WASTE MANAGEMENT

Figure A.4-1
Facility Location Map,
Autumn Hills RDF

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: 1:3,000,000	Date: April 2018	
2018_WM_MDEQ_Fig_A.4-01.mxd	By: JLM	Checked: AP

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From: Holland Engineering, 2018

WASTE MANAGEMENT

Figure A.4-2
Photo of Staked Injection Well, IW-1

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: NTS	Date: May 2018	
2018_WM_MDEQ_Fig_A.4-02.ai	By: JLM	Checked: AP

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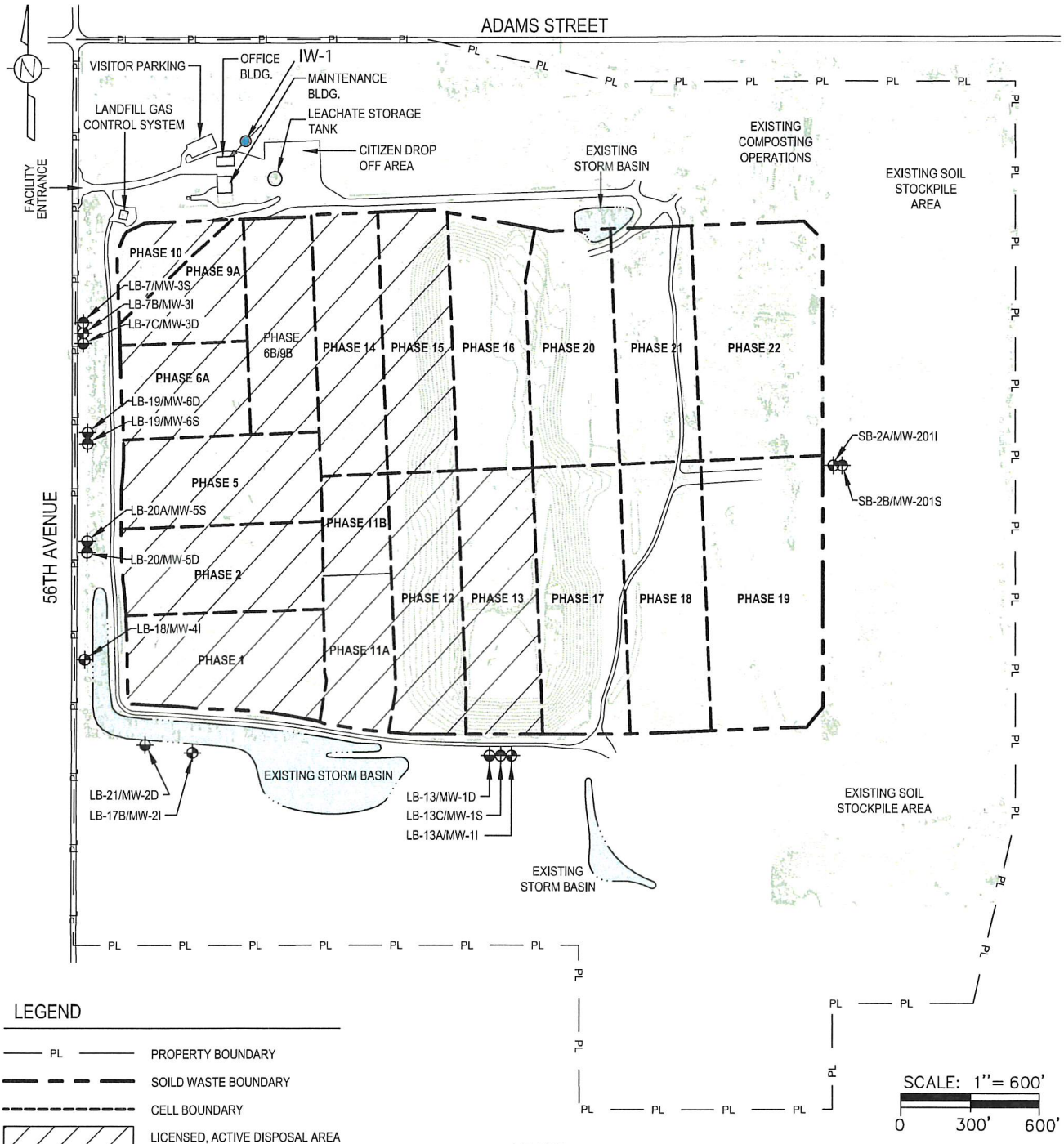

LEGEND

- PL — PROPERTY BOUNDARY
- SOILD WASTE BOUNDARY
- CELL BOUNDARY
- LICENSED, ACTIVE DISPOSAL AREA
- MW-XXXS — SHALLOW MONITORING WELL
- MW-XXXI — INTERMEDIATE MONITORING WELL
- MW-XXXD — DEEP MONITORING WELL

NOTES

1. AERIAL TOPOGRAPHIC SURVEY WAS PREPARED BY HOLLAND ENGINEERING, INC. DATED 03-25-2016.
3. CONTOURS REPRESENT 5 FOOT INTERVALS.
2. SOIL BORING LOCATIONS ARE APPROXIMATE BASED ON HISTORICAL SURVEY DATA.

WASTE MANAGEMENT

Figure A.4-3
Autumn Hills RDF Cell Layout

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: See Bar Scale	Date: April 2018	
2018_WM_MDEQ_Fig_A.4-03.ai	By: JLM	Checked: AP

