APPENDIX 1

PJM Generation Interconnection Study Reports

Generation Interconnection Combined Feasibility/System Impact Study Report

For

PJM Generation Interconnection Request Queue Position AA1-110

"Massey 25 kV"

March 2015

Preface

The intent of the Combined Feasibility/System Impact Study is to determine a plan, with approximate cost and construction time estimates, to connect the subject generation interconnection project to the PJM network at a location specified by the Interconnection Customer. As a requirement for interconnection, the Interconnection Customer may be responsible for the cost of constructing: Network Upgrades, which are facility additions, or upgrades to existing facilities, that are needed to maintain the reliability of the PJM system. All facilities required for interconnection of a generation interconnection project must be designed to meet the technical specifications (on PJM web site) for the appropriate Transmission Owner.

Study estimates do not include the feasibility, cost, or time required to obtain property rights and permits for construction of the required facilities. The Interconnection Customer may be responsible for the right of way, real estate, and construction permit issues. For properties currently owned by Transmission Owners, the costs may be included in the study.

General

OneEnergy Development, LLC, the Interconnection Customer (IC), has proposed a 6 MWE (4.0 MWC; 6 MW MFO) solar powered generating facility to be located in Massey, Maryland. PJM studied AA1-110 as a 6 MW injection into the Delmarva Power and Light (DPL) system at the Massey 25 kV substation and evaluated it for compliance with reliability criteria for summer peak conditions in 2018. The planned in-service date, as stated in the Attachment N, is December 31, 2016.

Point of Interconnection

The Interconnection Customer requested a 25 kV distribution level interconnection. As a result, AA1-110 will interconnect with the Delmarva Power and Light system at a tap of the existing 25 kV MD2206 feeder from the T1 transformer at the Massey Substation (see Attachment 1).

Direct Connection Requirements

Criteria Limits for Distributed Energy Resource (DER) Connections to the ACE, DPL and Pepco Distribution Systems (less than 69kV)

1. Single Phase Limit

Any DER with a capacity that exceeds 100kW shall be a balanced 3 phase system.

2. Voltage Limits

DER's are permitted to cause a voltage fluctuation of up to 2% at the Point of Interconnection, ½ the band width of any voltage regulator at its terminals, and ½ the net dead band of a switched capacitor bank at its connection point. When a DER is at maximum output, it shall not raise the feeder voltage above the ANSI C84.1 or state limit, whichever is more conservative.

3. Existing Distribution Circuit Capacity Limits

The aggregate limit of large (250 kW and over) generators running in parallel with a single, existing distribution circuit is 0.5 MWs on the 4kV, 3MWs on the 12 kV, 6 MWs on the 25 kV, and 10 MWs on the 34 kV.

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4. Express Circuit Capacity Limits
Distributed generation installations which exceed the limit for an existing circuit require an express circuit.

The maximum generator size for express circuits shall be:

- 4 kV 0.5 MW
- 12 – 13.8 kV 10 MW
- 23 – 25 kV 10 MW
- 33.26 – 34.5 kV 15 MW

5. Distribution Power Transformer Limit
The aggregate limit of large (250 kW and over) generator injection to a single distribution transformer of 22.5 MVA nameplate or larger is 10 MW. Transformers with nameplate ratings lower than 22.5 MVA will be given lower ratings on an individual basis. If the transformer rating is significantly greater than 40 MVA it may be possible to consider a greater generation capacity.

Adding a new transformer will be considered if there is no availability on any of the existing transformers and space is available in an existing substation. Any proposed transformers would be PHI's standard distribution transformer.

6. Express Circuit Length Limit
If there is no space for an additional transformer at the closest substation, the next closest substation will be considered. The length of an express circuit is limited to 5 miles, or for the sake of the feasibility study, 3.8 straight line miles to the substation. This simplification is used because the feasibility study phase does not allow for the time and resources to examine routes in detail (including existing pole lines, easements, ROW, and environmental issues etc.)

7. When a New Substation is Required
If a distribution express circuit can't be built from an existing substation for a project, it will be necessary to construct a new distribution substation with a standard ring bus design. It will be supplied by extending existing transmission lines. It is the developer's responsibility to verify eligibility of this configuration for solar renewable energy certificates.

All limits, given above in MWs, are subject to more detailed study to ensure feasibility.

Transmission Owner Scope of Work

TO scope of work required to accommodate 6 MW of generation on existing feeder MD2206 from Massey Substation T1:

1. A utility operated recloser equipped with the proper relaying and communications will be installed.
2. Utility grade primary metering will be installed.

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3. The voltage regulators in the substation are not properly equipped to handle the reverse power flow that the generator will cause and will require adjustments to their controllers. If regulator cannot operate with controller, entire regulator will be upgraded.
4. Generation telemetry and remote trip capability will be provided to PHI's Energy Management System with future capability to adjust output and power factor if needed.
5. Protection, Planning, and other engineering departments will perform studies, design work, and prepare engineering estimates.
6. Transfer trip will be required. The cost included below is to install 48SM ADSS fiber optic cable in conduit from Massey Substation to the POI, a total distance of approximately 0.5 miles. 69 kV potential transformers will need to be installed if none already in-service.

Estimated Costs			
Massey Substation T1 MD2206			
Fiber Installation	0.5	Miles	$25,000
Substation Relaying & 69 kV PTs			$200,000
Substation Regulator & Controller			$100,000
Recloser & Metering			$80,000
Various Department Work			$10,000
SCADA Integration into EMS			$10,000
Subtotal Cost			$425,000
Approximate Cost with 18% Overheads			$501,500

The estimated time to complete this work is **12 - 18 months** after receipt of a fully executed interconnection agreement.

Please note: DPL is currently performing a transformer upgrade at the Massey Substation. Backfeed and energization of the AA1-110 project may be dependent on completion of this DPL project.

High Voltage Warning

Voltage received at the meter from the utility can be 104% or 105% of nominal. Normal operating procedures dictate that voltage at the substation be raised to the higher end of an acceptable bandwidth in order to provide adequate supply to distant customers. Transformers with no load taps should be used to reduce the voltage by 2.5% to avoid the possibility of inverter trips. Failure to account for this may result in lost energy production.

Additional Operating Requirements

1. DPL will require the capability to remotely disconnect the generator from the grid by communication from its System Operations facility. This will be accomplished with a line recloser.

2. It is the Interconnection Customer's responsibility to send the data that PJM and DPL requires directly to PJM. The Interconnection Customer will grant permission for PJM to send to DPL

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the following telemetry that the Interconnection Customer sends to PJM: real time MW, MVAR, volts, amperes, generator/status, and interval MWH and MVARH.

3. The Interconnection Customer will be required to make provisions for a voice quality phone line within approximately 3 feet of each DPL metering position to facilitate remote interrogation and data collection.

4. A mutually acceptable means of interrupting and disconnecting the generator with a visible break, able to be tagged and locked out, shall be worked out with DPL Distribution Engineering.

5. DPL reserves the right to charge the Interconnection Customer operation and maintenance expenses to maintain the Interconnection Customer attachment facilities, including metering and telecommunications facilities, owned by DPL.

Interconnection Customer Scope of Work

The Interconnection Customer (IC) is responsible for all design and construction related to activities on their side of the Point of Interconnection. Site preparation, including grading and an access road, as necessary, is assumed to be by the IC. Route selection, line design, and right-of-way acquisition of the direct connect facilities is not included in this report, and is the responsibility of the IC.

The IC will be required to install metering and telemetry equipment to provide revenue metering and real-time telemetry data to PJM. The requirements for this equipment are listed in Appendix 2, Section 8 of Attachment O to the PJM Tariff, as well as PJM Manuals 01 and 14D. Protective relaying and metering design and installation must comply with PHI's Applicable Standards.

The Interconnection Customer will purchase and install all metering instrument transformers as well as construct a metering structure per PHI's specifications. The secondary wiring connections at the instrument transformers will be completed by the Interconnection Customer's contractors and inspected by PHI, while the secondary wiring work at the metering enclosure will be completed by PHI's meter technicians. The metering control cable and meter cabinets will be supplied by PHI and installed by the Interconnection Customer's contractors. PHI's meter technicians will program and install two solid state multi function meters (Primary & Backup) for the new metering position.

Inverter Requirements and Capabilities

The inverter at the DG location shall have the following capabilities:

- Voltage flicker reduction through dynamic VAR or fixed PF response
- Ramp rate control
- SCADA communications
- Curtailment or other mitigation ability if high voltage were to occur
- Low voltage and system disturbance ride through

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- Ability to receive and respond to a transfer trip signal
- Ability to adjust PF or VARs based on utility signal
- Ability to Adjust Real Power Output based on utility signal

The inverter shall operate in accordance with the IEEE 1547 series of standards that have been approved. While inverters should be capable of voltage stabilization thru dynamic VAR response and capable of low voltage and system disturbance ride through, neither of these capabilities shall be implemented until such time that the IEEE 1547 series of standards are revised and approved to include standards for these capabilities. At such time as these revised standards become available, the PV owner/operator shall cooperate with the Company (the 'Company' referring to ACE, DPL, or PEPCO) to implement these capabilities with settings acceptable to the Company. Until such time, the inverters shall operate with a fixed power factor schedule as supplied by the Company. It is the responsibility of the owner to secure the inverter from any unauthorized access (including physical and remote access) which could alter settings or adversely affect the inverter's ability to operate as required. Security measures should include utilizing secure password settings and/or physical locks on cabinet doors.

