moved in the last 20 plus years with the very most minimal exploration would've found that this site had the right to mine for gravel at any time it shows.

Asking us to deny this petition is not asking us to protect their land values. It is asking us to take something away from Maple Valley Mining that it has had the right to do for 20 years without going forward. To my mind, a conditional use that has not been violated, that has been with a company that has consistently followed the law for our time should be renewed. The fact that more people have moved in, I don't believe that people have the right to dictate the use of the guy next door's property should be what they want it to be for the rest -

PART 3 OF 4 ENDS [01:36:04]

speaker 8:

That's what we're here to determine.

Charles Eldredge:

... they have the right -

Madam Chair:

Quiet please.

Charles Eldredge:

... if they wish to have that control, they should buy the land. For all of these reasons, I'm going to support this petition.

Madam Chair:

Ms. Gartner.

Vicki Gartner:

In 1974, my husband and I bought a house that we knew was on a landfill, and the landfill continued on behind our house. It was an old landfill and it wasn't in use anymore, but we always knew that at some

point that landfill could be opened again and used again. And guess what, it was. It wasn't a horrible thing. We knew all along that that was there. We knew all along there was that possibility. The houses that live along this area knew or should have known all along that that land next to them was a gravel pit or at least slated to be. And there was always that possibility that it could be a gravel pit.

Gravel pits... I would rather live by a gravel pit than a garbage dump.

Speaker 9:

[inaudible 01:39:44].

Madam Chair:

Stop.

Vicki Gartner:

You may not talk, it's my turn. I really like all your respect.

Speaker 9:

Sorry.

Vicki Gartner:

Gravel pits are actually quite clean and they're quite quiet. We as a group, the zoning board itself, we're not the planning commission. We are the zoning board of appeals. Travel to five or six different gravel pits during operating hours and saw what was going on. You know what's going on because you live there. So knowing that this has been there before you built your house, probably, I have to say that was your choice to buy that house. Yes, it was beautiful just like mine was for years. There were deer back there and all kinds of nice things. But then there was a landfill again. So I have to say that that is not coming into my consideration for my vote. My vote will be in favor of the landfill. Thank you.

Group:

Landfill?

Vicki Gartner:

There you go. No, please. For the mining operation.

Madam Chair:

Mr. Kosin?

Robert Kosin:

Thank you, Madam Chairman. For purposes of clarity of my remarks, it should begin by noting that we are not a legislative body, but follow the rules that are provided to us in the approval standards of the conditional use permit. And specifically to those rules are number two, which is the compatibility to existing conditions. My seat here in the ZBA is appointed is representing Algonquin Township. As far as some have spoken this seat is to where your homes are. And Algonquin Township is also a place in the county with numerous active and inactive gravel pits. In fact, when the federal government did the land inventory at 1836 through that area, there was only one open body of water identified and that was Crystal Lake. Today, every body of water that you see within that 36-square miles is either the result of redirection, impoundment, or gravel extraction.

One gravel pit is now a civic betterment known as Three Oaks. Another has recently been opened as Rotary Park. And yet gravel mining still occurs within my township. But before I'm corrected to turn my attention to Marengo Township, which as I have been sitting here listening and appreciating those concerns, I note the history that my colleague have spoken to and found that history clearly documented in the public record that was accessible to all of us.

Specifically the USGS topographical map cited in the natural resource opinion on Page 384 of 400. That map clearly shows that a gravel pit was in operation on the west side of Maple Street in 1965. That gravel pit was in existence photographic by the USGS in 1965, documented in 1968, and put out in publication in 1971, and was used as reference in this public record. As well as the establishment of the roads both to the north being Demings Drive and Dekelgate, and excuse my mispronunciation, to the south, but is not the only addition to what is compatible to the area for as the growth occurred in Algonquin Township, so is the growth documented in Marengo South by another public document.

And that is the published well logs from the Illinois State Health Department. The public well logs show that in 2013 there was recorded 164 approximate wells within this affected area. Of those, 85 were within one mile of the gravel operations, whether on State Route 23 or county route Maple Street. And the CU was approved in 2003. So for 10 years prior, new wells went in or wells documented by and during the operation of an existing gravel pit.

In 2023, 10 years after the renewal of the second conditional use, 52 new residential wells went in, 31 of them within a mile of this affected area. The public record clearly shows that there is a trend of development and not incompatible to the existing development that exists between the mining extraction and the other uses within Marengo South.

Finally, to my last point is substantially diminished. It is the most troublesome one as one in Algonquin Township seeing along Virginia and Pyott gravel trucks. But I would be remiss if I would seek the advice of counsel to be directed that somehow my quiet enjoyment, whether it's in your township or Algonquin Township, is substantially diminished by other lawfully regulated uses in that area. And for those reasons, I'll be supporting this petition.

Madam Chair:

Mr. Schnable?

Kurt Schnable:

I will support this revised petition for earth extraction, gravel extraction only at this point. That's all. Next.

Okay.

Madam Chair:

Ms. Donner?

Mary Donner:

They've said everything that I would've said. I was years ago involved in situations with gravel pits as a paralegal. So these are not uncommon comments. I have to agree with those who have come before me. They've said it more eloquently than I could have.

Madam Chair:

Mr. Kurnik?

William Kurnik:

I will be voting in favor of the amended petition as well. The question was asked when the comment was made that we sit here in a quasi-judicial capacity. What that quasi-judicial means is we sit here as judges. I live in Grafton Township and unlike one of my colleagues, I don't believe we have any mining operations there. But we're called to decide this case based upon the evidence that's presented to us, plus deciding this case based upon any facts of which we can take judicial notice. The things that Mr. Kosin talked about and my other colleague mentioned, Charlie, are things that we can take judicial notice of in deciding this case.

So even though in Grafton Township I may not have any exposure to mining operations, in deciding the facts that were presented here, I've concluded that at least as to the quarrying operations, the petitioner has sustained their burden and established that they have proved all of the elements that are required for us to act favorably in connection with that petition. If we were acting 20 years ago, and if this had not been a use that had been legally established, maybe our decision at this point in time would be different, but the fact is we don't decide this case based upon a clean slate. We decide this case based upon the fact that the use for which the petitioner is asking an extension of the conditional unit is a use that the county board determined is legal. And as one comment was made, if you don't like what your neighbor is doing legally, go ahead and buy the property. Those are my only comments.

Madam Chair:

And I agree with the comments of my colleagues. I'm in favor of the renewal of earth extraction, so I will call for the vote. Mr. Eldredge?

Charles Eldredge:

Yes.

Madam Chair:

Ms. Gartner?

Vicki Gartner:

Yes.

Madam Chair:

Mr. Kosin?

Robert Kosin:

Yes.

Madam Chair:

Mr. Schnable?

Kurt Schnable:

Yes.

Madam Chair:

Ms. Donner?

Mary Donner:

Aye.

Madam Chair:
Mr. Kurnik?

William Kurnik:
Yes.

Madam Chair:
And I'll vote yes. So the renewal is approved seven to zero. At this time I would take a motion for the approval of the concrete batch plant.

Charles Eldredge:
Madam Chairman, I move approval of the concrete batch plant.

Madam Chair:
Is there a second?

Mary Donner:
I'll second.

Madam Chair:
It's been moved by Mr. Eldredge, seconded by Ms. Donner to approve the concrete batch plant. Discussion, Mr. Eldredge?

Charles Eldredge:
Yes, I think this is a much closer question. I feel that Mr. Kurnik's comment that a much more robust response to our questions about noise would've been helpful to us. And I think that perhaps my view is to some extent colored by the fact that I have lived on US-12 at a very busy intersection my entire life and I'm perhaps less concerned about noise than some other people. And I found both from that and from the times I lived in large cities, that things like the noise of the concrete batch plant become just background very rapidly. Although they may be startling to someone who hasn't heard of before.

Having said that, I do believe that this is... Well, I think we need to distinguish between the noise created by the batch plant and the noise created by the gravel operation. I think that the addition of the batch plant noise is not insignificant, but not enormous. I think that the people who will be distressed by this are going to be distressed by gravel trucks in any case. I don't much like gravel trucks. Over my lifetime, I've lost about 50 windshields to pebbles coming off of them over the 70 years or so I've been driving.

I would note that when I was a young fellow, they didn't really enforce things like driver's licenses. So it was quite typical for me and my compatriots at 10 or 12 years old to be driving the family vehicle at least around the neighborhood. Actually, it wasn't unheard of to see a six or seven-year-old on a couple of phone books operating the family truck.

That aside, I believe that this has been located in the best location possible in terms of the neighbors on the site. I think that the control of dust and noise is as modern as it can be. And I believe that there is a deficiency of these plants in McHenry County particularly other than the hegemon in concrete, in the northwest suburbs generally, other than those owned by Ozinga. And so while I have some questions, I am going to support this.

Madam Chair:

Ms. Gartner?

Vicki Gartner:

Thank you. I'd like to tell the petitioner, I do appreciate the placement that you have planned for that concrete plant as far away as possible from residences. However, I am concerned about the noise. I am concerned with the noise study. I looked through the long list of clients that Mr. Thunder supplied with his report, and none of those clients had a concrete plant. And in my own research that I have done in the last few weeks over this, it seems to me that concrete plants are extremely loud. And even if you're far away from it, the farthest part of that particular property, I still think it's going to be an annoyance. I cannot... That and the increased traffic from that, I find I can't vote in favor of that part of it. I'm glad that the vote was split. Thank you.

Madam Chair:

Mr. Kosin?

Robert Kosin:

Thank you. I appreciate the prior discussion because it brought into focus what was immediately a distraction, the detail of the gravel pit operation, the established history of the operator, the record, exemplary record, of the operator to a new use being a batch plant. And I do not see any specificity in the conditions even with their length now at 30 that go to the batch plant. In fact, the word batch plant, ready-mix batch plant, does not appear specifically in that. And I will stand corrected. Nonetheless, given its absence and it is not something that could be easily overlooked in operation, whether on site or along Maple Avenue, I will not be supporting the addition to this petition.

Madam Chair:

Mr. Schnable?

Kurt Schnable:

There's a lot that can be said here. There's a lot that's already been said here today. A lot of it, which I happen to agree with. But throughout my conclusion to all of this is with the cement batch plant, we have one on Route 23 already by Ozinga. It's much larger operation than when Mr. Gavers is alluding to the fact that he'd like to at least initially start with. My grave concern is the Ozinga plant on Route 23 is a giant ball of giant white dust every time you drive down Route 23, assuming it hasn't been raining. I cannot take my clean car... I live on the other side of the tollway. I can't take my car and drive it there. I have to go down Maple to keep my car clean if I want to go to Marengo and pick up prescriptions or go to Sullivan's or what have you. So I'm very leery of the dirt and stuff that could be dragged out onto Maple. I'm not saying that it would be, but I'm gravely concerned that it could be.