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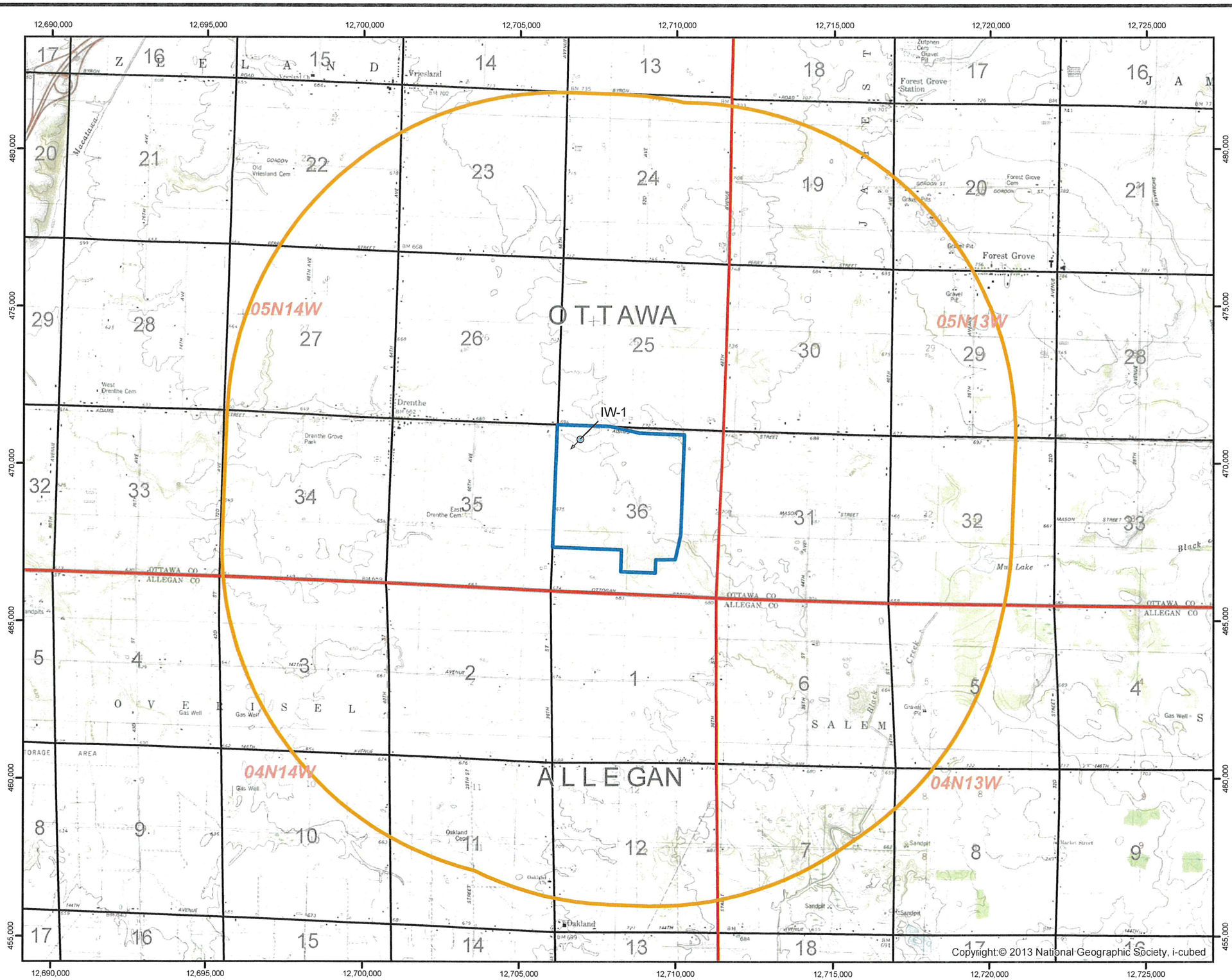
From: Holland Engineering, 2017



Legend

- IW-1 - Proposed Location
- Autumn Hills RDF
- Autumn Hills RDF - 2 Mile AOR

N

0 2,000 4,000 6,000 Feet

WASTE MANAGEMENT

Figure A.4-4
Topographic Map and Pertinent Features, Autumn Hills RDF

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: 1:36,000	Date: April 2018	
2018_WM_MDEQ_Fig_A.4-04.mxd	By: JLM	Checked: AP

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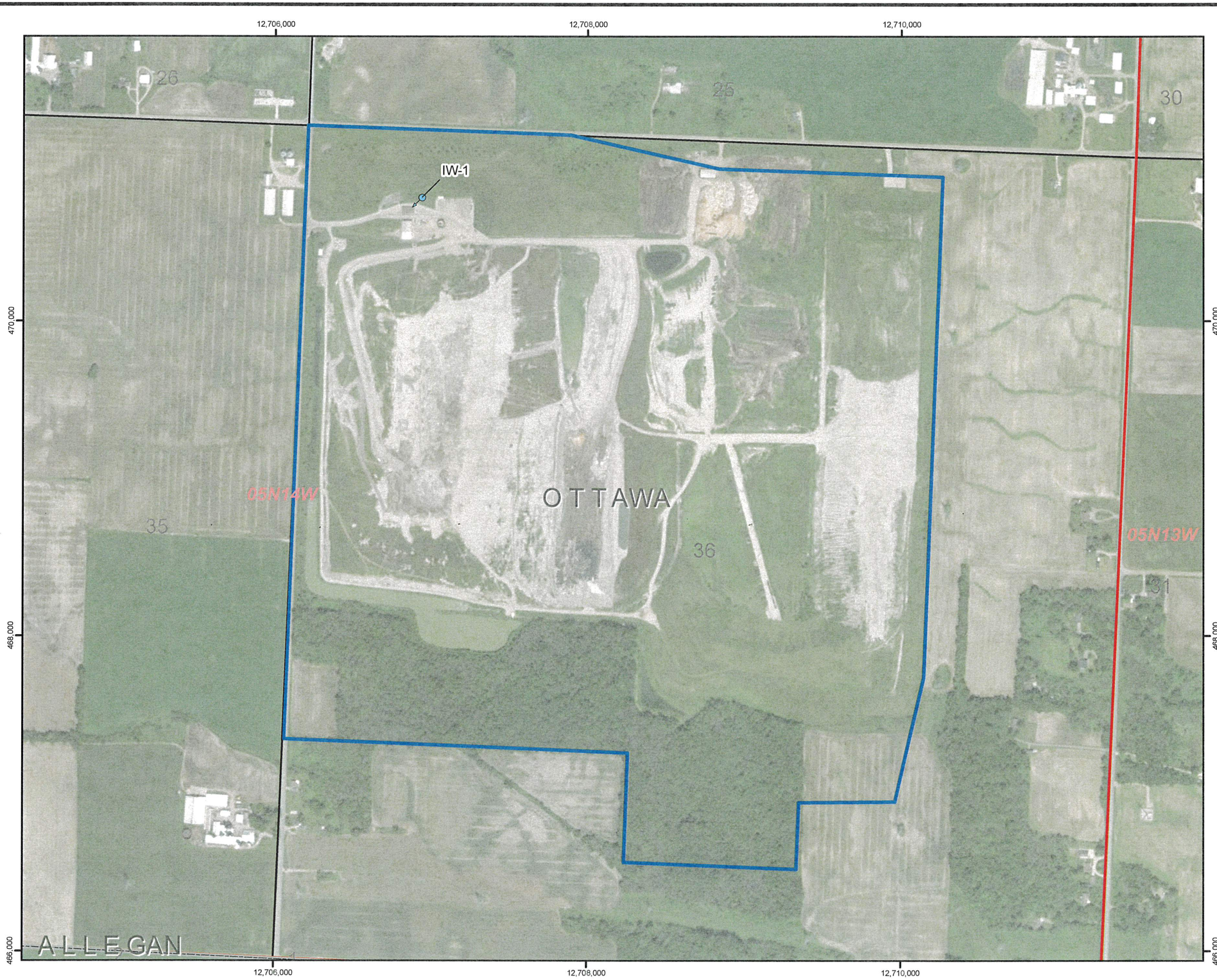