Transmission Network Impacts

Potential transmission network impacts are as follows:

Generator Deliverability

*(Single or N-1 contingencies for the **Capacity** portion only of the interconnection)*

None

Multiple Facility Contingency

*(Double Circuit Tower Line, Line with Failed Breaker and, Bus Fault contingencies for the **Full** energy output.*

None

Contribution to Previously Identified Overloads

(This project contributes to the following contingency overloads, i.e. "Network Impacts", identified for earlier generation or transmission interconnection projects in the PJM Queue)

None

Short Circuit

No issues identified.

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Stability Analysis

Not required due to project size.

Light Load Analysis

(Light Load Studies to be conducted during later study phases (applicable to wind, coal, nuclear, and pumped storage projects).

Not Required.

New System Reinforcements

(Upgrades required to mitigate reliability criteria violations, i.e. "Network Impacts," initially caused by the addition of this project's generation)

None

Contribution to Previously Identified System Reinforcements

(Overloads initially caused by prior Queue positions with additional contribution to overloading by this project.

None

Potential Congestion due to Local Energy Deliverability

(PJM also studied the delivery of the energy portion of the surrounding generation. Any potential problems identified below are likely to result in operational restrictions to the project under study. The Interconnection Customer can proceed with Network Upgrades to eliminate the operational restriction at their discretion by submitting a Transmission Interconnection Request. Note: Only the most severely overloaded conditions are listed below. There is no guarantee of full deliverability for this project by fixing only the conditions listed in this section. With a Transmission Interconnection Request, a subsequent analysis will be performed which analyzes all overload conditions associated with the identified overloaded element(s). As a result of the aggregate energy resources in the area, the following violations were identified:

These are ***not*** required reliability upgrades.

1. (DP&L - DP&L) The LYNCH-CHESTRTN 69 kV line (from bus 232200 to bus 232202 ckt 1) loads from 97.6% to 100.93% (**DC power flow**) of its normal rating (48 MVA) for non-contingency condition. This project contributes approximately 1.6 MW to the thermal violation.

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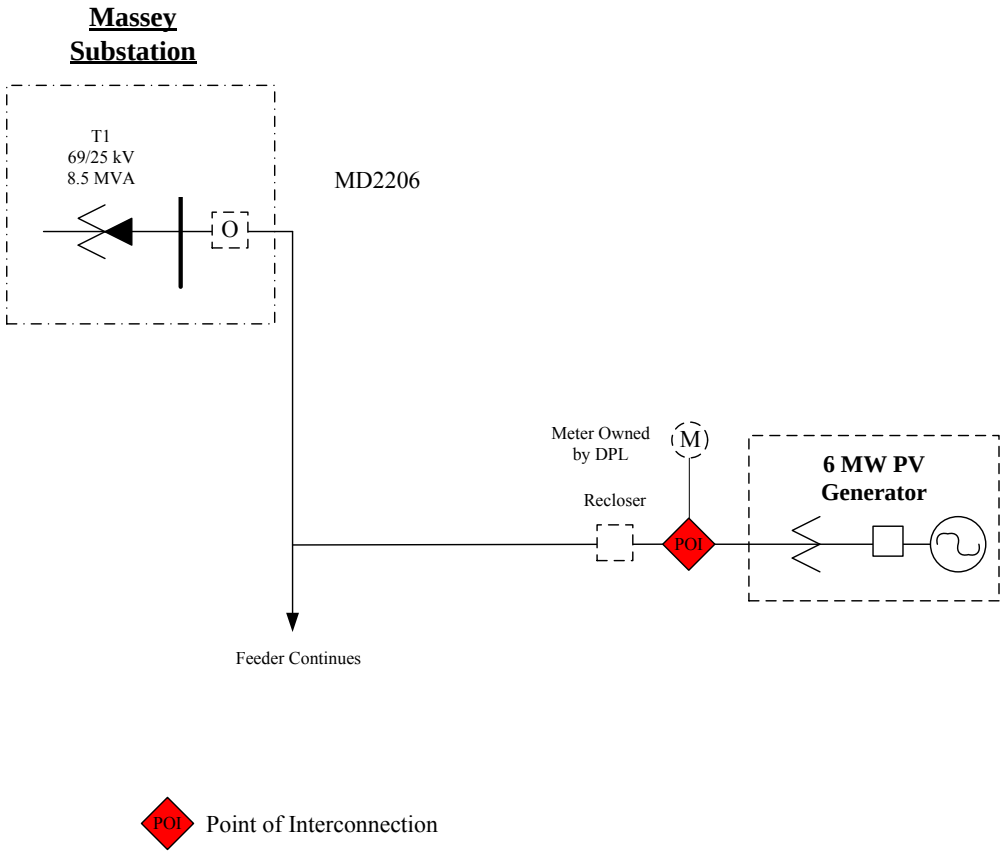
Attachment 1

AA1-110
Massey 69/25 kV Sub
6 MW PV Solar Generator



POI Point of Interconnection

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APPENDIX 2

Kent County Code and Permitted Uses

SECTION 14 EMPLOYMENT CENTER DISTRICT

14.1 STATEMENT OF INTENT

Employment Center Districts are defined as planned developments primarily for light industrial uses which are environmentally sound, sustainable and compatible with adjacent uses. They are further defined as areas devoted to industrial uses which present an attractive appearance and complement surrounding land use character by means of appropriate setting of *buildings* and service areas and landscape treatment.

It is intended that Employment Center Districts be located in areas having one or more major highways, and clearly demonstrated suitable for the intended uses in so far as physical characteristics and relationship to surrounding *development*.

14.2 PERMITTED PRINCIPAL USES AND STRUCTURES

For every industrial *structure* and use erected, reconstructed, altered, or enlarged after the effective date of this Ordinance, a *site plan* shall be filed. No building permit shall be issued until said *site plan* is approved by the *Planning Commission* or where applicable the Planning Director.

1. Manufacture, processing, fabrication, and assembly of products. These uses include but are not limited to scientific and precision instruments, photographic equipment, communications equipment, computation equipment, drugs, medicines, pharmaceuticals, household appliances, toys, sporting and athletic goods, glass products made of purchased glass, electric lighting and wiring equipment, service industry machines, lithographic and printing processes, industrial controls, radio and TV receiving sets, watches and clocks, bags and containers, sanitary paper products, optical goods, electrical machinery, prefabricated and modular housing and components, dairy product feed and grain, baked and confectioners' goods, farm machinery, frozen food processing, packing plants, animal and seafood processing, fruit and vegetable processing, canning and storage.

2. Businesses and industries, including research and development companies, of a similar nature to those listed in Article V Section 14.2.1 may also be permitted by the Zoning Administrator. The Zoning Administrator shall consider the following:
   a. The impact of the proposed business or industry on existing or planned public facilities.
   b. The impact of the operation of the facility on the surrounding area.
   c. The health, safety, and welfare of employees and residents of the neighborhood.

3. Distribution centers and warehousing provided that a single building footprint does not exceed 75,000 square feet in size. The restriction on building footprint does not apply to the Employment Center District in the Route 301 corridor. In reviewing the *site plan*, the *Planning Commission*, or where applicable the Planning Director, shall consider the following:
   a. The impact of the proposed business or industry on existing or planned public facilities.
   b. The impact of the operation of the facility on the surrounding area.
   c. The health, safety, and welfare of employees and residents of the neighborhood.

4. Manufacture of concrete and ceramics products and sewage treatment plants provided such uses shall be located at least 400 feet from any residential district boundary. Outdoor storage of materials is prohibited.

5. *Personal wireless facilities* collocated on existing towers, water towers, electrical transmission towers, fire towers, silos, *grain dryers*, or other *structures* provided the height of the existing *structure* is not above that permitted by this Ordinance.

6. Public utility *buildings*, *structures*, water treatment plants, and transmission lines.

7. Blacksmith, welding and machine shops. Outdoor storage of materials is prohibited unless otherwise approved by the *Planning Commission* and subject to such conditions as may be determined by the *Planning Commission*.

8. Vocational and trade schools including training facilities

9. *Airports*, landing fields, helistops, and heliports.