But my biggest obstacle at all to voting in favor of this proposal would be the unknown increase in the volume of water used, the wells, the drainage, that whole discussion. And my greatest concern of all that has been brought up here today is if we approve this, and it's not in a light industrial district like Ozinga currently is without State Highway 23 Road access, which is greatly preferable to that of Maple, especially for operations such as that, I'm gravely concerned that property could go back up for sale assuming we get the batch plant use approved, be sold to someone else and turned into a much larger operation. And we just can't have that. So for that reason, I will not support this petition for the batch plant.

Madam Chair:

Ms. Donner?

Mary Donner:

My concerns would've been if it was an asphalt batch plant. I will be voting in favor along with Mr. Eldredge.

Madam Chair:

Mr. Kurnik?

William Kurnik:

I agree with a lot of the facts that my colleagues have pointed out. My colleague Eldredge mentioned that perhaps he got used to the noise in his life and that may shade his decision somewhat. I grew up in Chicago and for quite a while I lived on Archer Avenue with CTA buses going back and forth all the time. I got used to noise. But whether I'm used to noise or whether Mr. Eldredge is used to noise or desensitized, that shouldn't enter the picture today. It should be how a reasonable person would react to this. As I think everyone's gathered, I was concerned really only about the noise aspect. And I tried to get some answers and Mr. Thunder attempted to give me answers in his January 2 rebuttal, if you will. And one issue was can we separate the noise generated by the batch plant from the noise generated by the operation?

And I said, we've got, at least as it relates solely to the batch plant, we had a noise level for filling of the concrete truck of 76 dBs and of washing the concrete trucks, 70 dBs. And I asked, "How do they add up arithmetically?" And all Mr. Thunder said is he says, "No, they add logarithmically." And instead of addressing what is at issue in this case, 70 and 76 dBs, he came up with a hypothetical. He said, "Well, let's talk about what would happen if we had 50 dBs and 100 dBs." Well, that was not my question. So he has not, in my view, presented any evidence to show that this would not be injurious.

I pointed out, and I would just like to point out to the board, the county board when they address this is as I said, Page 7 of the report of his original report where it points out that when we look at a difference in the ambient at noon any difference in dB levels of seven or eight can be considered injurious. In his report, he says, "At noon, the sound levels caused the difference in ambient versus what's generated by this operation is going to be in the seven to eight range." And that is quote, "Injurious." That's what his report says.

So for those reasons, I am not in favor of granting the use, at least as far as the batch plan operation. And I say that based upon this state of the record, what's before me on the record. I don't know what the record will be before the county board. I don't know to what extent you can supplement the record before the county board beyond what you've presented here. But as they say, a word to the wise.

Madam Chair:

And my comments would be, I understand the concerns of noise, but I'm feeling like there's noise already with earth extraction. And I feel like you have to have concrete batch plants in order to provide the need for the public. And it just makes a much more efficient use to have it right where the gravel is being extracted. And I think the location of this in the farthest northwest corner, farthest away from people that are living across the street in rural subdivisions, rural locations. I'm used to noise too because I am a retired farmer and grain dryers, and dairy cattle, and all the tractors that we dealt with. And this is zoned agriculture. And you could easily have all that noise across the road that I just feel like it just makes sense as part of a gravel extraction to have a concrete batch plant located there. And so I am going to be in favor of the request.

William Kurnik:
Madam Chair, can I just add one comment I forgot to make?

Madam Chair:
Yes, you may.

William Kurnik:
Just to echo what Madam Chair said. I agree that this makes the most sense to locate a concrete batch plant in order to avoid trucks going and delivering the gravel one place, taking it someplace else to make concrete. This makes eminent sense. And for me, this was just a very close question. That's all I wanted to add.

Madam Chair:
Okay.

Speaker 10:
Do you know how concrete is made, sir. Do you know how concrete is made.

Madam Chair:
If you're talking, we'll call security and you'll have to leave. There's no time for anyone to talk.

Speaker 10:
Okay.

Madam Chair:
So you can either be quiet or you can leave. I'll call for the vote. Mr. Eldredge?

Charles Eldredge:
Yes.

Madam Chair:
Ms. Gartner?

Vicki Gartner:
No.

Madam Chair:
Mr. Kosin?

Robert Kosin:
No.

Madam Chair:
Mr. Schnable?

Kurt Schnable:
No.

Madam Chair:
Ms. Donner?

Mary Donner:
Aye.

Madam Chair:
Mr. Kurnik?

William Kurnik:
No.

Madam Chair:
And I will vote yes. So this goes to the county board with a three to four vote. Three ayes, four nays.

Charles Eldredge:
That's no recommendation.

Madam Chair:
And that is no recommendation.

Charles Eldredge:
As to the-

Madam Chair:
So the county board will have to decide this.

Steve Gavers:
Thank you for your time. We appreciate it very much.

Madam Chair:
So at this time, the hearing is closed.

PART 4 OF 4 ENDS [02:04:40]

Staff Report for the McHenry County Zoning Board of Appeals

Application: #2023-051

PIN: 16-13-300-006

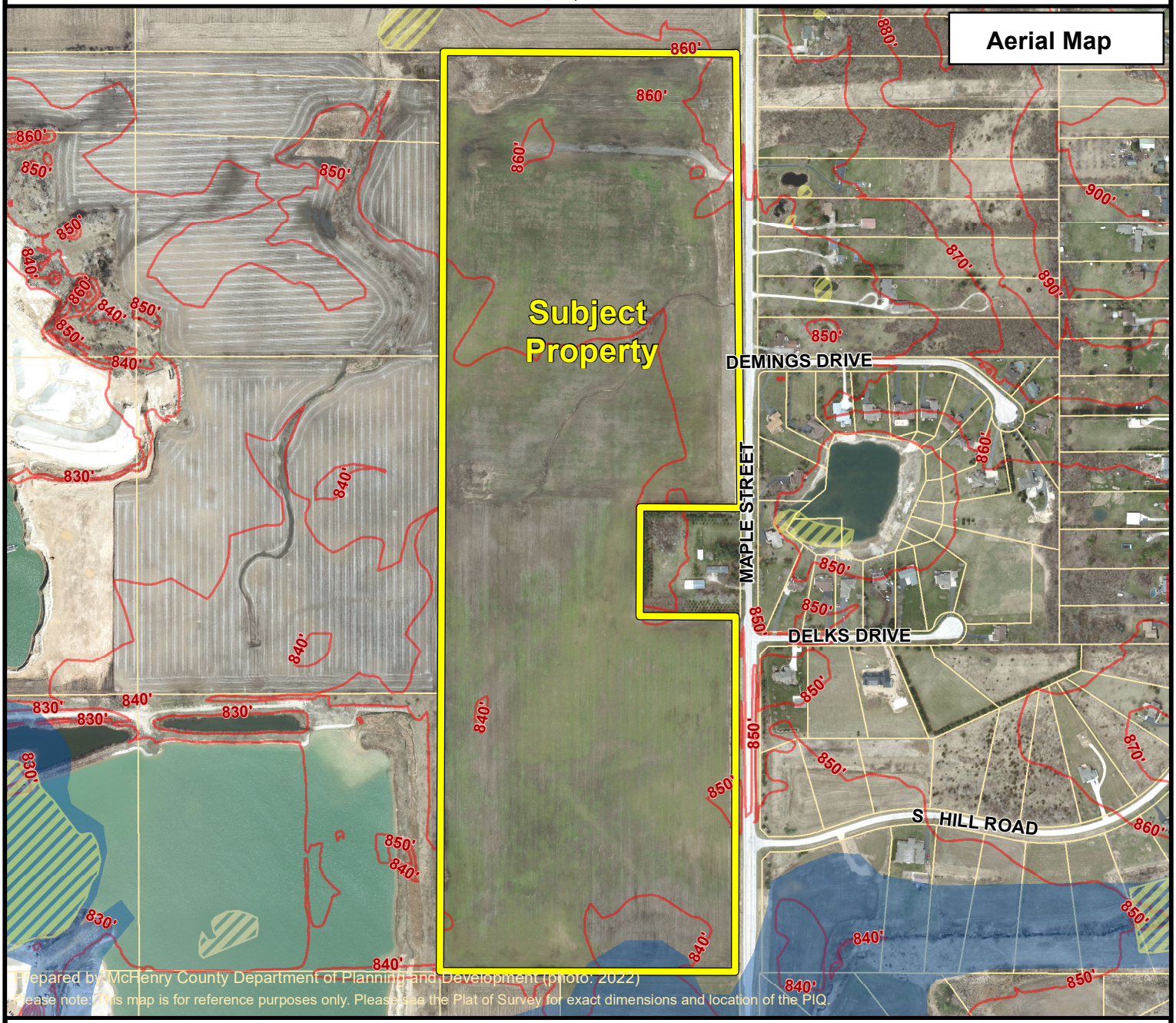
Address: Maple Street, Marengo

Applicant: Maple Valley Materials LLC

Request: Renewal of CUP 2013-046 to allow earth extraction and adding a Ready-Mix Batch Plant in the A1C district

Hearing: November 21, 2024

Location: The one hundred and eleven (111) acre tract is located on the West side of Maple Street, approximately one thousand four hundred seventy-five (1,475) feet south of the intersection of Maple Street and W Coral Road, in Riley Township.



Elevation
(feet above sea level)
10-foot contours
2-foot contours

ADID Wetland Map 2005
High Functional Value Wetland (hfvw)
High Quality Wetland (hqw)
Wetland (w)
Farmed Wetland (fw)

FEMA Flood Hazard Areas
0.2 % Annual Chance of Flood
1% Annual Chance of Flood
Floodway

Feet
320 160 0 320 640
1 inch equals 634.4 feet

N

Staff Report for the McHenry County Zoning Board of Appeals

STAFF COMMENTS

The following comments and conclusions are based upon staff analysis and review prior to this hearing and are to be considered viable unless evidence is established to the contrary. Staff may have additional comments based upon the testimony presented during the public hearing.

BACKGROUND & REQUEST SUMMARY

The applicant is requesting a renewal of a Conditional Use Permit to allow earth extraction/mining (CUP 2013-046) on one hundred eleven (111 acres). The original CUP for earth extraction was granted in 2003 (2003-008). In addition to the renewal, the applicant is also seeking to have a ready-mix batch plant on the property.

This property is located on the west side of Maple Street, approximately one thousand four hundred seventy (1,475) south of West Coral Road. The plat of survey shows a gravel driveway and the presence of two (2) utility facilities –a Nicor gas line and ComEd transmission lines. All these improvements are located at the northern end of the property. The balance of the property has remained undeveloped.

MCHENRY COUNTY UNIFIED DEVELOPMENT ORDINANCE

- The Applicant must meet the Approval Standards for Conditional Use Permit, listed in County Code Section 16.20.040.E and the development standards for Earth Extraction/Mining found in County Code Section 16.56.030.P.