Legend

- IW-1 - Proposed Location
- Autumn Hills RDF

N

0 500 1,000 Feet

WASTE MANAGEMENT

Figure A.4-5
Aerial Photo of the Autumn Hills RDF

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: 1:7,200	Date: May 2018	
2018_WM_MDEQ_Fig_A.4-05.mxd	By: JLM	Checked: AP

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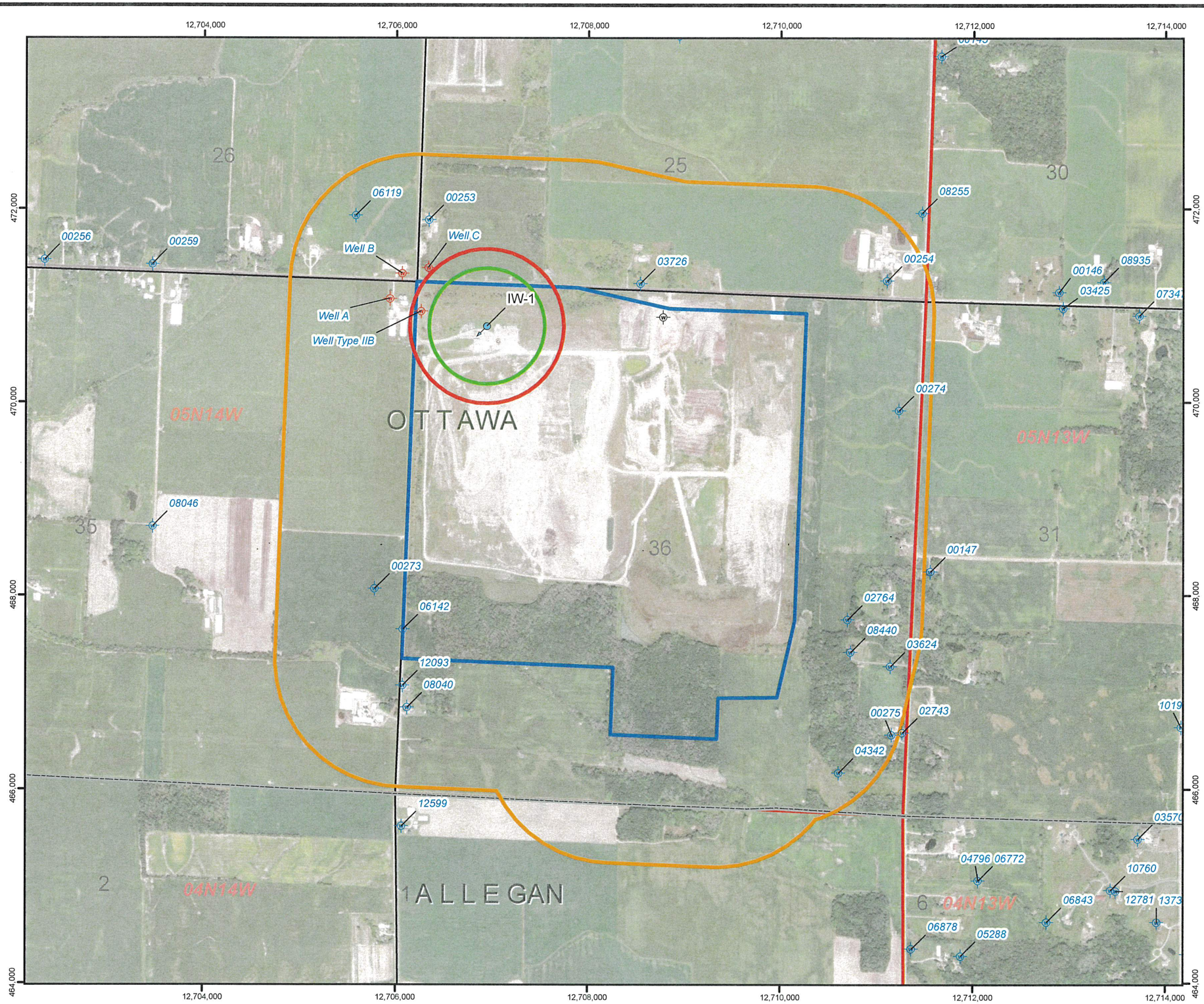
Projection: State Plane - Michigan South - NAD83 (feet)

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- IW-1 - Proposed Location
- Water Well - MDEQ Database
- Wells verified by Holland Engineering
- Water Well identified by Waste Management of Michigan, Inc.
- IW-1 600 ft. Buffer
- IW-1 800 ft. Buffer
- Autumn Hills RDF
- Autumn Hills RDF - 1/4 Mile AOR

Note: Water wells labeled Well A, Well B, Well C & Well Type IIB were surveyed by M. Scovill (P.S. #45504) Holland Engineering, May 1, 2018

Wells 06119 & 00253 may correspond to wells B & C. The locations of 06119 & 00253 are present in publicy available databases.

All other Water Well data was obtained from Wellogic, the Michigan Department of Environmental Quality Statewide Ground Water Database.

N

0 1,000 2,000 Feet

Projection: State Plane - Michigan South - NAD83 (feet)

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

WASTE MANAGEMENT

Figure A.4-6
Freshwater Penetration Well Location Map, Autumn Hills Recycling & Disposal Facility

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: 1:12,000	Date: April 2018	
2018_WM_MDEQ_Fig_A.4-06.mxd	By: JLM	Checked: AP

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Legend

- IW-1 - Proposed Location
- Autumn Hills RDF

0 100 200 300 Feet

WASTE MANAGEMENT

Figure A.4-7
Aerial Photo of
Proposed Well IW-1 Location

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: 1:2,400	Date: May 2018	
2018_WM_MDEQ_Fig_A.4-07.mxd	By: JLM	Checked: AP