10. Governmental public works and utility *buildings* or *structures*.

11. *Single family dwelling*, one per existing property, subject to the *yard* requirements found in the Agricultural Zoning District, provided however, that bona fide *intrafamily transfers* may be permitted in the industrial district (thus exceeding the one *single family dwelling* per existing property requirement) under the following conditions:
    a. The owner of the parcel or the proposed parcel shall attest, in writing, to the bona fide family relationship and that the intent of the *subdivision*/use is not for ultimate transfer to a third party.
    b. Any deed for a *lot* that is created by a bona fide *intrafamily transfer* shall contain the covenant stating that the *lot* is created subject to the provisions of this section and that the provisions of this section shall control as long as the property continues to be zoned for industrial uses.
    c. A *lot* created by a bona fide *intrafamily transfer* may not be conveyed subsequently to any *person* other than a member of the owners immediate family except under the following procedures:
       The Kent County Planning Commission must determine that:
       i. The *lot* was created as a part of bona fide *intrafamily transfer* and not with the intent of subdividing the original parcel of land for purposes of ultimate transfer to a third party; and
       ii. The owner of the transferred property dies; or
       iii. A change of circumstances has occurred since the original transfer was made that is consistent with the intent of this ordinance.
    d. This subsection shall not prevent the conveyance of such a *lot* to a third party as security for a mortgage or deed of trust, or subsequent conveyances resulting from a foreclosure.
    e. The maximum *lot* size shall be two acres.
    f. Any deed or *subdivision* plat for a *lot* created by a bona fide *intrafamily transfer* shall contain a statement that the adjacent property is zoned for industrial uses.
    g. The parcel is created for the construction of a primary residence only.
    h. This provision applies to those individuals owning industrial zoned land prior to July 7, 1994. Subsequent owners of industrial zoned land shall be limited to one *single family dwelling*.

12. Boat building and boat repair. Outdoor storage of materials and boats under construction is prohibited unless otherwise permitted by the *Planning Commission* and subject to such conditions as may be determined by the *Planning Commission*.

13. *Truck terminals*, limited to 20 trucks provided the parking and loading area is fenced, screened, and located at least 400 feet from any residential district boundary and 100 feet from all property lines. The limitation on the number of trucks does not apply to Employment Center Districts in the Route 301 corridor.

14. Storage and office trailers, temporary during construction.

15. Offices provided that a single building footprint is 10,000 square feet or greater.

16. *Agriculture*, excluding the raising of livestock and fowl, including horticulture, hydroponics, and truck farming, general farming, cultivation of field crops, and raising of orchards, groves, and nurseries.

17. *Solar energy systems, utility scale*, provided:*
    a. A solar collection device or combination of devices are designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard.
    b. Screening, capable or providing year round screening, is provided along any side that does not provide solar collection.
    c. Roof mounted solar collection devices shall not extent more than 10 feet from the top of the roof. The total height of the building, including the solar collection devices shall comply with the height regulations.
    d. Solar collection devices shall not exceed 45 feet in height.
    e. All solar collection devices shall register with the Kent County Department of Emergency Services and shall submit a map noting the location of the solar collection devices and the panel disconnect.

14.3 SPECIAL EXCEPTIONS

The following principal uses and *structures* may be permitted as special exceptions in the Employment Center District, subject to *site plan* review. Detail limitations and standards for these uses may be found in Article VII of this Ordinance.

1. *Personal wireless facility tower*
2. Radio and television tower, commercial
3. *Wind energy systems, small*, with a height that exceeds 80 feet**

14.4 PERMITTED ACCESSORY USES

The following *accessory uses* are permitted in the Employment Center District. A *site plan* shall be required.

1. *Day care group*

2. Dwellings, limited to two (2) for persons permanently employed on the *premises*

3. Offices

4. Out of water boat storage

5. *Restaurants* without drive through facilities

* Amended 8/3/10; ** Amended 9/6/11

SECTION 15 INDUSTRIAL DISTRICT

15.1 STATEMENT OF INTENT

This district is intended to provide for a range of industrial uses which are environmentally sound, sustainable, and compatible with adjacent uses. Furthermore, the district is limited to light manufacturing and support businesses. Light industries include those which manufacture, process, store, package or distribute goods and materials, and are, in general, dependent on raw materials refined elsewhere.

15.2 PERMITTED PRINCIPAL USES AND STRUCTURES

For every industrial *structure* and use erected, reconstructed, altered, or enlarged after the effective date of this Ordinance, a *site plan* shall be filed. No building permit shall be issued until said *site plan* is approved by the *Planning Commission*, or where applicable the Planning Director.

1. Manufacture, processing, fabrication, and assembly of products. These uses include but are not limited to scientific and precision instruments, photographic equipment, communications equipment, computation equipment, drugs, medicines, pharmaceuticals, household appliances, toys, sporting and athletic goods, glass products made of purchased glass, electric lighting and wiring equipment, service industry machines, lithographic and printing processes, industrial controls, radio and TV receiving sets, watches and clocks, bags and containers, sanitary paper products, optical goods, electrical machinery, prefabricated and modular housing and components, dairy product feed and grain, baked and confectioners' goods, farm machinery, frozen food processing, packing plants, animal and seafood processing, fruit and vegetable processing, canning and storage.

2. Businesses and industries, including research and *development* companies, of a similar nature to those listed in Article V Section 14.2.1 of this Ordinance may also be permitted by the Zoning Administrator. The Zoning Administrator shall consider the following:
   a. The impact of the proposed business or industry on existing or planned public facilities.
   b. The impact of the operation of the facility on the surrounding area.
   c. The health, safety, and welfare of employees and residents of the neighborhood.

3. Distribution centers and warehousing provided that a single building footprint does not exceed 75,000 square feet in size. The restriction on building footprint does not apply to the Employment Center District in the Route 301 corridor. In reviewing the *site plan*, the *Planning Commission*, or where applicable the Planning Director, shall consider the following:
   a. The impact of the proposed business or industry on existing or planned public facilities.
   b. The impact of the operation of the facility on the surrounding area.
   c. The health, safety, and welfare of employees and residents of the neighborhood.

4. *Agriculture*, excluding the raising of livestock and fowl, including horticulture, hydroponics, and truck farming, general farming, cultivation of field crops, and raising of orchards, groves, and nurseries.

5. Manufacture of concrete and ceramics products, commercial *sawmills*, sewage treatment plants, and lumberyards provided such use shall be located at least 400 feet from any residential district boundary.

6. Manufacture, processing, and distribution of hot mix asphalt (a.k.a. bituminous concrete or asphalt concrete) including the storage of raw materials *on-site*, provided asphalt cement shall not be refined on the *site*, and further provided that such facilities shall be located within two miles of Route 301.

7. *Personal wireless facilities* collocated on existing towers, water towers, electrical transmission towers, fire towers, silos, *grain dryers*, or other *structures* provided the height of the existing *structure* is not above that permitted by this Ordinance.

8. Public utility *buildings*, *structures*, water treatment plants, and transmission lines.

9. Blacksmith, welding and machine shops

10. Contractors' yard

11. Vocational and trade schools including training facilities

12. *Airports*, landing fields, helistops, and heliports

13. Governmental public works and utility *buildings* or *structures*

14. *Single family dwelling*, one per existing property, subject to the *yard* requirements found in the Agricultural Zoning District, provided however, that bona fide *intrafamily transfers* may be permitted in the industrial district [thus exceeding the one *single family dwelling* per existing property requirement] under the following conditions:
    a. The owner of the parcel or the proposed parcel shall attest, in writing, to the bona fide family relationship and that the intent of the *subdivision*/use is not for ultimate transfer to a third party.
    b. Any deed for a *lot* that is created by a bona fide *intrafamily transfer* shall contain a covenant stating that the *lot* is created subject to the provisions of this section and that the provisions of this section shall control as long as the property continues to be zoned industrial.
    c. A *lot* created by a bona fide *intrafamily transfer* may not be conveyed subsequently to any *person* other than a member of the owners immediate family except under the following procedures:
       The Kent County Planning Commission must determine that:
       i. The *lot* was created as a part of bona fide *intrafamily transfer* and not with the intent of subdividing the original parcel of land for purposes of ultimate transfer to a third party; or
       ii. The owner of the transferred property dies; or
       iii. A change of circumstances has occurred since the original transfer was made that is consistent with the intent of this ordinance.
    d. This subsection shall not prevent the conveyance of such a *lot* to a third party as security for a mortgage or deed of trust or subsequent conveyances resulting from a foreclosure.
    e. The maximum *lot* size shall be two acres;
    f. Any deed or *subdivision* plat for a *lot* created by a bona fide *intrafamily transfer* shall contain a statement that the adjacent property is zoned industrial;
    g. The parcel is created for the construction of a primary residence only; and
    h. These provisions apply to those individuals owning industrial zoned land prior to July 7, 1994. Subsequent owners of industrial zoned land shall be limited to a one *single family dwelling*.

15. Boat building and boat repair

16. *Truck terminals*, limited to 20 trucks provided the parking and loading area is fenced, screened, and located at least 400 feet from any residential district boundary and 100 feet from all property lines. The limitation on the number of trucks does not apply to Employment Center Districts in the Route 301 corridor.