STAFF ANALYSIS

Current Land Use & Zoning

The subject property is zoned A-1C Agriculture with a Conditional Use Permit for Earth Extraction, and, other than a gravel driveway and two (2) utility facilities (Nicor pipes and ComEd lines), has remained undeveloped. The properties to the north and south are zoned A-1 Agriculture and have been used for row crop production. Properties to the east are zoned A-1 Agriculture, R-1 Single-Family Residential and E-2 Estate. These properties are either undeveloped or have single-family residential houses on them. The properties to the west are zoned A-1C Agriculture with conditional use permits for earth extraction and have active mines on them.

2030 Comprehensive Plan Future Land Use Map

The proposed conditional use permit is compatible with the map designation of Agriculture.

2030 Comprehensive Plan & 2030 and Beyond Analysis

The 2030 Comprehensive Plan and 2030 and Beyond supports the mining of aggregate resources and encourages the continued enforcement of regulations regarding zoning, groundwater monitoring, traffic and safety, and noise emission related to the mining industry.

The earth extraction operation is subject to the Stormwater Management Ordinance. An application for a stormwater management permit will be required prior to commencing development of the site.

INDR has indicated that they have recorded nesting sites for the state endangered Swanson's Hawk in the vicinity, however, the mining at this site is not likely to adversity impact this species. (EcoCAT Review 2404958)

McHenry County 2030 and Beyond, Adopted October 18, 2016

Big Idea #1 Let's make our communities healthy, active, and green

"We can make it happen by preserving our groundwater aquifers, lakes, rivers, streams, and their natural functions." (p.11)

- The subject property is partially located within a Sensitive Aquifer Recharge Area (SARA) and the proposed development could have potential for contamination. The applicants are required to install monitoring wells on the site which will be actively monitored by McHenry County.

Big Idea #2 Let's build on our strengths

"We can make it happen by recognizing the importance of our aggregate mining industry, both economically and for its part in building our public infrastructure, business, and housing." (p. 16)

- The proposed use extracts aggregate materials to be used in products such as sand, gravel, asphalt, or concrete. The materials extracted from this site will contribute to development in the area as well as provide jobs within the earth extraction industry.

Big Idea #3 Let's grow smarter

"We can make it happen by supporting business development and commercial uses to reduce the property tax burden on residential homeowners." (p. 17)

- Approval of the renewal of this conditional use permit would allow future earth extraction, which, as noted above, will support several businesses in the area.

Big Idea #4 Let's expand our economy

"We can make it happen by improving infrastructure, including freight and commuter rail, access to major regional and interstate roadways, and access to high-speed internet services." (p.22)

- This industry plays a role in the construction of new infrastructure (roadways and buildings) by providing important construction material.

McHenry County 2030 Comprehensive Plan, Adopted April 20, 2010

Community Character & Housing

No applicable text.

Agricultural Resources

"Maintain and protect the most productive agricultural lands, where appropriate, by discouraging nonagricultural growth in these areas." (p. 29)

- NRI report #23-092-4552 indicates that the soils in this area are among the most productive agricultural lands (having a LESA score over 76).

Greenways, Open Space & Natural Resources

"Promote the retention and management of open space for conservation, wildlife habitat, and recreation." (p.43)

- The reclamation plan indicates that at the conclusion of operations there will be a lake located on the property. Water features, such as this, are beneficial to wildlife habitat.

Water Resources

"…land use and development should be carefully examined and regulated within sensitive groundwater recharge areas to ensure that the water quality, quantity, and natural recharge functions of the area are safely maintained." (p.67)

- According to the NRI report over ninety-six (96) acres of the total one hundred eleven (111) are within a SARA area. Staff is proposing conditions which are consistent with the UDO requirements which will monitor the water quality, quantity and recharge functions.

Economic Development

"Continue to enforce current regulations regarding zoning, groundwater monitoring, traffic and safety, noise emissions related to the mining industry." (p.98)

"Preserve areas with important aggregate resources from encroachment from development uses." (p.87)

- Aggregates found in the county support several industries and contribute significantly to the local economy. The continued operation of these mines will support the future development of the county.

STAFF ASSESSMENT -

The requested conditional use is supported by the text of the 2030 Comprehensive Plan and the McHenry County 2030 and Beyond plans.

The following conditions are the ones already established for Conditional Use Permit #2013-046. Staff recommends that these same conditions be continued. Additional (new) recommended conditions start with number twenty-seven (27).

1. The time limit for the Conditional Use Permit shall be 10 years from the date of approval by the McHenry County Board.

2. Existing trees, shrubs and other types of woody vegetation along road frontages shall be protected and maintained. Weeds and other unsightly noxious vegetation shall be cut or trimmed as may be necessary to present a reasonably neat appearance, to prevent grass fires or the hazard of grass fires.

3. No earth extraction and/or mining operation(s) is permitted to operate in such a manner that the groundwater table of surrounding properties is adversely impacted. In the case of mining operations, water pumped from the site for the purpose of washing shall be retained in a pond until the silt and clay settles and then the water recycled in the area affected. Groundwater quality shall be monitored and maintained on a regular basis in accordance with monitoring practices. Groundwater monitoring parameters are established in § 16.56.030.P.8 (Groundwater Monitoring). Monitoring reports are to be conducted on January 30, April 30, July 30 and October 30 of each year that the operation continues and submitted to the Zoning Enforcement Officer.

4. The owner and/or operator shall repair any section of road damaged as a result of hauling operations but shall not be responsible for the normal wear and tear of the road. This provision shall not be construed to require the owner and/or operator to purchase additional right-of-way.

5. All operations shall be conducted in a safe manner, especially with respect to hazards to persons, damage to adjacent lands or improvements and wells, and damage to any street by slides, sinking or collapse of supporting soil adjacent to an excavation.

6. The following apply to earth extraction and/or mining conditions only - **not** to reclamation conditions:

    a. Earth extraction and/or mining operation(s) that remove and do not replace the lateral support shall be located a minimum of thirty (30) feet from property lines, established right-of-way lines of any public roads, streets, McHenry County, Illinois

    b. The bottom of the slope of the excavated face shall be no closer to the point determined in §16.56.030.P.7.e.i, than a distance equal to one and one-half (1½) times the depth of the excavation.

    c. If consolidated materials occur in the excavated face, the slope of the face may be steeper than one and one-half (1½) to one (1) slope per §16.56.030.P.7.e.ii for the depth(s) of those materials, however all other excavated slopes of unconsolidated materials are limited to one and one-half (1½) to one (1) slope.

    d. In the case that the right-of-way has not been recently surveyed by a registered land surveyor and clearly marked, the right-of-way line is assumed to be, for the purpose of this section, a minimum of forty (40) feet from the centerline of the existing road.

7. All active operations shall be separated by an earthen berm no less than six (6) feet-in height and/or a farm fence of no less than fifty-four (54) inches in height and designed to allow the free flow of wild animals but discourage trespassing by humans and farm animals. Berms that remain in place for one (1) year or longer shall be planted with grass, shrubs, and trees, and maintained as a visual and acoustical screen. They shall be designed so that they do not erode into the road or highway right-of-way or onto a contiguous property. All berms located along roadways must comply with all applicable state regulations.

8. The processing and stockpiling of aggregate resources shall not be conducted within three hundred (300) feet of any adjoining residentially zoned property line.

9. The hours of operation for all activities, other than maintenance functions, are restricted to 7:00 a.m. to 7:00 p.m. on Mondays through Fridays and 7:00 a.m. to 3:00 p.m. on Saturdays and Sundays. In emergency situations, operations are permitted at times otherwise prohibited. (An emergency situation, for the purpose of this section, is any operation necessary to provide repairs to roadways or provide other materials and assistance that, if delayed until normally permitted hours, would cause injury or loss of life or property.) Any operation or activity under this section shall immediately be reported to the McHenry County Sheriff's Department and reported to the Zoning Enforcement Officer the next business day.

10. Operations shall be conducted so that noise levels and air and water standards comply with federal and State of Illinois requirements.

11. Access ways and on-site roads shall be maintained in a dust-free condition. A Dust Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an *Annual Operations Permit*.

12. The premises shall be neat and orderly, free from junk, trash or unnecessary debris. Buildings shall be maintained in a sound condition, in good repair and appearance. Salvageable equipment stored in a non-operating condition shall be suitably screened or garaged.

13. Enough topsoil must be stockpiled to meet the finished conditions.

14. No operations may occur on the property pursuant to this ordinance without the issuance of an Annual Operations Permit issued by the Zoning Enforcement Officer. The operations permit may be for less than the total area proposed. The construction of access or haul roads, building and landscaping of required berms, and other site improvements required for site preparation shall **not** require the issuance of an Annual Operations Permit. The Zoning Enforcement Officer shall issue said Operations Permit upon receipt from the owner or operator of the following items:

    a. An Operations Plan (Mine Plan and Mine Phasing Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibits 6 and 7) in compliance with this ordinance and other applicable County ordinances; and

    b. A Reclamation Plan (Mine Reclamation Plan [Last Revision Date: June 25, 2024] by Patrick Engineering, as Exhibit 8) in compliance with this ordinance and other applicable County ordinances; and

    c. A Groundwater Monitoring and Protection Plan in compliance with the County's Unified Development Ordinance, the adopted Ground Water Monitoring Ordinance, and other applicable County ordinances; and

    d. A surety as provided by the County's Unified Development Ordinance based upon the Engineer's Opinion of Probable Reclamation Cost prepared by Patrick Engineering, dated June 26, 2024; and

    e. A copy of all applicable County, State and Federal permits or statements of exemption therefrom; and

    f. An approved McHenry County Stormwater Management permit; and

    g. A Dust Control Plan; and

    h. A Spill Prevention Containment and Control Plan.

15. At all times the Owner and/or Operator shall take adequate measures to insure that contaminated surface water run-off shall not enter ponds or other areas of open standing water. A spill Prevention Containment and Control Plan shall be submitted to the Zoning Enforcement Officer prior to the issuance of an *Annual Operations Permit.*

16. The Owner and/or Operator shall take adequate measures within the site to insure that trucks, exiting the site on roadways, do not discharge earth materials or debris on the roadway.

17. The Zoning Enforcement Officer, or a duly authorized representative, shall have the free right of access to the subject property for the purpose of inspections, making water level measurements, obtaining water or material samples and for gathering other information necessary for the proper discharge of his/her responsibilities.

18. The owner and/or operator shall be assessed an annual fee to pay for compliance monitoring based on costs.

19. Prior to the termination of this Conditional Use, the Owner shall cause to be filed with the McHenry County Recorder of Deeds an easement approved by the Zoning Enforcement Officer, after review by the McHenry County's State's Attorney's Office, which shall provide access to the real estate for the purpose of monitoring and sampling of the then existing wells.

20. The Owner and/or Operator shall provide groundwater level and quality reports using data from monitoring wells and staff gauges. These reports shall meet the requirements of the §16.56.030.P.8 of the McHenry County Unified Development Ordinance.

21. To the extent lawfully permitted by the Illinois Department of Revenue, the point of sale of excavated materials from the site shall be deemed to originate in Unincorporated McHenry County.