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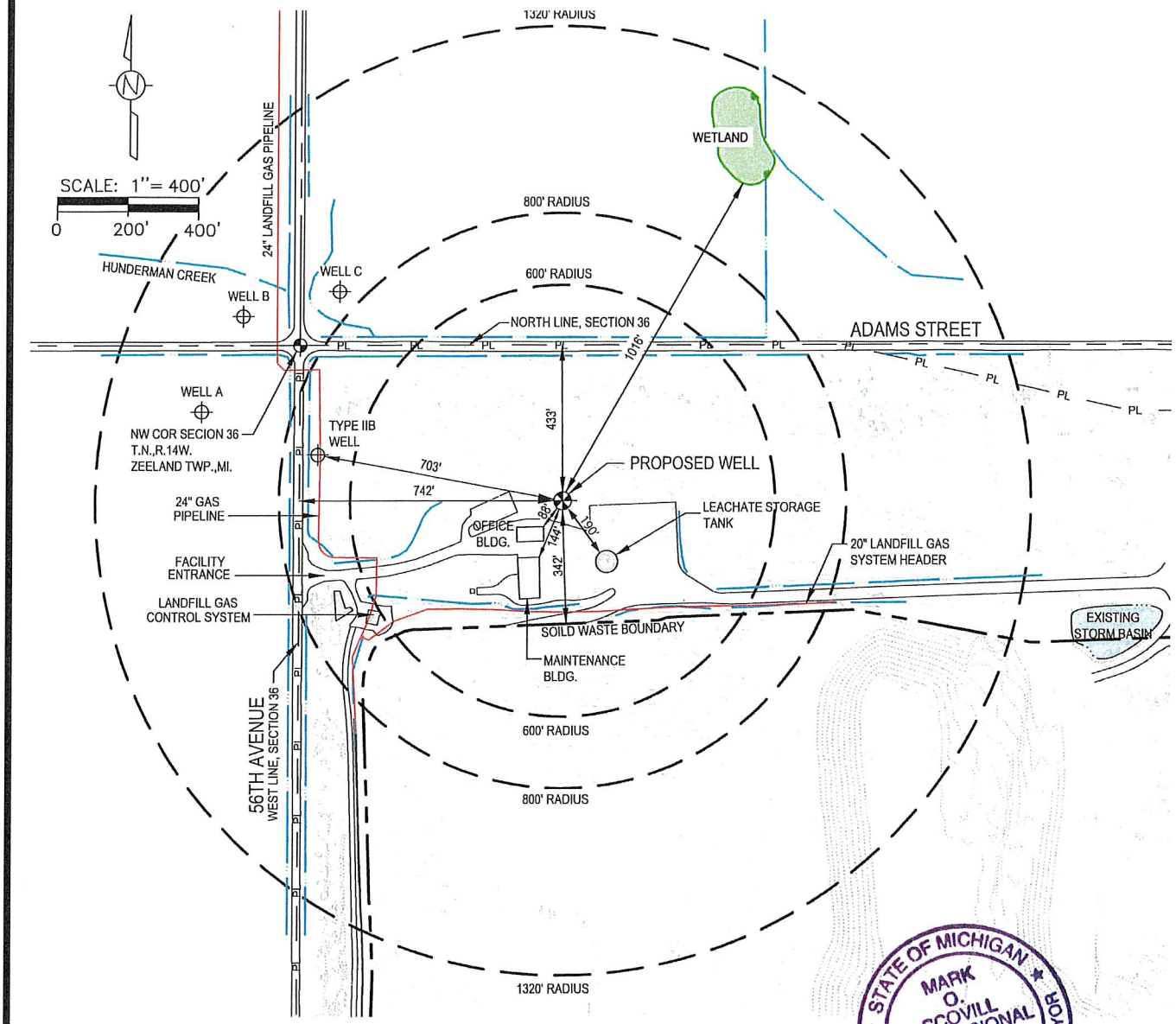
Projection: State Plane - Michigan South - NAD83 (feet)

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



LEGEND

- PL — PROPERTY BOUNDARY
- SOILD WASTE BOUNDARY
- DRAINAGE
- LANDFILL GAS SYSTEM
- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- SECTION CORNER

WELL LOCATIONS

POPOSED WELL	42°46'52.79"N	85°55'04.73"W
WELL A	42°46'55.42"N	85°55'18.33"W
WELL B	42°46'58.02"N	85°55'16.70"W
WELL C	42°46'58.65"N	85°55'13.06"W
TYPE IIB WELL	42°46'54.18"N	85°55'13.97"W

STATE OF MICHIGAN
MARK O. SCOVILL
PROFESSIONAL SURVEYOR
NO. 45504
LICENSED PROFESSIONAL SURVEYOR

Mark O. Scovill

MARK O. SCOVILL P.S. #45504
AUGUST 28TH, 2018

From: Holland Engineering, 2018

NOTES:
1. AERIAL TOPOGRAPHIC SURVEY WAS PREPARED BY HOLLAND ENGINEERING, INC. DATED 03-25-2016.
2. CONTOURS REPRESENT 5 FOOT INTERVALS.
3. ZONING = AGR (AGRICULTURAL).,
4. THE FLOOD ZONE IS ZONE "X" AREA OF MINIMAL FLOOD HAZARD PER THE FEMA FLOODPLAIN MAPPING WEBSITE (https://msc.fema.gov).
5. THE WETLAND SHOWN IS FROM THE DEQ WETLANDS MAP VIEWER WEBSITE (www.mcgl.state.mi.us/wetlands).
6. PER THE DEQ ATLAS OF CRITICAL DUNEST AT (https://.michigan.gov/deq/0,4561,7-135-3311 4114-70207--,00.html), NO CRITICAL DUNES WERE IDENTIFIED IWTHIN 1320 FEET OF THE STAKED WELL LOCATION.
7. THERE ARE NO KNOWN FRESHWATER WELLS WITHIN 600 FEET OF STAKED WELL LOCATION.
8. PER THE MICHIGAN DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT (MDARD) WEBSITE AT (www.michigan.gov/mdard) THERE ARE NO ENGANDERED SPECIES IN OTTAWA COUNTY.

WASTE MANAGEMENT

Figure A.4-8
Plot Plan - Proposed Well IW-1

2018 Autumn Hills RDF - MDEQ Class I Permit

Scale: See Bar Scale	Date: June 2019	
2019_WM_MDEQ_Fig_A.4-08.ai	By: KRS	Checked: CW

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A.5 Form EQP 7200-4, Wellhead Blowout Control System.

The blowout control system for drilling the proposed well is presented in form EQP-7200-4, presented at the end of this Section (A.5).

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OIL, GAS, AND MINERALS DIVISION

WELLHEAD BLOWOUT CONTROL SYSTEM

Worksheet supplement for "Application for Permit to Drill or Deepen a Well"

This information is required by authority of Part 615 Supervisor of Wells or Part 625 Mineral Wells, Act 451 PA 1994, as amended, in order to obtain a permit.