17. Storage and office trailers, temporary during construction

18. *Solar energy systems, utility scale*, provided:**
    a. A solar collection device or combination of devices are designed and located to avoid glare or reflection onto adjacent properties and adjacent roadways and shall not interfere with traffic or create a safety hazard.
    b. Screening, capable or providing year round screening, is provided along the non-reflective axis of the solar collection device or collection of devices.
    c. Roof mounted solar collection devices shall not extend more than 10 feet from the top of the roof. The total height of the building including the solar collection devices shall comply with the height regulations.
    d. Solar collection devices shall not exceed 45 feet in height
    e. All solar collection devices shall register with the Kent County Department of Emergency Services and shall submit a map noting the location of the solar collection devices and the panel disconnect.

15.3 SPECIAL EXCEPTIONS

The following principal uses and *structures* may be permitted as special exceptions in the Industrial District, subject to *site plan* review. Detailed limitations and standards for these uses may be found in Article VII of this Ordinance.

1. *Personal wireless facility tower*
2. Radio and television tower, commercial
3. Production of biofuels*
4. *Wind energy systems, small*, with a height that exceeds 80 feet***

15.4 PERMITTED ACCESSORY USES

The following *accessory uses* are permitted in the Industrial District. A *site plan* shall be required.

1. *Day care group*

2. Dwellings, limited to two (2) for persons permanently employed on the *premises*

3. Offices

4. Out of water boat storage

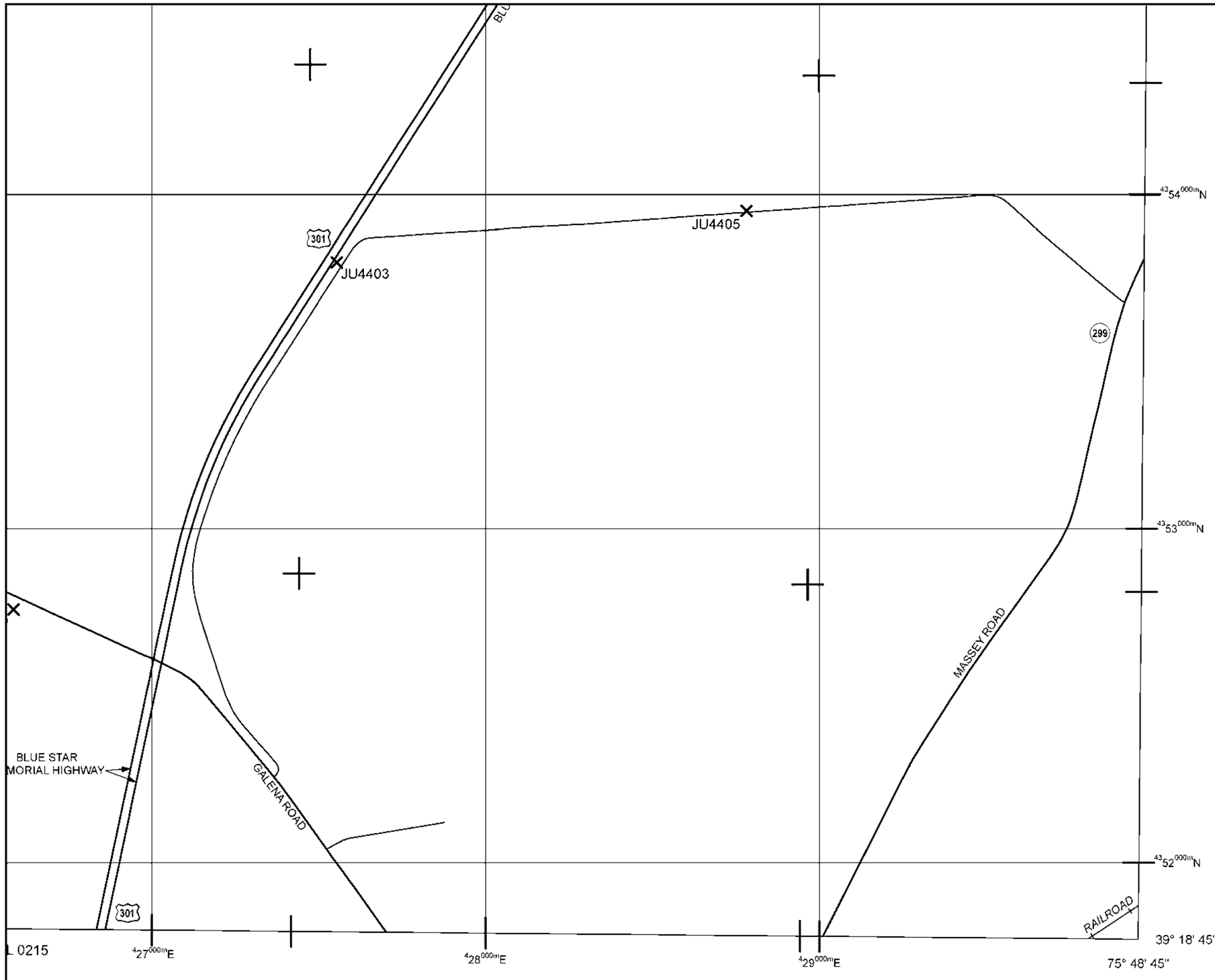
5. *Restaurants* without drive through facilities

6. Retail sales of products produced *on-site*

* Amended 11/21/06; ** Amended 8/3/10; *** Amended 9/6/11

APPENDIX 3

FEMA Flood Insurance Rate Map



MAP SCALE 1" = 1000'

00 0 1000 2000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0205D

FIRM

FLOOD INSURANCE RATE MAP

KENT COUNTY, MARYLAND AND INCORPORATED AREAS

PANEL 205 OF 450

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GALENA, TOWN OF	240096	0205	D
KENT COUNTY	240045	0205	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
24029C0205D

EFFECTIVE DATE
JUNE 9, 2014

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

JOINS PANEL 0205

1640000 FT

1645000 FT

75° 48' 45"

39° 18' 45"

GALENA RD

313

MASSEY RD

299

RAILROAD

JU1195

JU1194

MARYLAND LINE RD

330

JU4402

43 51 000m N

STAR MEMORIAL HWY

Kent County
Unincorporated Areas
240045

GALENA RD

JOINS PANEL 0225

CAROL CLARK RD

313

WALNUT TREE RD

JU1193

RAILROAD

Tributary No. 2 to Cypress Branch

43 50 000m N

1

MAP SCALE 1" = 1000'

0 1000 2000 FEET

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0215D

FIRM

FLOOD INSURANCE RATE MAP

KENT COUNTY, MARYLAND
AND INCORPORATED AREAS

PANEL 215 OF 450

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
KENT COUNTY	240045	0215	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
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APPENDIX 4

Sandia National Labs Solar Glare Hazard Analysis Report

Solar Glare Hazard Analysis Report

Generated for OneEnergy Blue Star Solar, LLC

Project Location: Massey, Maryland

July 2015

INTRODUCTION:

Measurement of reflected solar irradiance is receiving significant attention by industry, military, and government agencies to assess potential impacts of glint and glare from growing numbers of solar power installations around the world. The Sandia Laboratories tool was developed in conjunction with input and review from the United States Federal Aviation Authority (FAA) to allow solar developers a tool to calculate potential impacts of glint and glare on adjacent fixed points, such as an air control tower as well as to calculate impacts to pilots during flight path approach or departure.

OVERVIEW OF THE FOLLOWING STUDY:

A Glare Study was prepared for the OneEnergy Blue Star Solar, LLC project located in Kent County, Maryland using the Sandia Laboratories Solar Glare Hazard Analysis Tool. This tool determines the presence and ocular impact of solar glare throughout the year from a user-specified PV array as viewed from user-prescribed observation points. SGHAT can also predict the maximum annual energy production from the array so that alternative designs can be compared to maximize energy production while mitigating glare.

For the purpose of this study eleven observation points were analyzed at a height of 10 feet off of the ground elevation to account for motorists traveling both along State Route 313. The eleven observation point studies are presented in the following pages. The analysis for all eleven of the observation points that the project will not result in glare.

A flight path study for the OneEnergy Blue Star Solar, LLC project was not conducted as the project falls outside of the FAA Notice of Proposed Construction or Alteration Area and will not need to file permits as listed under the Form 7460–1.

CONCLUSION:

Photovoltaic solar panels are designed to absorb, not reflect, sunlight in order to convert it into electricity. A monocrystalline silicon solar cell, absorbs two-thirds of the sunlight reaching the panel's surface. Therefore, only one-third or 30 percent of the sunlight reaching the surface of the solar panel has the opportunity to be reflected. Any glare created from the panels will not be significantly more than the current farm use. Because of the tracking nature of the project, glare will occur only be for portions of the day instead of a consistent aspect of the project. Comparable levels of glare are listed below to help put this in context.