22. Alf operations, reclamation and on-going uses shall comply with the terms and conditions of the McHenry County Unified Development Ordinance, the McHenry County Stormwater Management Ordinance, and the McHenry County Stormwater Management Permit. The requirements of these items shall supersede the Operations Plan and Reclamation Plan approved by this ordinance.

23. Decisions of the Zoning Enforcement Officer subsequent to the adoption of this Ordinance are subject to the normal appeals procedure set forth in the Zoning ordinance and/or State Statute.

24. The Owner and/or Operator shall provide proof of petition to Mine Safety and Health Administration (MSHA) for the use of alternative safety warning mechanisms, other than back-up beepers. If approved, the alternative method must be used when vehicles are on the subject property, as it applies to the MSHA approval.

25. Before the site is reclaimed, a vegetative buffer strip shall be installed along the slope around the mined area in order to reduce the potential of surface water pollutants from entering the mined area by providing an area for filtration and infiltration of water. Said buffer shall be vegetated using the Native Plant Guide for Streams and Stormwater Facilities in Northeastern Illinois (NRCS, et al, as amended) as a minimum standard.

26. The Owner and/or Operator shall not mine into the clay barrier above the Glasford Aquifer.

27. All other federal, state, and local laws shall be met.

28. The Owner and/or Operator shall erect a sign at the exit of the property reminding truck operators to adhere to designated truck routes. Said sign shall be erected within three (3) months of issuance of an Operations Permit and shall remain clearly visible during the duration of this Conditional Use Permit.

Approval Standards for Conditional Use Permits

(Section 16.20.040 E of the Unified Development Ordinance)

E. *Approval Standards for Conditional Use Permits.* No conditional use permit may be granted unless the Zoning Board of Appeals and County Board makes specific written findings that the request meets each of the standards imposed by this section. These standards are as follows:

1. That the petitioner has demonstrated the ability to meet any applicable standards contained in Chapters 16.56 (Use Standards) and 16.60 (Site Development Standards).

2. That the site shall be so situated that the proposed use is compatible with the existing or planned future development of the area.

3. That the establishment, maintenance, or operation of the conditional use shall not be detrimental to or endanger the public health, safety, morals, comfort or general welfare of the neighboring vicinity.

4. That the conditional use shall not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted.

5. That the conditional use shall not substantially diminish and impair property value within the neighborhood.

6. That adequate utilities, access roads, drainage, and other necessary facilities have been or are being provided.

7. That adequate measures have been or will be taken to provide ingress and egress so designed as to minimize traffic congestion and hazard on public streets.

8. That the conditional use shall, in all other respects, conform to the applicable regulations of the zoning district in which it is located.

9. That the conditional use is reasonably in the interest of the public welfare.

10. That adequate measures will be taken to provide protection to groundwater recharge and groundwater quality.

Approval Standards for Earth Extraction and Mining

(Section 16.56.030 P of the Unified Development Ordinance)

P. *Earth Extraction and Mining.*

1. *Earth Extraction Activities Exempt from Conditional Use Permit.* An owner is exempt from the requirements of conditional use permit approval pursuant to this section provided each of the following conditions are satisfied:

    a. Earth extraction operations are conducted upon a recorded lot of record no more than two (2) acres in size.
    b. Less than ten (10) feet of overburden is removed for the single purpose of improving the agricultural use of that parcel or another parcel in his/her ownership or of his/her spouse or children. Earth extraction and/or mining operation(s) do not constitute an agricultural use.
    c. The owner files an affidavit with the Zoning Enforcement Officer that the above conditions have been met. Such earth extraction or mining operation(s) may be conducted without a hearing before the Zoning Board of Appeals and without approval of the County Board. The Zoning Enforcement Officer will provide the necessary form of application and affidavit and issue a certificate of exemption if warranted to the owner. However, this certificate does not eliminate the need for any other required permits.

2. *Compliance with State and Federal Regulations.*

    a. It is unlawful for any owner/operator to engage in earth extraction or mining in an area where the overburden exceeds ten (10) feet in depth or where the operation will affect more than ten (10) acres during the permit year without first obtaining a permit from the Illinois Department of Mines and Minerals to do so, pursuant to the Surface-Mined Land Conservation and Reclamation Act (225 ILCS 715/1 *et seq*.), as amended.
    b. All owner/operators shall comply with the regulations of the United States Environmental Protection Agency and all State of Illinois and federal regulatory agencies for occupational health and safety, and shall obtain any necessary permits prior to conditional use permit approval. Before the onset of any operations, the Zoning Enforcement Officer shall be provided with copies of all necessary permits.

3. *Earth Extraction Report and Plan.* The applicant must submit the following information no less than thirty (30) calendar days prior to the opening of the public hearing for the conditional use permit:

    a. Ownership of land.
    b. Minerals to be extracted or mined.
    c. Character and composition of vegetation and wildlife on land to be affected.
    d. Current assessed valuation of lands to be affected.
    e. Assessed valuation shown by two (2) quadrennial assessments next preceding the currently effective assessment.
    f. The nature, depth, and proposed disposition of the overburden.
    g. The estimated depth to which the mineral or aggregate resource will be extracted or mined.
    h. The technique to be used in the extracting and/or mining operation.
    i. Estimated type and volume of excavation.
    j. The equipment proposed to be used.
    k. Practices and methods proposed to be used to minimize noise, dust, air contaminants, and vibration and to prevent pollution of surface or ground water.
    l. If applicable, the recycling of water used for washing and grading.
    m. If applicable, the proposed usage or drainage of excess water.
    n. The simultaneous reclamation plan including methods of accomplishment, phasing, and timing.
    o. Current and past uses of the land.
    p. Location of existing roads, and anticipated access and haulage roads planned to be used or constructed in conducting earth extraction and/or mining operation(s).
    q. Location and names of all streams, creeks, wetlands and bodies of water within lands to be affected.
    r. Drainage on and away from affected land, including directional flow of water, natural and artificial drainage ways and waterways, and streams or tributaries receiving the discharge.
    s. A topographic survey with two-foot (2') contours, at the same scale as the aerial photo showing the existing conditions on the subject site.
    t. A traffic study showing the impacts of increased truck traffic from the location of the earth extraction or mining site to the nearest County or State highway that will be used for transport.
    u. A current Illinois Department of Natural Resources Endangered Species Consultation (EcoCAT) Report.

4. *Expiration and Renewal of Conditional Use Permit.*

   a. All earth extraction or mining conditional use permits expire ten (10) years from the date of approval, unless a lesser time is approved. At the Zoning Board of Appeals public hearing, a time limit will be established in which the operator will complete earth extraction and/or mining operation(s) on the parcel. If operation(s) are not completed during the imposed time, the operator is required to request a renewal of the conditional use permit or cease operation.
   b. The renewal of a conditional use permit under this section is valid for a maximum of ten (10) years.
   c. A request to renew a conditional use permit that involves additional acreage or equipment above that allowed in the original conditional use permit is treated as a new conditional use permit.
   d. The following describes the process to renew a conditional use permit:

      (1) If an owner is not able to finish earth extraction and/or mining operation(s) on the acreage described in the conditional use permit in the time specified, the owner shall apply to the Zoning Board of Appeals for a renewal of the permit.
      (2) The Zoning Board of Appeals will hold a public hearing. All maps required by this ordinance for the initial hearing shall be revised, updated, and resubmitted along with a statement of the current status of the reclamation. A new map describing conditions present on the site shall be furnished as described in "Existing Conditions" section of the Standards.
      (3) The applicant shall furnish the Department of Planning and Development with a copy of the required maps, plans, and other related exhibits for review of the revised or extended reclamation plan no less than thirty (30) days before the Zoning Board of Appeals hearing.
      (4) The Department of Planning and Development will prepare a report on the revised or extended reclamation plan and enter it into evidence at the Zoning Board of Appeals hearing.
      (5) Any application for a renewal of a conditional use permit shall be filed with the Zoning Board of Appeals a minimum of one hundred twenty (120) days before the expiration date of the original conditional use permit or any renewal. Failure to file a request for renewal within the required time results in a required cessation of operations and, if applicable, the sale of product upon the expiration of the conditional use permit.

5. *Required Bonds.*

   a. An owner is required to obtain the proper permits and submit a bond or other acceptable form of surety. If a bond is required by the State of Illinois, the owner is only required to provide the Department of Planning and Development with a photocopy. A bond of no less than two thousand five hundred dollars ($2,500.00) for each acre affected is required. The actual dollar amount will be established during the hearing process with the Zoning Board of Appeals, based upon one hundred fifty percent (150%) of the engineer's estimate of the cost of reclamation per acre average at the time earth extraction and/or mining operation(s) are to be performed. This estimate shall take into consideration inflation of costs in future years. The actual operation will be monitored by the Zoning Enforcement Officer, who will prepare a written report on the progress before partial or full release of the surety.
   b. The surety will be held by the Department of Planning and Development. The bond will remain in effect until the affected lands have been reclaimed in accordance with the reclamation plan and the work is approved by the Department of Planning and Development and the Zoning Enforcement Officer at the annual review of the operation.
   c. Earth extraction and/or mining operation(s) are not allowed unless a bond has been posted with the Department of Planning and Development. The form and type of surety shall be approved by the Office of the State's Attorney of McHenry County. The surety will be for assurance of completion of reclamation and the initial surety amount set on an anticipated three (3) years working basis with reasonable allowance for inflation of costs. Before the end of each one-year (1-year) period, the Zoning Enforcement Officer's evaluation and the approval of the past years work will be required for release of or reduction of the bond amount and at that time, re-bonding established for the next one-year (1-year) period or fraction thereof.

6. *Reclamation Plan.*

   a. *Reclamation Regulations.* The applicant must submit a reclamation plan map and statement of sequential operation and reclamation as a condition of approval. The reclamation plan shall be submitted no less than thirty (30) calendar days prior to the opening of the public hearing. The Department of Planning and Development shall prepare a report on the reclamation plan and enter it into evidence at the public hearing. The reclamation plan map shall produce a finished condition that provides for the return of the affected land to a useful purpose.
   b. *Changes to the Reclamation Plan.* In the event that a change in the reclamation plan is necessary due to the unanticipated characteristics of the area concerned, the Department of Planning and Development shall be provided with appropriate documentation, and will study the proposed change and give the report to the Zoning Enforcement Officer and the Planning and Development Committee for their review. Changes may be made in the reclamation plan upon the request of the owner and require approval from the Zoning Enforcement Officer and the Planning and Development Committee. The change(s) shall preserve, as substantially as possible, the original reclamation plan, but may provide for previously unknown variables.
   c. *Finished Conditions.* The finished conditions of all land affected by earth extraction and/or mining operation(s) shall:

(1) Be graded to a rolling topography traversable by machines necessary for maintenance in accordance with planned use, with slopes of no more than a fifteen percent (15%) grade. In the case of those lands to be reclaimed in accordance with the filed plan for forest plantations, recreation or wildlife, the final cut spoil, the outside slope of the box cut spoil, the outside slopes of all overburden deposition areas, and the side slopes of haulage road inclines are limited to a maximum thirty percent (30%) grade, but such slopes need not be reduced to less than the original grade of the overburden of the area prior to earth extraction and/or mining operation(s).