Applicant

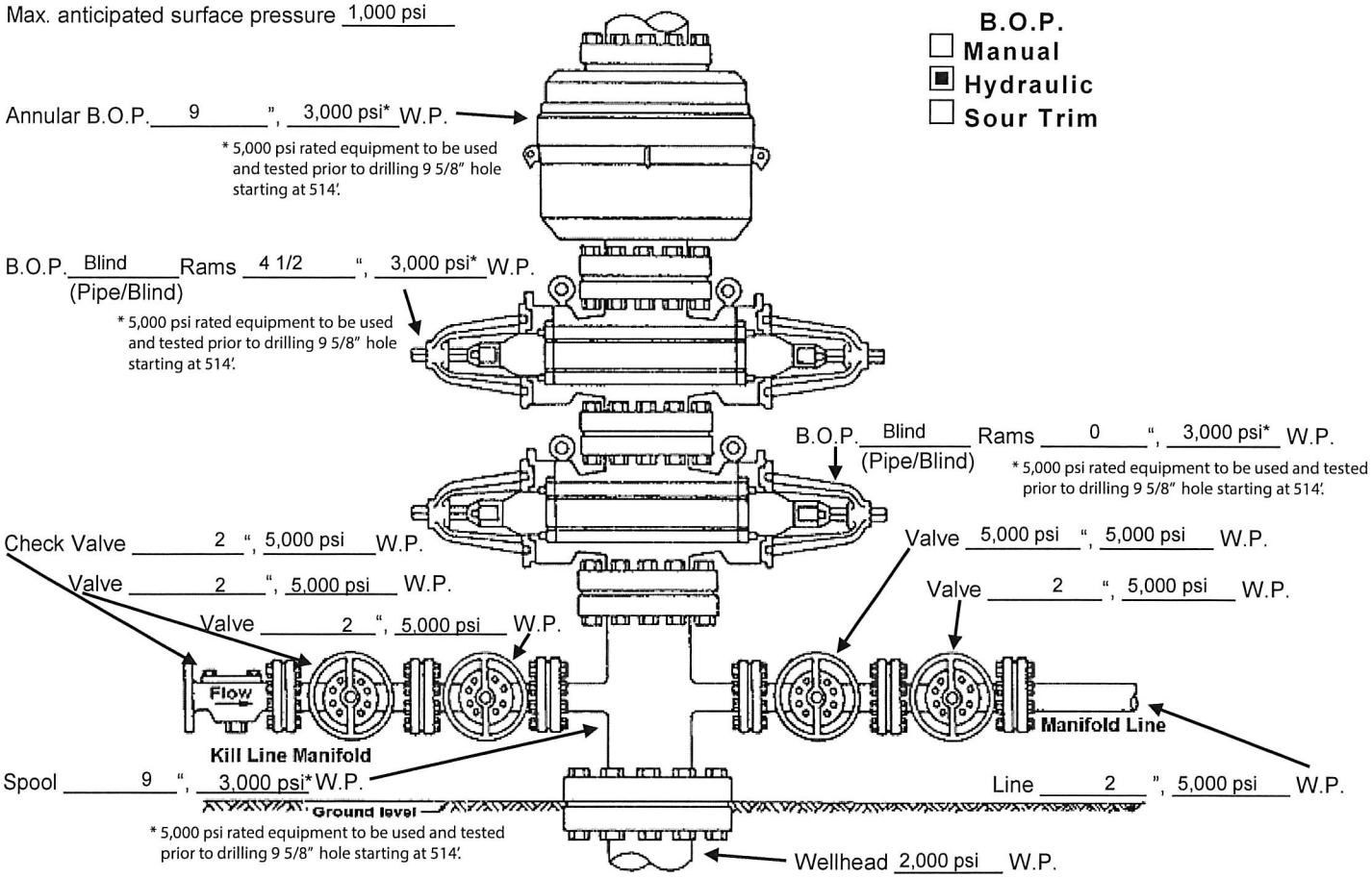
Waste Management of Michigan, Inc.
Autumn Hills Recycling and Disposal Facility

Well name and number

IW-1

Max. anticipated surface pressure 1,000 psi

B.O.P.
- ☐ Manual
- ■ Hydraulic
- ☐ Sour Trim



Fill above blanks with applicable information. If not applicable, enter "N.A." or cross-out item shown.
Describe test pressures and procedure for conducting pressure test. Identify any exceptions to R324.406 being requested.

Standard pressure testing and verification of operation to be conducted before drilling out of casing.

Wellhead/casing design and tests to be conducted based on maximum casing/formation specifications 3,000 psi BOP to be used for all shallow casing string. Shoe tests to be conducted at below formation fracture pressures. BOP will be certified prior to entering the A2 Carbonate. 5,000 psi rated equipment to be used and tested prior to drilling 9 5/8" hole starting at 514'.

Standard pressure testing and varification will include: Nipple up BOP, choke lines and kill lines and test per API RP53 guidelines as follows: (1) Test annular to 3,000 psi for a ,inimum of 20 minutes. (2) Test rams to 3,000 psi for a minimum of 20 minutes. (3) Test wellhead to 1,000 psi for a minimum of 20 minutes. (4) Test kill line, choke line, and choke manifold to 5,000 for a minimum of 20 minutes. Do not test against manual chokes. (5) Verify pre-charge on accumulator.

No exceptions to R324.406 requested at this time.

A.6 Form EQP 7500-3, Environmental Impact Assessment for Mineral Wells Surface Facilities

The Environmental Impact Assessment of Mineral Wells Surface Feature is presented in/on Form EQP 7500-3, presented at the end of this Section (A.6). Also presented at the end of this section is a letter authorizing placement of the well within 300 feet of the Landfill Treatment Building.

Waste Management of Michigan
700 – 56th Avenue
Zeeland, Michigan 49464

January 15, 2019

Mr. Harold R. Fitch, Division Director
DEQ Oil, Gas, and Minerals Division
PO Box 30256
Lansing MI 48909-7756

SUBJECT: Consent for Class I Injection Well
Autumn Hills Recycling & Disposal Facility

Dear Mr. Fitch,

In conjunction with the Permit Application for a Class I Underground Injection Well at Autumn Hills Landfill in Zeeland, Michigan, Waste Management of Michigan, Inc. (WMM) is providing this letter as written consent for construction and operation of the proposed injection well and associated surface treatment facilities in the vicinity of their Office and Equipment Maintenance buildings.

The Office Building is located approximately 88 feet from the proposed well location, and the Maintenance Building is 144 feet away. These buildings house a small staff, 5 – 10 people during business hours (M-F: 6 am – 4:30 pm; Sat: 7 am – 11:00 am). The individuals in the building are responsible of the environmental compliance and operation of the landfill, and will support these activities for the Disposal Well Autumn Hills AW-1.

Should you have any questions, please contact me for discussion at 616.688-5777.

Respectfully
Waste Management of Michigan

Fred Sawyers

Fred Sawyers
Area Manager of Disposal Operations

Cc: Matt Rosser (WM)

DEQ

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY - OIL, GAS, AND MINERALS DIVISION

ENVIRONMENTAL IMPACT ASSESSMENT FOR MINERAL WELLS AND SURFACE FACILITIES

To be submitted with an application for a well permit pursuant to Part 625, 1994 PA 451, as amended or prior to construction of associated surface facilities located more than 300 feet from the proposed well. Check all boxes and fill in all blanks that apply to the proposed well(s) or proposed surface facility.