- 45% Dry Sand
- 30% Monocrystalline silicon solar cell
- 25% grass type vegetation
- 20% needle-leaf coniferous trees
- 10% broadleaf deciduous trees

This study does not account for the proposed vegetation buffer along State Route 313 which will only further reduce any potential affect from the project. These visual barriers such as fencing and screening will block and reduce what minimal glare may otherwise be visible from the project. With these visual barriers in place, no glare is expected to effect driver visibility along State Route 313.

Solar Glare Hazard Analysis Report

Generated July 8, 2015, 1:36 p.m.

No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
1	39.3159972058	-75.84205091	69.72	10.0

No glare found.

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Solar Glare Hazard Analysis Report

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
2	39.3152916591	-75.8412730694	68.88	10.0

No glare found.

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Solar Glare Hazard Analysis Report

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
3	39.3147604193	-75.8407661319	67.68	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
4	39.3139428001	-75.8399963379	66.2	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
5	39.3131438483	-75.8392372727	64.38	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
6	39.3124694013	-75.8385908604	66.33	10.0

No glare found.

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No glare found

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Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
7	39.3119671935	-75.8380007744	65.62	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
8	39.3113736706	-75.8372175694	64.15	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
9	39.3108133471	-75.8359086514	63.64	10.0

No glare found.

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Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
10	39.310651475	-75.8343744278	63.02	10.0

No glare found.

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No glare found

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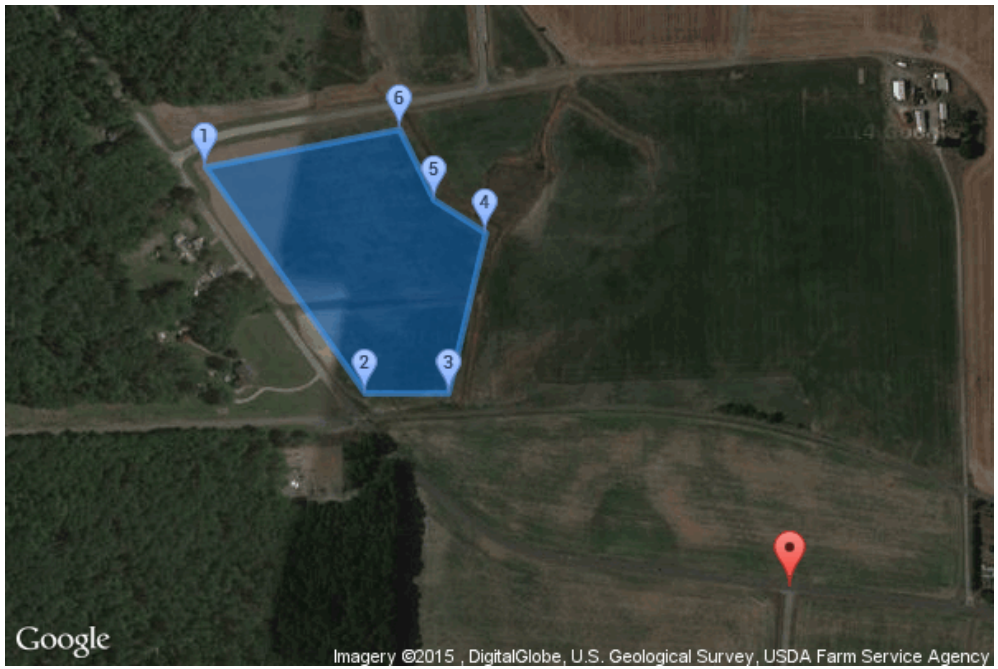

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Light textured glass with ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	9.16

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469773	-75.84026926	64.66	7.0	71.66
2	39.31242518	-75.83819016	67.29	7.0	74.29
3	39.31242512	-75.83711026	66.19	7.0	73.19
4	39.31403746	-75.83662133	62.98	7.0	69.98
5	39.31436874	-75.83729461	61.63	7.0	68.63
6	39.31507799	-75.83774164	63.65	7.0	70.65
7	39.31469773	-75.84026926	62.83	7.0	69.83

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
11	39.3104688497	-75.8326470852	62.21	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
1	39.3159972058	-75.84205091	69.72	10.0

No glare found.

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Solar Glare Hazard Analysis Report

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
2	39.3152916591	-75.8412730694	68.88	10.0

No glare found.

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Solar Glare Hazard Analysis Report

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
3	39.3147604193	-75.8407661319	67.68	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
4	39.3139428001	-75.8399963379	66.2	10.0

No glare found.

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No glare found

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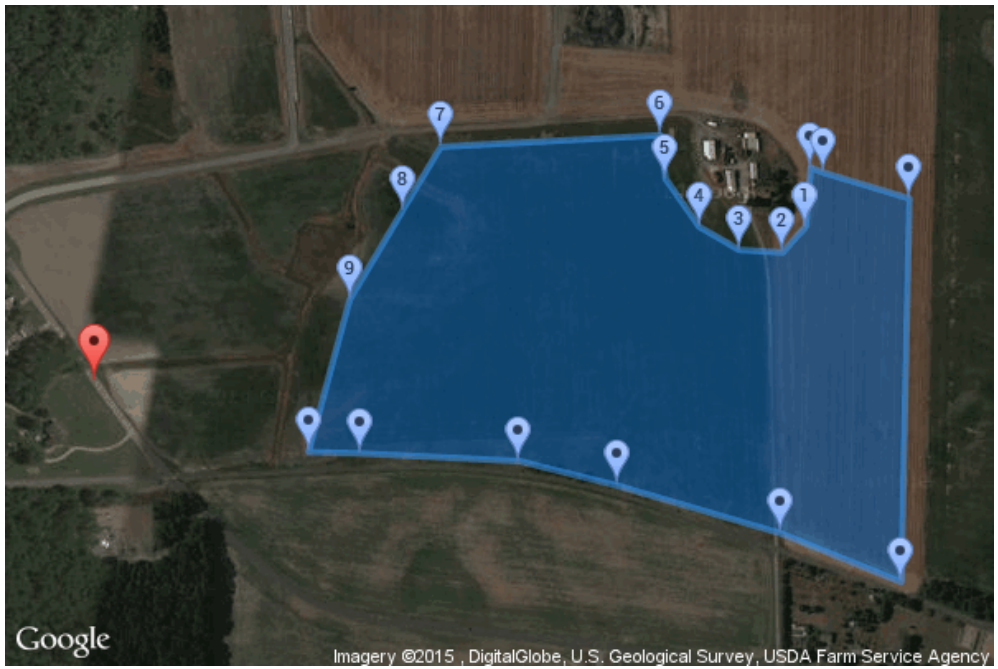

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
5	39.3131438483	-75.8392372727	64.38	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
6	39.3124694013	-75.8385908604	66.33	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
7	39.3119671935	-75.8380007744	65.62	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
8	39.3113736706	-75.8372175694	64.15	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
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14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
9	39.3108133471	-75.8359086514	63.64	10.0

No glare found.

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No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
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13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
10	39.310651475	-75.8343744278	63.02	10.0

No glare found.

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Solar Glare Hazard Analysis Report

Generated July 8, 2015, 1:41 p.m.

No glare found

Print

Inputs

Analysis name	Blue Star
PV array axis tracking	single
Tilt of tracking axis (deg)	0.0
Orientation of tracking axis (deg)	0.0
Offset angle of module (deg)	0.0
Limit rotation angle?	True
Maximum tracking angle (deg)	45.0
Rated power (kW)	0.0
Vary reflectivity	True
PV surface material	Smooth glass without ARC

Timezone offset	-5.0
Subtended angle of sun (mrad)	9.3
Peak DNI (W/m^2)	1000.0
Ocular transmission coefficient	0.5
Pupil diameter (m)	0.002

Eye focal length (m)	0.017
Time interval (min)	1
Correlate slope error with material	True
Slope error (mrad)	6.55

PV array vertices

id	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Height of panels above ground (ft)	Total elevation (ft)
1	39.31469937	-75.82999123	61.95	7.0	68.95
2	39.31444092	-75.83029147	61.98	7.0	68.98
3	39.31446696	-75.83085998	62.91	7.0	69.91
4	39.31470001	-75.8313785	66.12	7.0	73.12
5	39.31517875	-75.83181369	65.87	7.0	72.87
6	39.31561831	-75.83188115	63.64	7.0	70.64
7	39.31550223	-75.83474127	64.56	7.0	71.56
8	39.31485765	-75.83524231	63.67	7.0	70.67
9	39.31396473	-75.83592871	62.66	7.0	69.66
10	39.31243527	-75.83646448	62.63	7.0	69.63

11	39.31242227	-75.83579517	64.24	7.0	71.24
12	39.31234446	-75.83372102	63.71	7.0	70.71
13	39.31209847	-75.83244923	61.73	7.0	68.73
14	39.31161895	-75.83031996	59.71	7.0	66.71
15	39.31112652	-75.82874607	62.66	7.0	69.66
16	39.31498239	-75.82864051	66.42	7.0	73.42
17	39.31524207	-75.82975861	64.01	7.0	71.01
18	39.31529385	-75.8299258	63.63	7.0	70.63
19	39.31469937	-75.82999123	61.52	7.0	68.52

Observation Points

	Latitude (deg)	Longitude (deg)	Ground Elevation (ft)	Eye-level height above ground (ft)
11	39.3104688497	-75.8326470852	62.21	10.0

No glare found.