(2) Be designed to control conditions that could cause erosion on site or on surrounding properties.

(3) Be designed so that any surface drainage from the property leaves the property at the original, natural drainage points. If this is not possible, the drainage plans shall be reviewed by the Department of Planning and Development as part of the overall submission. Drainage volume shall not be increased over what it would have been if the site remained in its former use. The finished condition shall meet McHenry County Stormwater Management Ordinance standards.

(4) Be covered with arable topsoil to a minimum depth of six (6) inches and have a minimum of ten percent (10%) organic material. However, no greater depth of topsoil or percentage of organic material is required than that originally existing on the property prior to commencement of operations.

(5) After replacement of the topsoil, be successfully planted with native vegetation (trees, shrubs, legumes, grasses, or groundcover) or agricultural crops in accordance with the reclamation plan in order to avoid erosion in the numbers and sizes of plantings described in the plan.

(6) Whenever earth extraction and/or mining on any property is complete, all processing plants, structures other than those shown to remain on the reclamation plan, fences, and equipment shall be entirely removed from the property within one (1) year from the expiration date of the conditional use permit.

(7) If applicable, prior to the termination of the conditional use permit, the owner shall file with the McHenry County Recorder, a permanent easement, approved by the Zoning Enforcement Officer after review by the McHenry County's State's Attorney's Office, that provides access to the real estate for the purpose of monitoring and sampling of the then existing wells.

e. *Reclamation Plan Requirements.*

(1) *General.* A reclamation plan shall consist of a combination of graphic representation and written or printed text, the proportions of which may vary, but together they shall be sufficient to result in comprehensive and understandable documents showing the intent, methods, and processes of reclamation of the land as well as the extent of the site, the initial conditions, intermediate stages, and ultimate arrangement of land forms. The reclamation plan shall describe these conditions and procedures completely and clearly so that the plans may become regulatory documents to be used or referred to in the implementation of its intent.

(2) *Plan Element. T*he following four (4) elements are required for the reclamation plan, and for each element certain standards are cited. Due to natural differences at each earth extraction site, each element may vary in the preparation of plans for different sites, however, each element must be addressed as appropriate for each site.

(a) *Common Mapping Standards.* Each plan element shall depict the following information:

i. *Site Mapping:* One inch to one hundred feet (1"=100') preferable, or one inch to two hundred feet (1"=200') alternative acceptable.

ii. *Contour Interval:* Two (2) feet for slopes thirty percent (30%) or less; ten (10) feet for greater slopes when map scale is one inch to one hundred feet (1"=100) feet. All contours shall be in terms of elevations above mean sea level (USGS MSL or MGVD).

iii. *Contour Interval:* Two (2) feet for slopes twenty percent (20%) or less; ten (10) feet for greater slopes when map scale is one inch to two hundred feet (1"=200') feet. All contours shall be in terms of elevations above mean sea level (USGS MSL or MGVD).

iv. *Roads or Streets:* Name, right-of-way width, and road within right-of-way, and centerline elevations at fifty-foot (50') intervals for three hundred (300) feet beyond the site.

v. *Easements:* Widths and identification of utility or other purpose.

(b) *Element 1: Existing Conditions.* The purpose of Element 1 is to provide sufficient information to describe the existing conditions at the site including topographic, hydrologic, and other data relating to the property to be mined and the area immediately adjacent to the perimeter of that property, and to establish a beginning point for measurement of mining and reclamation progress. Element 1 shall include the following information:

i. Common mapping standards as listed above.

ii. *Natural Land Features:* Locations of watercourses and drainageways, floods of record, sinks, basins, wooded areas, and wetlands as identified on National Wetlands Inventory quadrangle maps.

iii. *Man-Made Features:* All buildings and other structures, dams, dikes, and impoundments of water.
iv. *Adjacent Land Features:* All of the standards above shall apply to delineation of the area within three hundred (300) feet of the perimeter of the mined area. In addition, all platted subdivision lots and metes and bounds parcels must be shown.
v. *Groundwater:* Locations of at least five (5) borings which show depths to groundwater, date of observed water levels twenty-four (24) hours after drilling and surface elevations of borings shall be noted.
vi. *Cross-Sections (as required) to Illustrate Conditions:* Vertical scale equal to, or in exaggeration of, horizontal scale.

(c) *Element 2: Mining Operations, Procedures, and Phases.* The purpose of Element 2 is to provide sufficient information in the form of a map, diagrams, or other graphics accompanied by descriptive text to show the extent of the area to be mined, define the limits of the area where processing will take place, where process water will be ponded, and how processed material will be transported, and to illustrate the sequences of the reclamation process and describe the time relationship of the phases. The document produced should be sufficiently specific to aid in administration of monitoring the progress of mining and reclamation. Element 2 shall include the following information:

i. Common mapping standards as listed above.
ii. Processing areas shall be identified and boundaries shown to scale.
iii. Access road to processing and mining areas shown to scale.
iv. Sequences of operation showing approximate areas involved shall be shown to scale and serially numbered with a description of relation of mining to reclamation follow-up activity and timing.
v. Locations of screening berms shall be shown to scale and notes shall be provided indicating when they will be used as reclamation material. In the same manner, overburden storage areas shall be identified and noted.
vi. Fences and gates shall be shown on the site map and their type or construction shall be described. Any fencing related specifically to certain phases of mining or reclamation shall be identified and noted.
vii. Proposed locations of principal service or processing buildings or enclosures shall be shown as well as locations of settling basins and process water ponds.
viii. Site drainage features shall al so be shown and flow directions indicated.
ix. A Spill Prevention Containment and Control Plan for asphalt batching, concrete mixing, petroleum products, or other hazardous chemical storage.

(d) *Element 3: Reclamation Plan (Final Land Form).* The purpose of Element 3 is to give a reasonably accurate description of the final form of the reclaimed land after all mining has been completed and processing equipment, settling basins, process water sources etc., have been removed or eliminated. The solution of the problem of end-match of new contours to old contours of peripheral land should be evident as should all problems of compatibility of physical characteristics of new land forms to surrounding land, land use, and drainage. Element 3 shall include the following information:

i. Common mapping standards as listed above.
ii. Locations of any proposed roads within the reclaimed area and their connection to present public roads beyond.
iii. Locations of any lakes, ponds, or streams proposed within the reclaimed area and their connections to streams or drainageways beyond.
iv. Locations of any proposed man-made structures within the reclaimed area (dams, buildings, etc.).
v. Locations of all buildings within three hundred (300) feet of the perimeter of the mining site.
vi. Area where vegetation is to be established and indicate types of vegetative cover.
vii. Describe the degree of flexibility considered to be needed in execution of the plan.

(e) *Element 4: Use of Reclaimed Land.* The purpose of Element 4 is to show that the final land form portrayed in the drawings for Element 3 has a viable land use compatible with land use trends of the surrounding area. The base map for this element should be the final land form map upon which shall be shown, by overlays or separate drawings and notes, one or more developed schemes for end land use or uses, each demonstrating that developed areas are accessible by roads and that physical attributes of the final land form are compatible with the proposed use or uses. It is understood that this is a hypothetical exercise and will be evaluated as such. It should not be considered a commitment to the use portrayed by either the applicant or the County as such end use or uses may require additional zoning and review for approval. Element 4 shall include the all the information required in Element 3: Reclamation Plan (Final Land Form).

7. *Operation Requirements.*

a. Existing trees, shrubs, and other types of woody vegetation along road frontages shall be protected and maintained. Weeds and other unsightly noxious vegetation shall be cut or trimmed as necessary to present a neat appearance and prevent the hazard of grass fires.
b. No earth extraction and/or mining operation(s) is permitted to operate in such a manner that the groundwater table of surrounding properties is adversely impacted. In the case of mining operations, water pumped from the site for the purpose of washing shall be retained in a pond until the silt and clay settles and then the water recycled in the area affected. Groundwater quality shall be monitored and maintained on a regular basis in accordance with monitoring practices. Groundwater monitoring parameters are established in subsection P.8. below (Groundwater Monitoring). Monitoring reports are to be conducted on January 30, April 30, July 30 and October 30 of each year that the operation continues and submitted to the Zoning Enforcement Officer.
c. If the subject areas front on a township road used for site access, the owner, at commencement of operations, shall bring that township road up to the paving standards required by this Ordinance from the entrance of the subject area to the nearest federal, state, or County road used by the operator. The owner shall repair any section of road damaged as a result of hauling operations, but is not responsible for the normal wear and tear of the road. This provision does not require the operator to purchase additional right-of-way.
d. All operations shall be conducted in a safe manner, especially with respect to hazards to persons, damage to adjacent lands or improvements and wells, and damage to any street by slides, sinking, or collapse of supporting soil adjacent to an excavation.
e. The following apply to earth extraction and/or mining conditions only:

    (1) Earth extraction and/or mining operation(s) that remove and do not replace the lateral support shall be located a minimum of thirty (30) feet from property lines, established right-of-way lines of any public roads, streets, or highways unless a lesser distance is mutually agreed to by the owner and adjacent property owner and submitted in writing.
    (2) The bottom of the slope of the excavated face shall be no closer to the point determined in subsection P.7.e.(1) above, than a distance equal to one and one-half (1½) times the depth of the excavation.
    (3) If consolidated materials occur in the excavated face, the slope of the face may be steeper than one and one-half (1½) to one (1) slope per subsection P.7.e.(2) above for the depth(s) of those materials, however all other excavated slopes of unconsolidated materials are limited to one and one-half (1½) to one (1) slope.
    (4) In the case that the right-of-way has not been recently surveyed by a registered land surveyor and clearly marked, the right-of-way line is assumed to be, for the purpose of this section, a minimum of forty (40) feet from the centerline of the existing road.

f. All active operations shall be separated by an earthen berm no less than six (6) feet in height and/or a farm fence of no less than fifty-four (54) inches in height, and designed to allow the free flow of wild animals, but discourage trespassing by humans and farm animals. Berms that remain in place for one (1) year or longer shall be planted with grass, shrubs, and trees, and maintained as a visual and acoustical screen. They shall be designed so that they do not erode into the road or highway right-of-way or onto a contiguous property. All berms located along roadways must comply with all applicable state regulations.
g. The processing and stockpiling of aggregate resources is prohibited within three hundred (300) feet of the property line of any contiguous property in a residential zoning district.
h. The hours of operation for all activities, other than maintenance functions, are restricted to 5 a.m. to 9 p.m. from April 1 until October 31. The remainder of the year, the hours of operation are restricted to 6 a.m. to 6 p.m. In emergency situations, operations are permitted at times otherwise prohibited. An emergency situation, for the purpose of this section, is any operation necessary to provide repairs to roadways or provide other materials and assistance that, if delayed until normally permitted hours, would cause injury or loss of life or property. Any emergency operation or activity under this section shall be immediately reported to the McHenry County Sheriff's Department and reported to the Zoning Enforcement Officer the next business day.
i. Operations shall be conducted so that noise levels and air and water standards comply with federal and State of Illinois requirements.
j. Access ways and on-site roads shall be maintained in a dust-free condition.
k. The premises shall be neat and orderly, free from junk, trash, or unnecessary debris. Buildings shall be maintained in a sound condition and in good repair and appearance. Salvageable equipment stored in a non-operating condition shall be suitably screened or garaged.
l. Enough topsoil shall be stockpiled to meet the required finished conditions.
m. No operations may occur on the property without an Annual Operations Permit issued by the Zoning Enforcement Officer. The operations permit may be for less than the total area proposed. The construction of access or haul roads, building and landscape of required berms, and other site improvements required for site preparation do not require an Annual Operations Permit.
n. At all times, the owner shall take adequate measures to insure that contaminated surface water run-off does not enter ponds, streams, wetlands, or other areas of open standing water.

o. The owner shall take adequate measures within the site to insure that trucks, exiting the site on roadways, do not discharge earth materials or debris on the roadway.
p. The Zoning Enforcement Officer, or a duly authorized representative, has the free right of access to the subject property for the purpose of inspections, making water level measurements, obtaining water or material samples, and for gathering other information necessary for the proper discharge of responsibilities.
q. The owner is assessed an annual fee to pay for compliance monitoring based on costs.