This EIA is for (check one)

☒ Well only. Complete Parts A, B, D, E, F, G, H, and I.
☐ Surface facility only (to be constructed more than 300 feet from the well). Complete Parts A1, A2, C, D, E, F, G, H, & I.
☐ Well and surface facility. Complete all Parts.

A. PROJECT DESCRIPTION

1. Applicant
Waste Management of Michigan, Inc., Autumn Hills Recycling and Disposal Facility

2. Well name and number
IW-1

3. Well type
☐ Artificial brine production well
☐ Natural brine production well
☐ Test well greater than 250' deep or penetrating below deepest freshwater aquifer
☐ Blanket test well(s) Number of proposed wells __ Anticipated maximum depth _____
☐ Processed brine disposal well
☒ Single-source, non-commercial, waste disposal well
☐ Multi-source commercial non-hazardous waste disposal well
☐ Multi-source commercial hazardous waste disposal well
☐ Storage well

4. ☐ Yes ☒ No Is this well a replacement for an existing well?
If Yes, list
Existing well name and number
Current owner
Existing well type and status
Existing well location
Reason for replacement
Disposition of existing well

5. ☐ Yes ☒ No Is this well a reentry of an existing well?
If Yes, list
Existing well name and number
Current owner
Existing well type and status
Reason for reentry

6. ☐ Yes ☒ No Is the well expected to encounter hydrogen sulfide (H_2S)?
If Yes, list formations expected to contain H_2S and anticipated depths to tops of formations

7. ☐ Yes ☒ No Is the well expected to encounter oil or gas?
If Yes, list formations expected to contain oil or gas and anticipated depths to tops of formations

8. ☐ Yes ☒ No Will the well be drilled from an existing drill pad?
If Yes, list well name, number, permit number and status of all existing wells on the drill pad (if no wells, write "none")

Show proposed well and all existing wells on accompanying scale map identified as applying to Part A1 of the EIA.

B. DRILLSITE

1. Drill site access route dimensions 25 feet x 750 feet.
Provide a detailed description of topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use for the drill site access route. Show route on accompanying scale map labeled **Part B1**.

The drill site access is an existing private road entering the landfill area from west, off 56th Avenue. The drill site itself is approximately 750 feet east of 56th Avenue and 400 feet south of Adams Street. Natural topography of the area was flat at 40 ft/mile and remains as such at the drill site, although the natural topography of the immediately surrounding area has been altered by the landfill and associated activities. Regional slope is to the west-southwest. Land cover to the north, east, and south of both the access route and drill site is the Autumn Hills landfill. Land use to the west and north across 56th Avenue and Adams Street is agricultural. Original soil type along and around the access route and drill site is Morley loam, 2-6% slopes and Blount loam 2-6 percent slopes.

2. Drill site dimensions 300 feet x 125 feet.
Provide a detailed description of topography, drainage, soil types(s), direction and percentage of slopes, land cover and present land use for the drill site. Show well site on accompanying scale map labeled **Part B2**

The drill site access is a private road entering the landfill area from west, off 56th Avenue. The drill site itself is approximately 750 feet east of 56th Avenue and 400 feet south of Adams Street. Natural topography of the area was flat at 40 ft/mile and remains as such at the drill site, although the natural topography of the immediately surrounding area has been altered by the landfill and associated activities. Regional slope is to the west-southwest. Land cover to the north, east, and south of both the access route and drill site is the Autumn Hills landfill. Land use to the west and north across 56th Avenue and Adams Street is agricultural. Original soil type along and around the access route and drill site is Morley loam, 2-6% slopes and Blount loam 2-6 percent slopes.

NOTE: If any "Yes" box in items B3, B4, B5, B6, B7 or B8 is checked, the corresponding feature(s) must be identified on an accompanying scale map identified as applying to Part B of the EIA.

3. ☐ **Yes** ☒ **No** **Are drain tiles present on the drill site?**
If Yes, how they will be handled if they are encountered?

4. Are any of the following located within 600 feet of the proposed wellhead?

- ☒ Yes ☐ No Buildings - The landfill office building, is approximately 100 southwest of the proposed well location. See list below.
- ☐ Yes ☒ No Domestic fresh water wells - No private water wells within 600 feet of proposed well location.
- ☒ Yes ☐ No Public roads
- ☐ Yes ☒ No Railroads
- ☐ Yes ☒ No Power lines
- ☐ Yes ☒ No Pipelines
- ☒ Yes ☐ No Other man-made features (list individual features)

The equipment storage area is approximately 100 feet east of the proposed well location.
The company parking lot is approximately 150 feet west of the proposed well location.
The landfill access road is approximately 125 feet south of the proposed well location.
The landfill treatment building is approximately 175 feet southwest of the proposed well location.
The leachate collection tank is approximately 175 feet southwest of the proposed well location.
The landfill gas collection system line is 342 feet south of the proposed well location.

5. Are any of the following located within 800 feet of the proposed wellhead?

☒ Yes ☐ No Type IIB public water wells (Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Type IIB have an average daily water production of less than 20,000 gallons per day) See Use Consent Letter, Section 4.4.
☐ Yes ☒ No Type III public water wells (Type III is a public water supply which is neither Type I nor type II.)

6. Are any of the following located within 1320 feet of the proposed wellhead?

- ☐ Yes ☒ No Surface waters and other environmentally sensitive areas
- ☐ Yes ☒ No Floodplains associated with surface waters
- ☐ Yes ☒ No Wetlands, as identified by sections 30301 to 30323 of the Act.
- ☐ Yes ☒ No Natural rivers, as identified by sections 30501 to 30515 of the Act
- ☐ Yes ☒ No Threatened or endangered species as identified by sections 36501 to 36507 of the Act

No wetlands that meet Act definition identifed; other wetland identified on Figure A.4-8
No natural rivers that meet Act definition identified; intermittent creek and surface drains identified on Figure A.4-8.

7. Are any of the following located within 2000 feet of the proposed wellhead?

☐ Yes ☒ No Type I public water wells (Type I is a community water supply with year-round service, ≥ 15 living units or ≥ 25 residents.)
☐ Yes ☒ No Type IIA public water wells (Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Type IIA have an average daily water production of greater than 20,000 gallons per day)

8. ☐ **Yes** ☒ **No** **Are Great Lakes shorelines located within 1500 feet of the proposed wellhead?**

9. ☒ **Yes** ☐ **No** **Will fresh water be used to drill this well?**
If Yes, will the water be supplied from

- ☐ A "permanent" water well, to be retained after final completion OR used for drinking water (to be drilled and installed pursuant to Part 127 of 1979 PA 368, as amended) **OR**
- ☐ A "temporary" water well, to be plugged upon final completion and not used for drinking water **OR**
- ☒ Another source (identify) Offsite (trucked in), or use of onsite supply well.

If No, identify the drilling fluid to be used.