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APPENDIX 5

Maryland Historical Trust Correspondence

May 13, 2015

Gia Clark
OneEnergy Renewables
101 Yesler Way, Suite 401
Seattle, WA 98104

RE: Blue Star Solar
12231 Galena Road, Massey, MD – Kent County
Review for Effects on Historic Properties

Dear Ms. Clark:

Thank you for providing the Maryland Historical Trust (MHT) with additional information related to the above-referenced undertaking. As the State Historic Preservation Office, MHT reviews all projects in Maryland that are undertaken, assisted, or permitted by a federal or state agency, and MHT comments on the proposed action pursuant to Section 106 of the National Historic Preservation Act and Sections 5A-325 and 5A-326 of the State Finance and Procurement Article. The proposed utility-scale photovoltaic project at 12231 Galena Road will require a Certificate of Public Convenience and Necessity and is therefore subject to state historic preservation law.

MHT first learned of the planned undertaking in December of 2014. Our February 4, 2015 letter requested that the project site, which is recorded in the Maryland Inventory of Historic Properties (MIHP) as number K-163, be formally evaluated with a Determination of Eligibility (DOE) form to establish whether or not it is eligible for listing in the National Register of Historic Places and therefore "historic" for the purpose of our review. We received a partial DOE form for the property from Mechelle Kerns on April 29, 2015. A preliminary review of the form indicates that it does not conform to the *Standards and Guidelines for Architectural and Historical Investigations in Maryland* (Standards and Guidelines), the *Standards for Submission of Digital Images to the Maryland Inventory of Historic Properties* (Image Standards), and other best practices as described below. A revised form should be prepared and submitted to MHT.

- All DOE forms must be accompanied by photographic prints as described in the *Guidelines for Compliance-Generated Determinations of Eligibility*.
- The Standards and Guidelines require that photographic prints be submitted in side-loading storage sleeves.
- The Image Standards require that digital photographs be unedited "original capture .tif or .tiff files or raw files converted to .tiff." The Cannon Powershot SX510 camera used to take the submitted photos captures only in the lossy jpeg format.
- DOE forms cannot have embedded photographs or non-text tables, since they will not upload into the text-only database. Plans or printed historic photographs may be submitted as separate pages.
- Photographs should be in side-loading sleeves, 2 per page so that the label shows on the back.
- All pages should be three-hole punched.

- DOE forms must contain sufficient description of buildings, structures, areas of land use, and the overall landscape of a property to evaluate its historic integrity and its significance under National Register Criterion C. This should include information about feature age, form, stylistic elements, methods of construction, materials, and condition. The submitted form contains no discussion of any of the buildings or landscape features except the house.
- DOE forms must also contain or cite sufficient historical context to evaluate a property under National Register Criteria A and B. This should include information derived from historic maps and land records; examination of the existing buildings, structures, and landscape as historical sources; and relevant information from existing reports and other secondary sources. The submitted form contains no discussion of the contexts under which the property is most likely to be eligible for listing in the National Register, including association with regional trends in agricultural history.
- The text of the DOE form should follow the general format described in the *Guidelines for Compliance-Generated Determinations of Eligibility* and directly address National Register Criteria A, B, and C.

Thank you for providing us this opportunity to comment. We look forward to receiving revised copies of these forms and working with all interested parties to successfully complete the historic preservation requirements for this undertaking. If you have any questions or we may be of assistance, please contact me at jonathan.sager@maryland.gov or 410-514-7636.

Sincerely,

Jonathan Sager
Preservation Officer
Maryland Historical Trust

JES \ 201501652
CC: Mechelle Kerns (Kerns CRM Consultants)

APPENDIX 6

US Fish and Wildlife Preliminary Endangered Species List

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
PHONE: (410)573-4599 FAX: (410)266-9127

Consultation Code: 05E2CB00-2015-SLI-0853 April 22, 2015
Event Code: 05E2CB00-2015-E-00757
Project Name: Blue Star Solar

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

Preliminary

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having

similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment

Preliminary

United States Department of Interior
Fish and Wildlife Service

Project name: Blue Star Solar

Preliminary Species list

Provided by:

Chesapeake Bay Ecological Services Field Office
177 ADMIRAL COCHRANE DRIVE
ANNAPOLIS, MD 21401
(410) 573-4599

Consultation Code: 05E2CB00-2015-SLI-0853
Event Code: 05E2CB00-2015-E-00757

Project Type: Power Generation

Project Name: Blue Star Solar
Project Description: Blue Star Solar will include approximately 45 acres of cleared industrial zoned land outside of Massey, MD. There may be some light clearing and grading but little impervious surface. It is expected that this project will generate 6MW of power.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Preliminary

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-75.8282653 39.310827, -75.8297674 39.3113915, -75.8325139 39.3119227, -75.8357734 39.3122896, -75.838005 39.3122232, -75.840537 39.3146139, -75.8401486 39.3148131, -75.8388633 39.3150787, -75.8361188 39.3154439, -75.8344022 39.3156083, -75.8315719 39.3156764, -75.8310977 39.3149774, -75.8306707 39.3146803, -75.8301965 39.3145475, -75.8296386 39.3147135, -75.8293811 39.3150787, -75.8295099 39.3157428, -75.8280958 39.3157096, -75.8282653 39.310827)))

Project Counties: Kent, MD

United States Department of Interior
Fish and Wildlife Service

Project name: Blue Star Solar

Endangered Species Act Species List

There are a total of 1 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Flowering Plants	Status	Has Critical Habitat	Condition(s)
Small Whorled pogonia *(Isotria medeoloides)*	Threatened		

Preliminary

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Preliminary

APPENDIX 7

MDNR Rare, Threatened, or Endangered Species Findings

MARYLAND
DEPARTMENT OF
NATURAL RESOURCES

Martin O'Malley, *Governor*
Anthony G. Brown, *Lt. Governor*
Joseph P. Gill, *Secretary*
Frank W. Dawson III, *Deputy Secretary*

December 18, 2014

Ms. Gia Clark
OneEnergy Renewables
101 Yesler Way, Suite 401
Seattle, WA 98104

RE: Environmental Review for Proposed Blue Star Solar Project at 12231 Galena Road, Massey, Tax Map 16, Parcel 9, Kent County, Maryland.

Dear Ms. Clark:

The Wildlife and Heritage Service has determined that there are no State or Federal records for rare, threatened or endangered species within the boundaries of the project site as delineated. This statement should not be interpreted however as meaning that rare, threatened or endangered species are not in fact present. If appropriate habitat is available, certain species could be present without documentation because adequate surveys have not been conducted. It is also important to note that the utilization of state funds, or the need to obtain a state authorized permit may warrant additional evaluations that could lead to protection or survey recommendations by the Wildlife and Heritage Service. If this project falls into one of these categories, please contact us for further coordination.

Our analysis of the information provided also suggests that the forested area on the project site contains Forest Interior Dwelling Bird habitat. Populations of many Forest Interior Dwelling Bird species (FIDS) are declining in Maryland and throughout the eastern United States. The conservation of FIDS habitat is strongly encouraged by the Department of Natural Resources. The following guidelines could be incorporated as appropriate into the site design to help minimize the project's impacts on FIDS and other native forest plants and wildlife:

1. Restrict development to nonforested areas.
2. If forest loss or disturbance is unavoidable, concentrate or restrict development to the following areas:
   a. the perimeter of the forest (i.e., within 300 feet of existing forest edge)
   b. thin strips of upland forest less than 300 feet wide
   c. small, isolated forests less than 50 acres in size
   d. portions of the forest with low quality FIDS habitat, (i.e., areas that are already heavily fragmented, relatively young, exhibit low structural diversity, etc.)
3. Maximize the amount if forest "interior" (forest area >300 feet from the forest edge) within each forest tract (i.e., minimize the forest edge:area ratio). Circular forest tracts are ideal and square tracts are better than rectangular or long, linear forests.
4. Minimize forest isolation. Generally, forests that are adjacent, close to, or connected to other forests provide higher quality FIDS habitat than more isolated forests.