8. *Groundwater Monitoring.*

a. *General Requirements.*

(1) The cost of setting up a groundwater monitoring network, monitoring and any remedial action to remedy contamination caused by the earth material extraction site is the responsibility of the owner.
(2) The owner shall notify the Zoning Enforcement Officer at least twenty-four (24) hours prior to sampling of the time and day that groundwater samples will be taken.
(3) The Zoning Enforcement Officer, in conjunction with the Department of Health, reserves the right to enter the earth materials extraction site at all reasonable hours to collect samples or to co-sample any monitoring well.
(4) Upon renewal of a conditional use permit for an existing earth extraction operation or upon approval of a conditional use permit for a new earth extraction operation a baseline PNA (Polynuclear Aromatics) shall be conducted.

b. M*onitoring Well Requirements*.

(1) For operations that currently exist pursuant to a previously issued conditional use permit by the County Board, the current groundwater wells will be used to meet the groundwater monitoring requirements.
(2) Those earth extraction operations that are not required to conduct groundwater monitoring as of the date of adoption of this Ordinance shall establish site specific geology, aquifers and groundwater flows by a qualified professional hydrogeologist. Monitoring well locations shall be representative of the aquifer(s) impacted by the earth material extraction operation. There shall be a minimum of one (1) up-gradient and two (2) down-gradient wells established. The location, number of wells, and depth(s) shall be contingent on the hydrogeological evaluation. Construction techniques and materials used shall be those consistent with acceptable standards for groundwater monitoring wells. Plans for placement, materials and construction details shall be submitted in writing by the hydrogeologist to the Zoning Enforcement Officer prior to construction. Monitoring wells shall not be modified, deepened, or relocated without the prior approval of the Zoning Enforcement Officer.
(3) Monitoring wells shall not be obstructed and shall remain accessible at all times for sampling.
(4) Monitoring wells shall be maintained in good condition as designed and constructed and shall be protected from vehicular traffic.
(5) Monitoring wells that have an insufficient quantity of water to conduct sampling for two (2) consecutive sampling events shall be deepened or relocated as approved by the Zoning Enforcement Officer to yield groundwater samples.

c. *Sampling Frequency and Parameters.*

(1) Quarterly sampling shall be for those parameters listed in the general groundwater quality and contamination indicators in Table 16.56-1: General Groundwater Quality Indicators. Results shall be provided in an electronic format to the Zoning Enforcement Officer within forty-five (45) days of the sampling.
(2) When sample results confirm an exceedance of chloride, nitrate or ammonium nitrogen, or a detection of benzene, toluene, ethylbenzene or xylene, the monitoring well shall be re-sampled for that parameter within thirty (30) calendar days with a copy of the results provided in an electronic format to the Zoning Enforcement Officer within fourteen (14) calendar days of the sampling.
(3) Sampling of chloride, nitrate, pH, ammonium nitrogen, and specific conductance, may be reduced to annual subsequent to establishment of the background groundwater quality if there have been no exceedances of chloride, nitrate, or ammonium nitrogen for the most recent full year of sampling.
(4) Sampling of benzene, toluene, ethylbenzene and xylene may be reduced to annual subsequent to establishment of the background groundwater quality if there have been no detections of benzene, toluene, ethylbenzene, and xylene for the most recent full year of sampling.
(5) In the event of an exceedance of chloride, nitrate, or ammonium nitrogen, the sampling frequency for that parameter shall return to quarterly.
(6) In the event of a detection of benzene, toluene, ethylbenzene, or xylene, the sampling frequency for that parameter shall return to quarterly.
(7) Where asphalt batching, concrete mixing, or where petroleum products or other hazardous chemical storage takes place, the Zoning Enforcement Officer reserves the right to request additional parameters to be tested.

(8) Additional water sampling parameters or frequency may be required if water contamination is indicated. This will be determined by the Zoning Enforcement Officer in conjunction with the Department of Health and the owner. The Zoning Enforcement Officer will notify the owner of the modified sampling parameters required.

(9) Water samples are to be taken and tested by Illinois Environmental Protection Agency approved methods and procedures and protocol. The test wells shall be purged two (2) times the volume of the well before the sample is drawn.

(10) In the event that an exceedance of chloride, nitrate, or ammonium nitrogen is due to natural background, resulted from an error in sampling, analysis, or evaluation, or does not exceed the MCLs (maximum contaminant levels) set forth in Table 16.56-1 and does not cause adverse health effects, the Zoning Enforcement Officer may, after consultation with the Department of Health, allow the sampling frequency to be reduced to annual.

(11) In the event that an exceedance of chloride, nitrate, or ammonium nitrogen is due to natural background or does not exceed the MCLs set forth in Table 16.56-1 and does not cause adverse health effects, the Zoning Enforcement Officer may, after consultation with the Department of Health, waive the requirement to resample the monitoring well within thirty (30) calendar days.

d. *Corrective (Remedial) Action.*

(1) Corrective action shall take place if a constituent is detected at or above the groundwater quality standard level contained in Table 16.56-1 or the background water quality is exceeded by three (3) standard deviations. Corrective action shall include an inspection of the site by a qualified professional hydrogeologist to evaluate and identify any potential up-gradient, on-site, and down-gradient sources of contamination.

(2) Background water quality shall be established by sampling one or more monitoring points at depths and locations sufficient to yield groundwater samples that are representative of background water quality. Background groundwater quality for indicator parameters shall be determined by averaging a minimum of eight (8) sample results (over the normal two-year (2-year) sample period) for each well. The Zoning Enforcement Officer, in conjunction with the Department of Health, may exclude any sample result that is non-representative of background water quality.

(3) Standard deviation for a group of samples is equal to the square root of: the value of the sum of the squares of the difference between each sample in the sample group and the mean for that sample group divided by the number of samples in the sample group.

(4) Investigative and corrective action shall begin to take place immediately upon receipt of reports which indicate contamination unless the Zoning Enforcement Officer specifies in writing upon application of the owner or operator wherein the owner or operator has demonstrated clearly to the Zoning Enforcement Officer in conjunction with the Department of Health that one of the following has occurred:

(a) The source of contamination is due to natural background.
(b) The detection resulted from error in sampling, analysis, or evaluation.
(c) The contamination will not exceed the MCLs set forth in Table 16.56-1, the contaminants do not cause adverse health effects, and all actions have been undertaken to ensure the degree and extent of contamination is reduced.
(d) The contamination is a result of contaminants remaining in groundwater from a prior release for which corrective action was undertaken in accordance with instructions from the appropriate agency.
(e) The contamination is from a release up-gradient of the monitoring wells and is clearly not from any activities on the site.

(5) Corrective action shall be to remediate the contamination to below the action levels established herein and to strive to re-establish groundwater quality levels similar to up-gradient groundwater quality. The cost of this remediation shall be borne by the party that caused the contamination to be introduced. If it is determined that the contamination is a result of the owner's operation, the owner shall be responsible for the cost.

TABLE 16.56-1: GENERAL GROUNDWATER QUALITY INDICATORS

General Indicators	***Primary Standards***	***Secondary Standards***

TABLE 16.56-1: GENERAL GROUNDWATER QUALITY INDICATORS

General Indicators	***Primary Standards***	***Secondary Standards***
Chloride	250 mg/l	
Nitrate (As N)	10 mg/l	
Ph		< 6.5—8.5 >
Ammonium Nitrogen		< 1.5
Specific Conductance		850 umhos/cm
Benzene	0.005 mg/l	

Toluene	1.0 mg/l	
Ethylbenzene	0.7 mg/l	
Xylene (Total)	10.0 mg/l	
Polynuclear Aromatics (PNA)Chemical Compound	**Primary Standards**	
Acenaphthene	0.42 mg/L	
Acenephthylene*	0.023 mg/L	
Anthracene	2.1 mg/L	
Benzo (a) anthracene	0.00013 mg/L	
Benzo (b) fluoranthene	0.00018 mg/L	
Benzo (k) fluoranthene	0.00017 mg/L	
Benzo (a) pyrene	0.0002 mg/L	
Benzo (g,h,i) perylene*	0.0076 mg/L	
Chrysene	0.0015 mg/L	
Dibenzo (a,h) anthracene	0.0003 mg/L	
Fluoranthene	0.28 mg/L	
Fluorene	0.28 mg/L	
Indeno (1,2,3-c,d) pyrene	0.00043 mg/L	
Naphthalene	0.025 mg/L	
Phenanthrene*	0.0064 mg/L	
Pyrene	0.21 mg/L	
Groundwater levels shall be measured in feet to one decimal place each time a sample is taken. The Standards will be updated based on USEPA recommendations.		

e. *Cessation of Monitoring.*

(1) Upon completion of extraction and reclamation and acceptance of the completion of these items by the Zoning Enforcement Officer, the owner/operator shall be responsible for ground water testing for one year. Remediation shall be the responsibility of the owner. The County shall continue to hold the letter of credit/bond for reclamation until one (1) year has expired.

(2) After the one-year (1-year) monitoring period has been completed monitoring wells must be sealed per the requirements of the McHenry County Public Health Ordinance under a permit issued by the Department of Health at a cost to be borne by the operator.