10. Drilling fluid pit location and handling and disposal of drill cuttings, muds and fluids

Anticipated depth to groundwater 25-45 feet Depth determined by local potentiometric surface maps.

Pit type

☐ On site in-ground pit. Anticipated dimensions: L ___ W ___ D ___
Show proposed pit location on accompanying scale map labeled **Part B10**.

☐ Remote in-ground pit. Anticipated dimensions: L ___ W ___ D ___
Attach approval of landowner and show remote pit location on accompanying scale map labeled **Part B10**.

☒ On-site steel tanks with no in-ground pits (complete 10a and 10d below, do not complete 10b and 10c)

a. ☒ Yes ☐ No Will the well be drilled into or through bedded salt deposits?

If Yes,

☒ Yes ☐ No Will the drill cuttings contain solid salt?

If Yes, describe plans for handling and disposing of drill cuttings.

Should solid salts and/or anhydrites be produced at surface, materials will be managed on-site at the landfill, or by other methods in compliance with applicable regulations.

b. ☐ Yes ☒ No Will the drilling fluid pit contents be solidified after drilling?

If Yes, identify the pit solidification contractor and pit solidification method.

No pit, closed loop. Drill cuttings will be managed on-site at the landfill.

c. ☐ Yes ☒ No Will the drilling fluid pit contents be removed after drilling?

If Yes, identify the site for disposal of the removed material.

No pit, closed loop

d. ☐ Yes ☒ No Will any pit fluid be disposed by a licensed liquid waste hauler?

If Yes, identify the waste hauler.

N/A

If No, describe disposal plans for pit fluids.

Pit fluid and related waste will be solidified at an on-site liquid waste processing facility owned and operated by the Autumn Hills RDF, and will be disposed on-site.

C. SURFACE FACILITY

1. ☒ Yes ☐ No Will the well have associated surface facilities?

If No, Do not complete the remainder of Part C.

If Yes,

☐ Yes ☒ No Does a surface facility currently exist?

If Yes, show facility location relative to the wellhead on a scale map labeled Part C1. Do not complete the remainder of Part C.

If No,

☐ Yes ☒ No Has a location for the surface facility been chosen?

If Yes, complete Parts C2 through C10

If No, at least 60 days prior to beginning construction, submit an EIA for the Surface Facility (this form), a facility plan, and a Soil Erosion and Sedimentation Control Plan (EQP 7200-18) to the Office of Geological Survey District Supervisor.

2. ☐ Yes ☐ No Is the proposed surface facility site more than 300 feet from the wellhead?

If Yes, complete Parts C3 through c10 and submit a map showing the location of the surface facility site relative to the wellhead.

If No, do not complete the remainder of Part C.

3. Dimensions of surface facility access road: ___feet x ___feet.
Describe the topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use:

4. Dimensions of surface facility site: ___feet x ___feet.
Describe the topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use:

NOTE: If any "Yes" box in items C5, C6, C7, C8, C9, or C10 is checked, the corresponding feature(s) must be identified on an accompanying scale map identified as applying to the appropriate section of Part C of the EIA.

5. ☐ **Yes** ☐ **No** **Are drain tiles present on the proposed surface facility site**?
If Yes, discuss how they will be handled if they are encountered?

6. Are any of the following located within 600 feet of the proposed surface facility site?
☐ Yes ☐ No Buildings
☐ Yes ☐ No Domestic fresh water wells
☐ Yes ☐ No Public roads
☐ Yes ☐ No Railroads
☐ Yes ☐ No Power lines
☐ Yes ☐ No Pipelines
☐ Yes ☐ No Other man-made features (list individual features)

7. Are any of the following located within 800 feet of the proposed surface facility site?
☐ Yes ☐ No Type IIB public water wells. (Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Type IIB have an average daily water production of less than 20,000 gallons per day)
☐ Yes ☐ No Type III public water wells. (Type III is a public water supply which is neither Type I nor type II.)

8. Are any of the following located within 1320 feet of the proposed surface facility site?
☐ Yes ☐ No Surface waters and other environmentally sensitive areas
☐ Yes ☐ No Floodplains associated with surface waters
☐ Yes ☐ No Wetlands, as identified by sections 30301 to 30323 of the Act.
☐ Yes ☐ No Natural rivers, as identified by sections 30501 to 30515 of the Act
☐ Yes ☐ No Threatened or endangered species as identified by sections 36501 to 36507 of the Act

9. Are any of the following located within 2000 feet of the proposed surface facility site?
☐ Yes ☐ No Type I public water wells. (Type I is a community water supply with year-round service, ≥ 15 living units or ≥ 25 residents.)
☐ Yes ☐ No Type IIA public water wells (Type II is a non-community water supply with ≥ 15 service connections or ≥ 25 individuals for not less than 60 days per year. Type IIA have an average daily water production of greater than 20,000 gallons per day).

10. ☐ Yes ☐ No **Are Great Lakes shorelines located within 1500 feet of the proposed surface facility site?**

D. FLOWLINE

☒ Yes ☐ No **Will the well have an associated flow line?**

If Yes,

Flow line rout dimensions 10 feet x 200 feet

Show flow line route from well to the surface facility, junction with an existing flowline or gathering system, on a scale map labeled **Part C2.**

Anticipated maximum operating pressure (psig): 150 psi if existing storage tank used with injection pump near wellhead

Describe leak detection program, including schedules of periodic pressure testing and periodic flowline patrols.

Injection pressure will be continuously monitored, with alarms for irregular operations. Flowlines will be visually inspected a minimum once/week.

Flow line material: carbon steel, lined as required

Describe the topography, drainage, soil type(s), direction and percentage of slopes, land cover and present land use along the flow line route.

☒ Yes ☐ No **Will the flowline be buried?** If Yes

Burial depth: >4 feet

Describe flowline route marking scheme.

Labeled steel posts (2' minimum height) every 50 feet.

If No, describe measures to protect flowline from vehicular damage.

E. MITIGATION OF IMPACTS FROM DRILLING AND/OR PRODUCTION

Describe additional measures to be taken to protect environmental and/or land use values

The well will be installed on private property and will be located more than 430 feet offset from any property line. Any property disturbed during intitial well drilling will be used as part of the ultimate operation or will be restored to it's current state at the active landfill site as practicable. Truck traffic may significantly decrease in the area, since previous hauling of fluids offsite will no longer be needed. Surface pump facilities will be constructed, to be used along with the existing storage tank in compliance with the current environmental regulations, and the surface facilities will include secondary spill protection (curbing) and other safeguard measures.

F. ADDITIONAL PERMITS

Identify additional permits to be sought EPA UIC Permit, Class I Injection Well

G. SOIL EROSION AND SEDIMENTATION PLAN

Submit a soil erosion and sedimentation plan (form EQP 7200-18) which addresses **each** well site, surface facility, and flow line route identified in this application. (Refer to requirements under Part 91, 1994 PA 451)

H. ALTERNATE WELL AND SURFACE FACILITY LOCATIONS

Were alternate surface locations considered for this well or surface facility?