5. Limit forest removal to the "footprint" of houses and to that which is necessary for the placement of roads and driveways.
6. Minimize the number and length of driveways and roads.
7. Roads and driveways should be as narrow and as short as possible; preferably less than 25 and 15 feet, respectively
8. Maintain forest canopy closure over roads and driveways.
9. Maintain forest habitat up to the edges of roads and driveways; do not create or maintain mowed grassy berms.
10. Maintain or create wildlife corridors.
11. Do not remove or disturb forest habitat during April-August, the breeding season for most FIDS. This seasonal restriction may be expanded to February-August if certain early nesting FIDS (e.g., Barred Owl) are present.
12. Landscape homes with native trees, shrubs and other plants and/or encourage homeowners to do so.
13. Encourage homeowners to keep pet cats indoors or, if taken outside, kept on a leash or inside a fenced area.
14. In forested areas reserved from development, promote the development of a diverse forest understory by removing livestock from forested areas and controlling white-tailed deer populations. Do not mow the forest understory or remove woody debris and snags.
15. Afforestation efforts should target a) riparian or streamside areas that lack woody vegetative buffers, b) forested riparian areas less than 300 feet wide, and c) gaps or peninsulas of nonforested habitat within or adjacent to existing FIDS habitat.

Thank you for allowing us the opportunity to review this project. If you should have any further questions regarding this information, please contact me at (410) 260-8573.

Sincerely,

Lori A. Byrne

Lori A. Byrne,
Environmental Review Coordinator
Wildlife and Heritage Service
MD Dept. of Natural Resources

ER# 2014.1734.ke
Cc: F. Kelley, DNR

APPENDIX 8

Phase 1 Environmental Site Assessment

PHASE I ENVIRONMENTAL SITE ASSESSMENT

SITE: Blue Star Solar Project
LOCATION: Massey, Kent County, Maryland

Prepared for:

OneEnergy Development, LLC
101 Yesler Way, Suite 401
Seattle, Washington 98104

Prepared by:

EarthTouch, Inc.
3135 North Fairfield Road, Suite D
Layton, Utah 84041

EarthTouch, Inc.
3135 North Fairfield Road, Suite D
Layton, Utah 84041
Telephone: 801.771.2800
Facsimile: 801.771.2838

26-May-2015

Mr. Rob Collier
OneEnergy Development, LLC
101 Yesler Way, Suite 401
Seattle, Washington 98104

Subject: Phase I Environmental Site Assessment Report
OER-15-0009-MD / Blue Star Solar Project
12213 Galena Road
Massey, Kent County, Maryland 21650

Dear Mr. Collier:

EarthTouch, Inc. has completed a Phase I Environmental Site Assessment (ESA) of the above-referenced property in general accordance with industry standards and the Scope of Work provided to OneEnergy Renewables. This Phase I ESA is intended to initiate *all appropriate inquiry into previous ownership and uses of the subject property consistent with good commercial or customary practice* and to satisfy one of the requirements to qualify for limitations on liability as provided by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Based on review of *readily available* historical information, physical setting data, environmental regulatory agency databases, site inspection and site vicinity reconnaissance; some sampling of near surface soil should be considered due to the past use of the site for agricultural purposes during a period of time in which some application of organic and inorganic pesticides, herbicides, and fertilizers occurred. The application of chorine- , phosphate, and metal-based pesticides/herbicides generally occurred at agricultural land use properties from the 1940s to the 1970s prior to being banned due to the build-up, latency, and toxicity of these chemical compounds in the environment and near surface soil once applied. However, the Maryland Department of the Environment (DE) does not mandate or require sampling of near surface soil for these contaminants of concern for proposed changes in land use from existing agricultural use to proposed commercial or residential use.

Based on the review of the available historical information, regulatory databases, and site reconnaissance information, some sampling of near surface soil should be considered. The site has been used for agricultural purposes for over 200 years during a period of time in which some application of a variety of organic and inorganic pesticides, herbicides, and fertilizers generally occurred; with many chorine- and metal-based pesticides and herbicides having long latency within the environment and near surface soil.

Additionally, the site uses have included automobile service and repair from 1982 to the present and an industrial hot mix asphalt plant from the late 1990s to the present. The majority of the areas associated with the automobile service and repair as well as the hot mix asphalt plant land uses are in inferred cross- or down-gradient positions with respect to the proposed ground lease; however in the event that ground

disturbing activities encounter stained or malodorous soils, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

Should any additional information regarding the environmental condition of the site become available or the proposed action change, it should be provided to EarthTouch, Inc. for review and re-evaluation of the above conclusions.

We appreciate the opportunity to provide OneEnergy Development, LLC with environmental assessment services for this proposed solar energy project location. Should you have any questions regarding the attached report, please reach out to me at: 801.771.2800; or via email at bcox@earthtouchinc.com.

Sincerely,
EarthTouch, Inc.

Brett E. Cox
President / Senior Scientist

PHASE I ENVIRONMENTAL SITE ASSESSMENT OF A RURAL RESIDENTIAL, AGRICULTURAL, AND INDUSTRIAL LAND USE PROPERTY AND PROPOSED SOLAR ENERGY PROJECT LEASE AREA AT 12213 GALENA ROAD NEAR MASSEY IN UNINCORPORATED KENT COUNTY, MARYLAND

22-May-2015

Prepared for:

OneEnergy Development, LLC
101 Yesler Way, Suite 401
Seattle, Washington 98104

Prepared by:

EarthTouch, Inc.
3135 North Fairfield Road, Suite D
Layton, Utah 84041
Telephone: 801.771.2800
Facsimile: 801.771.2838

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PHASE I ENVIRONMENTAL SITE ASSESSMENT OF A RURAL RESIDENTIAL, AGRICULTURAL, AND INDUSTRIAL LAND USE PROPERTY AND PROPOSED SOLAR ENERGY PROJECT LEASE AREA AT 12213 GALENA ROAD NEAR MASSEY IN UNINCORPORATED KENT COUNTY, MARYLAND

1.0 INTRODUCTION

EarthTouch, Inc. has completed a Phase I Environmental Site Assessment (ESA) of a proposed roughly 63-acre lease area within a larger rural residential, agricultural, and industrial land use property located at 12213 Galena Road near the town of Massey, in unincorporated Kent County, Maryland (*subject property* or *site*). The subject property is located to the north and east of Galena Road (State Route 313 [SR-313]) approximately 1,050 feet northwest of the intersection of Galena and Massey Roads, and 700 feet east of the junction of Galena Road and US Highway 30 (Blue Star Memorial Highway), and west of the town of Massey (Figure 1). The town of Massey resides within the eastern portion of Kent County approximately 40 miles east of Baltimore, roughly 20 miles northwest of Dover (Delaware), and about 14 miles northeast of Chesterton, the Kent County seat. The topography of the site and site vicinity is generally flat to gently rolling hills crossed by meandering streams and rivers (Figure 2). The site is an irregularly-shaped tract of land encompassing about 224.67 acres within Kent County and bordered by variable size undeveloped, agricultural, residential land use properties and public streets and rights-of-way (Figure 3). Improvements to the site are generally confined to two areas and include a residential compound positioned in the east-central section of the site as well as a hot mix asphalt plant located within the northwestern part of the subject property. The residential compound includes a residential dwelling, vehicle repair garage, a barn, and out buildings. The hot mix asphalt plant includes a quality control building, an industrial asphalt mixing facility, and material storage areas and was identified by signage as "David A. Bramble, Massey Hot Mix Asphalt Plant." Additional improvements to the site include dirt/gravel access drives, an irrigation system, and some perimeter fencing (Figure 4). The proposed ground lease areas are situated within the southern section of the site to the south of a gravel covered access road and to the east, south, and west of the residential compound.

This Phase I ESA was conducted and completed on behalf of OneEnergy Development, LLC, which is considering developing a solar power facility within a lease area(s) on the site. This Phase I ESA was performed in order to render an opinion as to whether past or present land uses and site conditions may indicate the presence of potentially hazardous substances and/or petroleum products under conditions indicative of a past, existing, or *material threat* of release impacting the site.

1.1 Objective and Scope of Work

The scope of work was performed in general accordance with the American Society for Testing and Materials (ASTM) Designation E 1527-13, titled *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process* (ASTM Standard Practice). The ASTM Standard Practice is intended to initiate *all appropriate inquiry into previous ownership and uses of the subject property consistent with good commercial or customary practice*, as defined at 42 USC §9601 (35)(B); and may be used to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner*, or *bona fide prospective purchaser* limitations on liability under the Comprehensive

Environmental Response, Compensation, and Liability Act (CERCLA), as amended. However, no warranty is made as to whether this report constitutes *all appropriate inquiry* as defined. The Phase I ESA is a technical report and not a legal representation or an interpretation of federal, state, or local environmental laws, rules, regulations, or policies.

The primary objective of the Phase I ESA was to evaluate past and current land uses to identify and document *recognized environmental conditions, controlled recognized environmental conditions,* and/or *historical recognized environmental conditions* in connection with the subject property as defined in the ASTM Standard Practice.

Scope of Work

The scope of work performed to meet the objective included the following:

Environmental Regulatory Agency Records and Historical Use Information Review

- Review and evaluate *readily available* federal, state, and local environmental regulatory agency databases and other information regarding the presence of properties, areas, operations, and/or facilities that could potentially impact the environmental integrity of the subject property due to spill(s), release(s) and/or unauthorized discharge(s) of potentially hazardous substances and/or petroleum products.
- Review and evaluate historical topographic maps and aerial photographs, fire insurance maps, city directories, land/title records, and other historical land use information as it relates to developing an understanding of previous land use(s) and potential source(s) of potentially hazardous substances and/or petroleum products associated with past land use(s) that may have impacted the site.