9. *Enforcement.*

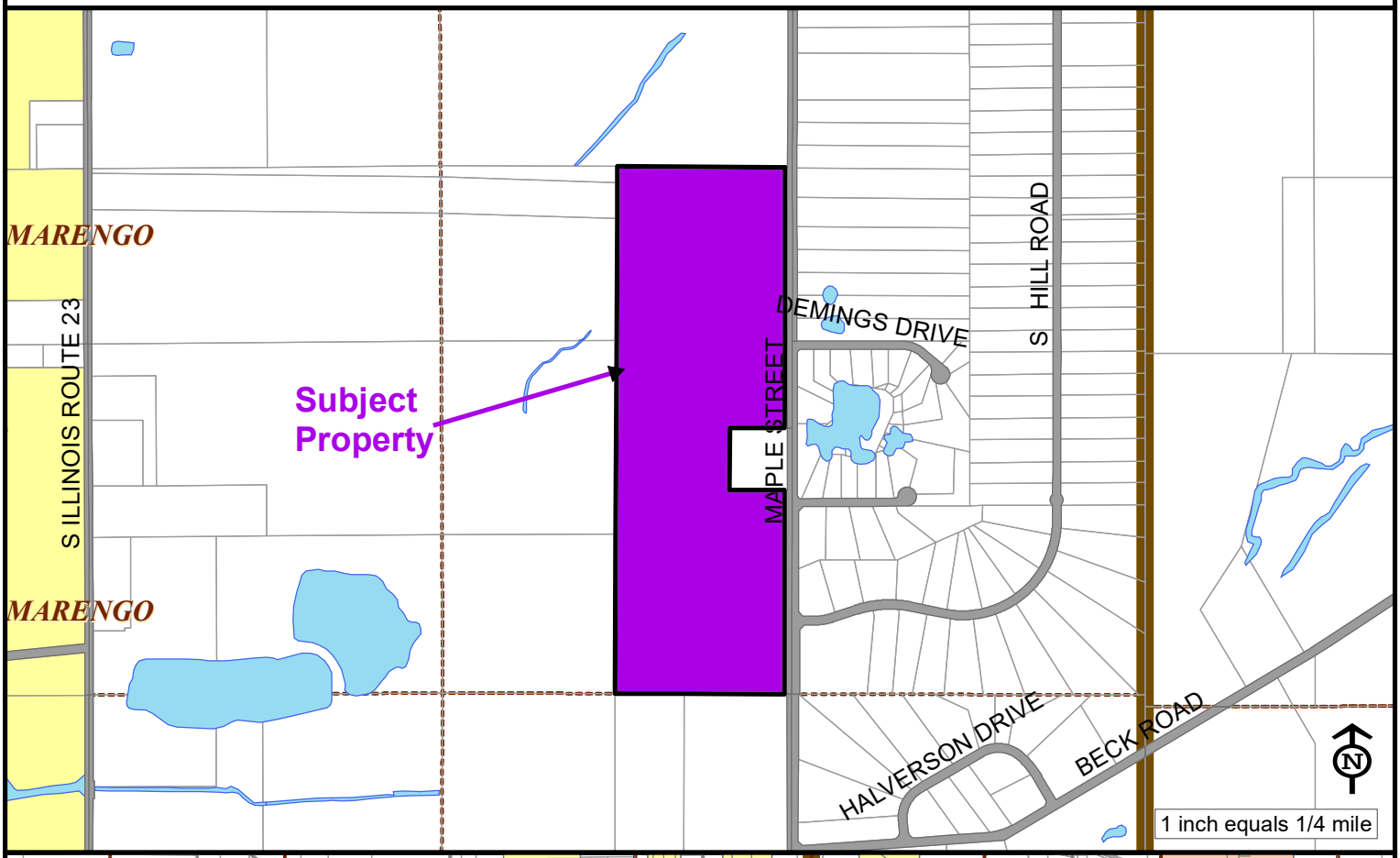
a. The Zoning Enforcement Officer, in conjunction with other appropriate departments, will review annually each earth extraction and/or mining conditional use permit. In addition to the reclamation plan and map, the owner shall provide the Department of Planning and Development with an annual aerial photo of the total operation, enlarged to a scale of one inch to one hundred feet (1"=100') or other scale that would adequately display the property affected on a thirty-inch (30") square format. All aerial photos shall meet Department of Planning and Development standards. The first photo shall be taken during the first year in operation and subsequent photos taken in the same month of the following years. Each year's photo shall be presented at the same scale for the purpose of comparison. Photos or contracts for photos shall be submitted prior to the issuance of the Annual Operating Permit.

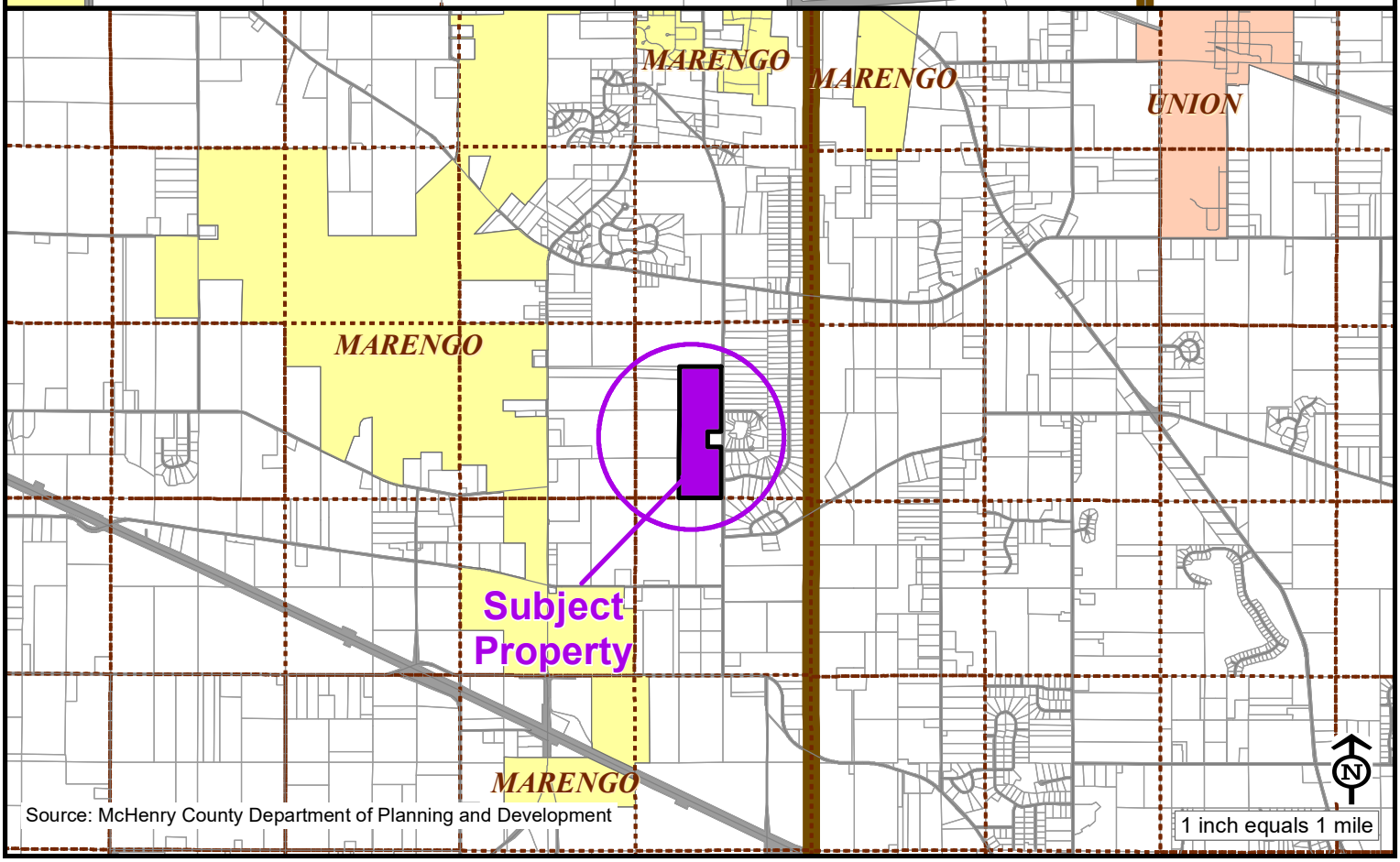
b. If it is determined that the operator is not in substantial compliance with this Ordinance, the bonding requirements, the simultaneous reclamation and operation statement, or the reclamation plan/map, the Zoning Enforcement Officer will issue a stop work order on all operations other than reclamation work needed to bring the operation into compliance.

c. Every five (5) years, at the time of the annual review, bonding, release of bond, and re-bonding will be checked as specified in this section. In addition, the owner shall provide the Zoning Enforcement Officer with a topographic survey with two-foot (2') contours, at the same scale as the aerial photo. The topographic survey shall show the status of existing conditions on the subject site. The Zoning Enforcement Officer, in conjunction with the Department of Planning and Development, will prepare a report and submit it to the Planning and Development Committee for their review.

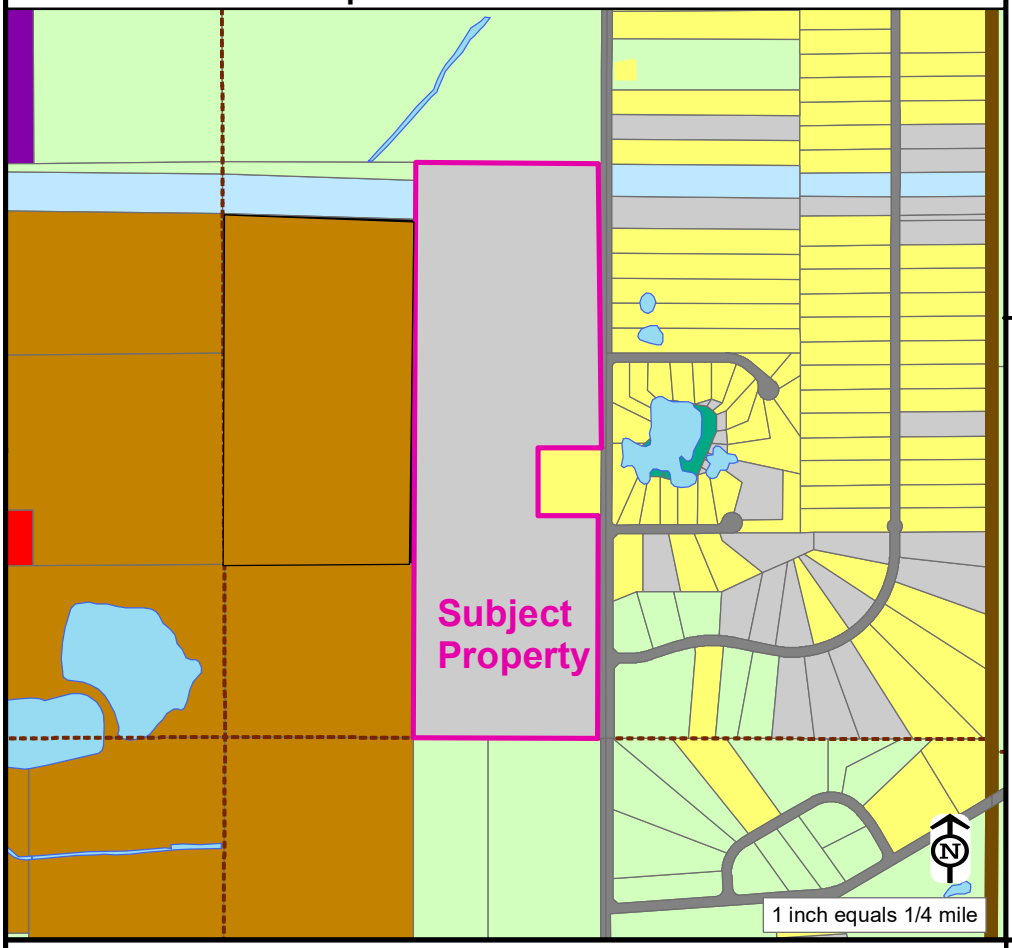
d. Before release of a bond, an on-site inspection of the acreage reclaimed shall be made by the Zoning Enforcement Officer in conjunction with other appropriate departments to check for compliance with the reclamation plan and any additional conditions of the conditional use permit. A random count procedure will be used to check seeding, plantings, and depth of topsoil.