☒ No, alternate sites did not seem necessary or more desirable

☐ Yes, the following locations were considered

Why were they rejected in favor of the proposed location?

Offsite dispsal of waste is currently performed and considered less desirable due to cost and ability of the well to reduce potential environmental concern associated with shipment, handling potential spillage offsite, etc. Waste Management considered placing the well closer to the existing storage tank, but this area offered limited drill rig access, including pipe lay-down, etc. The current well location was selected because it was outside the active landfill cells and is a more open area that would allow better rig and subsequent well maintenance

I. CERTIFICATION

"I state that I am authorized by said applicant to prepare this document. It was prepared under my supervision and direction. The facts stated herein are true, accurate and complete to the best of my knowledge."

Denise Gretz, Area Vice President	Denise Gretz	3/25/19
Name and title (printed or typed)	Authorized Signature	Date

Enclose with *Application For Permit To Drill*

A.7 Form EQP 7200-18, Soil Erosion and Sedimentation Control Plan

The Soil Erosion and Sediment Control Plan is presented in/on Form EQP 7200-18, presented at the end of this Section (A.7).

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – OIL, GAS, AND MINERALS DIVISION

SOIL EROSION & SEDIMENTATION CONTROL PLAN

By authority of Part 91, and Part 615 or Part 625 of Act 451 PA 1994, as amended. Non-submission and/or falsification of this information may result in fines and/or imprisonment. Applicants for multisource commercial hazardous waste disposal wells under Part 625 are required to obtain a Part 91 permit from a county or local enforcing agency

☐ Part 615 Oil/Gas Well ☒ Part 625 Mineral Well

1. Name and address of applicant
Waste Management of Michigan, Inc.
Autumn Hills Recycling and Disposal Facility
700 56th Avenue
Zeeland, MI 49464
Phone: (616) 836-8493 Fax: ( )

2. Well or project name:
IW-1

3. Well or project location:
Section(s) 36 T5N R14W

4. Name and address of County or local Enforcement Agent (CEA)
Paul Sachs, Director, Planning & Performance Improvement
12220 Fillmore Street
Room 260
West Oliver, MI 49460
Phone: (616) 738-4852 Fax: ( )

5. Township: Zeeland

6. County: Ottawa

7. Date earth changes expected to start
2018 or 2019

8. Date of expected completion
2018 or 2019

9. Name and address of person responsible for earth change:
Waste Management of Michigan, Inc.
Autumn Hills Recycling and Disposal Facility
700 56th Avenue
Zeeland, MI 49464
Phone: (616) 836-8493 Fax: ( )

10. Name and address of person responsible for maintenance:
Waste Management of Michigan, Inc.
Autumn Hills Recycling and Disposal Facility
700 56th Avenue
Zeeland, MI 49464
Phone: (616) 836-8493 Fax: ( )

11. Send copies of supplemental plat required by Part 615, R 324.201(2)(b) or R 324.504(4), and this form and all attachments, to CEA. For Part 625 Mineral Wells, send to CEA only as instructed by OGMD staff.
Date sent to CEA To be submitted prior to commencement of activities

EARTH CHANGE ACTIVITIES

12. Project description: (Project activities may be permitted sequentially.)
a. Number of well sites 1, 0.86 acres
b. Number of surface facility sites TBD, TBD acres
c. New access roads 0 feet, 0 acres
d. Flow line(s) trenched in off well site* TBD feet, TBD acres
e. Flow line(s) plowed in off well site* N/A feet, --- acres
*Contact CEA for fee schedule

13. Describe sites for which permits are being sought under Part 301 (Inland Lakes & Streams) None
Describe sites for which permits are being sought under Part 303 (Wetlands) None
List file numbers if known N/A

14. Attach detail map at scale of 1"=200' or larger, with contour lines at a minimum of 20' intervals OR percent slope descriptions.

15. Areas requiring control structures

Will earth changes occur in areas with slopes of 10% or greater; areas where runoff water is likely, such as runs greater than 500' of moderate slope (5% to 10%), narrow valley bottoms, etc.; areas within 500' of a lake or stream; or other areas where sedimentation to a wetland or drainage way may occur?
☐ Yes ☒ No

Indicate any of the following erosion control structures that will be utilized. Identify location on detail map and attach detail plan.
Indicate on plan whether erosion control structures are temporary or permanent.

☐ Diversions ☐ Culverts ☐ Sediment basins ☐ Silt fences ☐ Rip-rap ☒ Berms ☐ Check dams
☐ Other Temporary Berm for drill pad on landfill property as necessary.

16. Site restoration
☒ Topsoil will be segregated from subsoil and stockpiled OR ☐ No topsoil on site
☒ Recontour and revegetate as soon as weather permits. Seed mix DNR mix where applicable; disturbed area will be used for landfill operations.
☐ Describe other proposed methods of restoration site used for industrial use and will continue to be used as such.

17. Application prepared by (name) Denise Gretz
Signature Denise Gretz
Date 3/25/19

FOR USE OF COUNTY OR LOCAL ENFORCING AGENT

INSTRUCTIONS TO COUNTY OR LOCAL ENFORCMENT AGENT: Copies of supplemental plat required by Part 615, R324.201(2)(b) or R324.504(4), and this form and all attachments are provided for CEA review and informational purposes only. For activities issued under Part 615, local permitting for SESC is not necessary; OGMD staff will evaluate and enforce SESC measures (SEE R324.9115 (3) of Part 91, Soil Erosion and Sedimentation Control, NREPA, PA 451 of 1994). Submittal to CEA is not a requirement under Part 615 or 625. Part 615 and 625 Permits to Drill and Operate include erosion control plan approval for well sites, access roads, flow lines, and surface facilities. Return this form to the applicable field or district office of the Oil, Gas, and Minerals Division (OGMD) within 30 days of receipt. OGMD will consider all comments and recommendations in reviewing the application.

17. Comments

☐ Conducted on-site inspection Date ☐ Inspected site with representative of applicant Date

CEA (name) Date

A.8 Provide a conformance bond. For information regarding bonding options see the link to mineral well bonds at http://www.michigan.gov/deqogs and click on Mineral Wells or contact Joe Petit at 517-284-6837.

Waste Management of Michigan, Inc., has a Surety Bond dated June, 2018 on file with the MDEQ as a demonstration that sufficient financial assurance is available to manage well abandonment. A copy of this document is provided as an attachment at the end of Section A.8, along with a copy of the letter submitted to USEPA requesting that this financial assurance be accepted simultaneously for satisfying federal financial assurance requirements.