Location Map **Maple Street, Marengo, Illinois** **Riley Township**





Current Land Use Map



Current Land Use

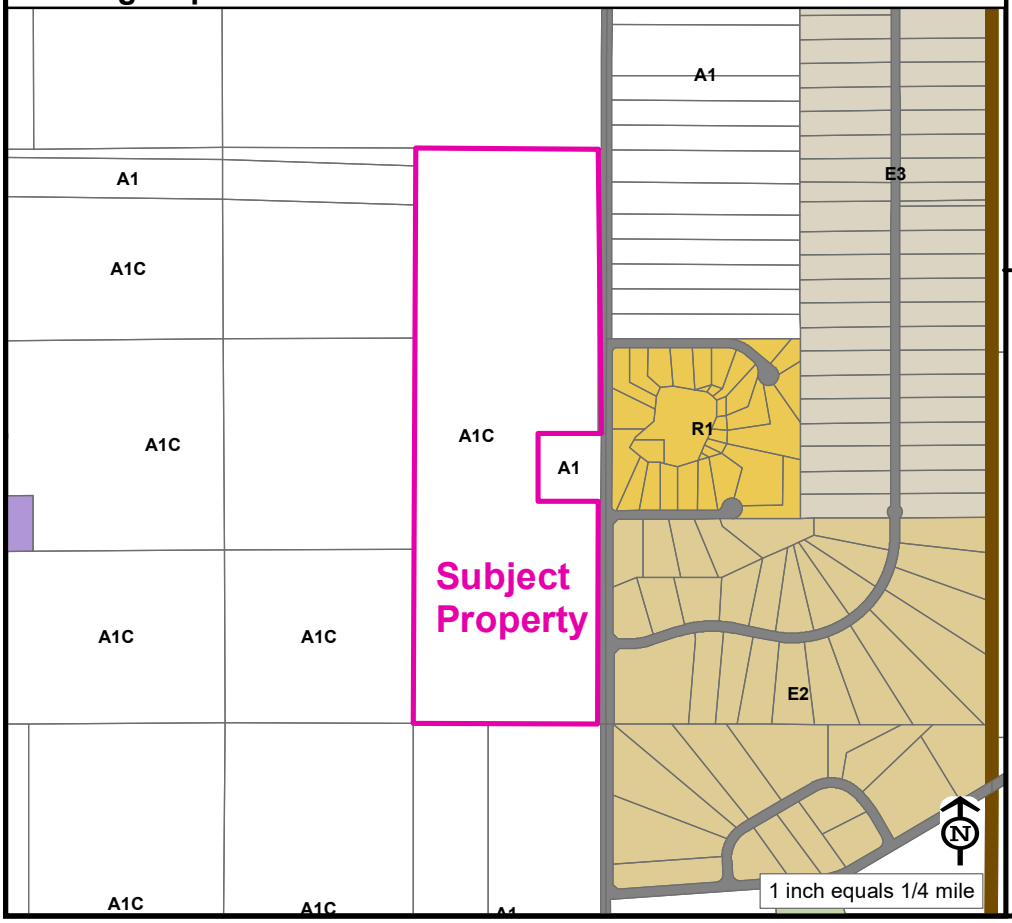
Agriculture

Adjacent Land Use(s)

North: *Agriculture*
South: *Agriculture*
East: *Single-Family Residential, Agriculture, Vacant & Trans., Comm & Utilities*
West: *Earth Extraction*

- Agriculture
- MCCD Agriculture
- Single-Family Residential
- Multi-Family Residential
- Open Space
- Golf Course
- Commercial
- Office
- Industrial
- Mixed Use
- Earth Extraction
- Vacant
- Government / Institutional
- Transportation, Communication, Utilities
- Under Review

Zoning Map



Current Zoning

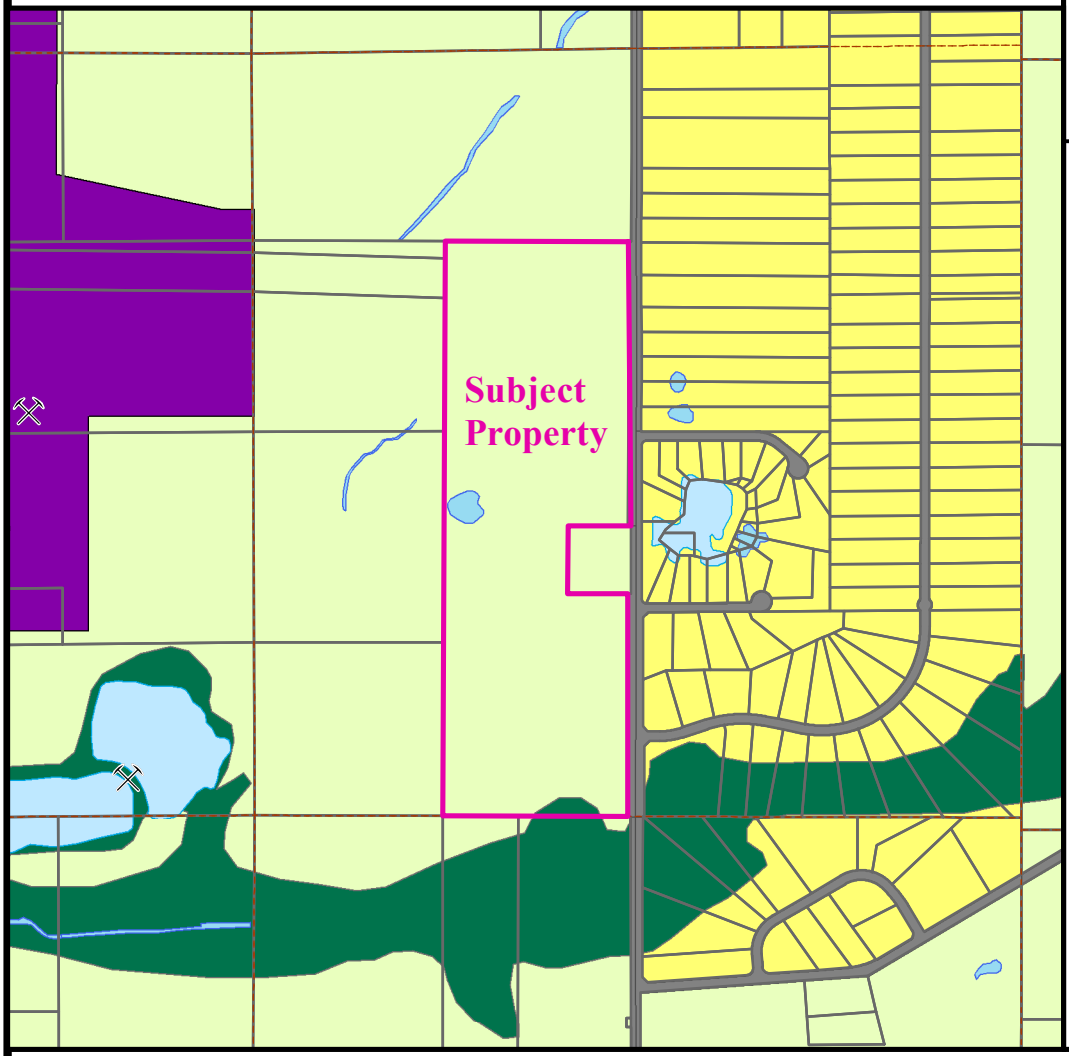
A-1 Agriculture w/ CUP

Adjacent Zoning

North: A-1 Agriculture
South: A-1 Agriculture
East: A-1 Agriculture, R-1 and E-2
West: A-1 Agriculture w/CUP

- A-1 Agriculture
- A-2 Agriculture
- E-5 Estate
- E-3 Estate
- E-2 Estate
- E-1 Estate
- R-1 Single-Family Residential
- R-2 Two-Family Residential
- R-3 Multiple-Family Residential
- B-1 Neighborhood Business
- B-2 Neighborhood Business
- B-3 General Business
- O Office / Research
- I-1 Light Industrial
- I-2 Heavy Industrial
- PD Planned Development
- C Conditional Use
- V Variation
- Incorporated

McHenry County 2030 Comprehensive Plan Future Land Use Map



Future Land Use Map Designation

Agricultural

- Agricultural
- Open Space
- Environmentally Sensitive Area
- Estate
- Isolated Estate
- Residential
- Isolated Residential
- Retail
- Mixed Use
- Office, Research, Industrial
- Gov't, Institutional, Utilities
- TOD Existing Rail Station
- TOD Future Rail Station
- Active Earth Extraction Site
- Municipality

Scale: 1 inch = 1/4 mile

N

Municipal / Township Plan Designations

Riley Township:	Commercial
Marengo:	Low Density Residential, Park

McHenry County 2030 Comprehensive Plan — Text Analysis

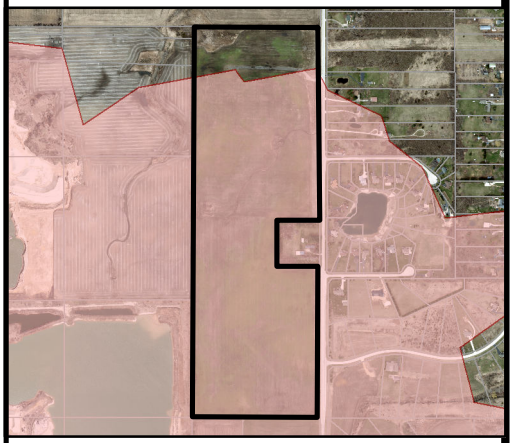
Land Use

AGRICULTURAL – represents existing agricultural acres, including cropland, pastureland, farm yards, and farmsteads, that should remain in agricultural use through the 2030 planning horizon. Development in the Agricultural District should be strictly limited to agriculture, agricultural residences, and agricultural support uses. (p. 134)

Sensitive Aquifer Recharge Areas

A portion of the site IS located in a zone with high aquifer contamination potential.

Sensitive Aquifer Recharge Areas (SARA)



Sensitive Recharge Area