Site and Site Vicinity Reconnaissance and Interviews

- Conduct a site inspection to observe existing environmental conditions at the subject property and adjoining properties and to look for evidence of present or past operations, practices, features/structures that may be indicative of the presence of potentially hazardous substances and/or petroleum products that, in our judgment, have the potential to impact the subject property.
- Conduct a site vicinity reconnaissance, completed from public easements or common areas, to gather information about nearby properties, operations, and/or facilities and identify potential contaminant source(s) that, in our judgment, have the potential to impact the subject property.

Interviews

- Conduct interviews with *Owners*, *Operators*, neighbors, and/or government officials, as appropriate, to obtain information about historical uses and current conditions of the subject property and adjacent/nearby areas with respect to the possible presence of potentially hazardous substances and/or petroleum products and likelihood of adverse impact to the environmental condition of the site.

Data Evaluation and Report Compilation

- Review and evaluate the data gathered and prepare a report summarizing the findings and providing conclusions regarding known or suspect *recognized environmental conditions, controlled recognized environmental conditions, historical recognized environmental conditions,* and *de minimis* conditions and offer recommendations for further assessment of the environmental condition of the site, if any.

Authorization

This Phase I ESA was conducted by personnel from EarthTouch, Inc. in response to the request and authorization of Mr. Rob Collier of OneEnergy Development, LLC. The evaluation was conducted of the *site* or *subject property* as defined by the legal description included in Section 5.1 of this report, or as otherwise defined.

Terminology

For the purposes of discussion, the following terms are used in this report:

- The terms *site* and *subject property* are used more or less interchangeably and refer to the area within the approximate boundaries of the legal description of the property described in Section 5.1.
- *Site vicinity* refers to an area within an approximately ½-mile radius of the site.
- The term *recognized environmental condition* is defined as, "The presence or likely presence of any hazardous substances or petroleum products in, on, or at a property (i) due to release to the environment; (ii) under conditions that are indicative of a release to the environment; or (iii) under conditions that pose a *material threat* of a future release to the environment. *De minimis* conditions are not *recognized environmental conditions*."
- The term *controlled recognized environmental condition* is defined as, "…a *recognized environmental condition* resulting from a past *release* of *hazardous substances* or *petroleum products* that has been addressed to the satisfaction of the applicable regulatory authority with *hazardous substances* or *petroleum products* allowed to remain in place subject to the implementation of required controls."
- The term *historical recognized environmental condition* is defined as, "…a past *release* of any *hazardous substances* or *petroleum products* that has occurred in connection with the *property* and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the *property* to any required controls."

2.0 LIMITATIONS OF THIS ASSESSMENT

The scope of work for this Phase I ESA was conducted in manner consistent with the level and degree of skill and care ordinarily exercised by members of the environmental consulting profession for this type of evaluation. The scope of work was limited and did not necessarily include inquiry with respect to drinking water quality; soil or groundwater sampling; naturally occurring hazards; issues associated with worker safety; compliance with environmental regulations; structural hazards; or off-site management of hazardous substances, petroleum products, or solid wastes; or other issues not specifically identified in this report.

Although EarthTouch, Inc. has taken steps to obtain information we deem to be reliable; we do not warrant the authenticity, veracity, or reliability of the data supplied by others to complete this report and cannot be responsible for conditions or consequences that may arise from relevant facts being incorrect, concealed, or not fully disclosed during the course of this evaluation. The findings and conclusions presented in this report are professional opinions based upon the data described in this report, visual observations of the subject property and site vicinity, interviews of individuals knowledgeable regarding the site, and our interpretation of readily available information. Opinions and conclusions presented within the report apply to the environmental conditions at the time of our evaluation. Changes to the environmental conditions may occur through natural forces or man-made processes on the subject

property and/or nearby properties after the services performed by EarthTouch, Inc. were completed. Therefore, it should be noted that the Phase I ESA is not intended to be a definitive investigation of the environmental conditions that may be present at the subject property or within the site vicinity, and the recommendations provided are not necessarily inclusive of all possible conditions.

This Phase I ESA was prepared solely for the benefit, use, and reliance of OneEnergy Development, LLC and may be used to satisfy one of the requirements to qualify for the *innocent landowner, contiguous property owner*, or *bona-fide prospective purchaser* limitation on liability, as promulgated by CERCLA. The scope of work performed to complete this Phase I ESA may not be appropriate to satisfy the needs of other users. EarthTouch, Inc. is not responsible for any claims, damages, or liabilities associated with the interpretation by a third-party of the findings, conclusions, opinions, or recommendations of this report. Any use or reuse of this report by any third-party, not expressly identified and without the express written authorization of EarthTouch, Inc. is at the sole risk of the third-party.

3.0 PHYSICAL SETTING

Descriptions of the environmental characteristics and physical setting of the subject property are based upon a reconnaissance of the site and review of *readily available* information.

Topography

The site is located on the western portion of the Delmarva Peninsula, which is separated from the main body of Maryland by Chesapeake Bay. The site vicinity is situated within the Atlantic Plains physiographic province in the Embayed Section of the Atlantic Coastal Plain subprovince that stretches over 2,200 miles from Cape Cod, Massachusetts to the southern Texas. The plain slopes seaward from the Appalachian highlands and piedmont areas out to the continental shelf. The overall topographic relief in this area slopes toward the continental shelf at an overall slope of a few feet per mile, but localized topography can vary. The Embayed Section contains numerous drowned valleys, bays, and estuaries. Topography in site vicinity ranges from about 65 feet above mean sea level (amsl) near Massey (junction of Galena and Massey Roads) to about 45 feet amsl along the banks of Swantown Creek about one mile to the north. The US Geological Survey 7.5-minute quadrangle map for the site and site vicinity (Millington, Maryland) depicted the subject property at an average elevation of about 65 feet above mean sea level (amsl). Elevation change across the site is estimated to be roughly ten feet.

Geology

The geology of the Delmarva Peninsula includes thousands of feet of layered sediments eroded from the Appalachian Highlands covering subsided marine sedments consisting of alternating layers of sand, silt, clay, and limestone dipping towards the coast. Along river valleys, portions of the coastal plain are overlain by quaternary fluvial deposits. The subject property and vicinity are underlain by Upland Deposits of the Eastern Shore that include a combination of cross-bedded, poorly sorted gravel, sand, silt, and clay of the Wicomico Formation.

Soil

The Natural Resources Conservation Service (NRCS) has compiled soil survey data for Kent County, including the areas about the subject property. The soils at the site were identified as a mix of Metapeake-Metapex-Butlertown-Othello silt loam and Sassafras sandy loam in the *Soil Survey of Kent County, Maryland*.

The Metapeake series consists of very deep soils formed from silty eolian sediments underlain by more coarse fluvial or marine sediments commonly found on uplands interfluves and side slopes with slopes

that range from 0 to 30 percent. These soils are described as well drained, have a moderate to moderately slow permeability, and surface runoff that is described as medium.

The Mettaplex series consists of very deep soils formed from silty eolian deposits over fluvial marine sediments commonly found on flat uplands and lowlands with slopes that range from 0 to 30 percent. These soils are described as moderately well drained, have a moderate to moderately slow permeability, and surface runoff that ranges from low to high.

The Butler series consists of moderately deep soils to the fragipan formed from silty eolian and/or fluviomarine deposits commonly found on coastal plains with slopes that range from 0 to 15 percent. These soils are described as moderately well drained, have a slow permeability, and surface runoff that is described as moderate.

The Othello series consists of very deep soils formed from silty eolian and/or fluviomarine deposits commonly found on lowlands of the coastal plains with slopes that range from zero to five percent. These soils are described as poorly drained, have a moderately slow to slow permeability, and surface runoff that is described as negligible.

The Sassafras series consists of very deep soils formed from loamy fluviomarine deposits commonly found on uplands of the coastal plains with slopes that range from 0 to 45 percent. These soils are described as well drained, have a moderately slow to slow permeability, and surface runoff that is described as negligible to medium.

Surface Water

The subject property is located within the Sassafras River drainage, which is a tributary stream within the Chesapeake Bay watershed. The Sassafras Ricer is about 20 miles in length and drains roughly 97 square miles of northeastern Kent County and southern Cecil County. Within the site vicinity, there are a number of tributary streams and creeks, including Swantown Creek which travels north from the site to the Sassafras River located about three miles to the north of the subject property. The site is traversed by a tributary of Swantown Creek.

Groundwater

The site and surrounding site vicinity are situated within the Coastal Plain aquifer system and more specifically within the Aquia, Momouth, Magothy, and Patapsco aquifers. The Coastal Plain Aquifer system is composed of a wedge of mainly unconsolidated sediment that thickens as it goes eastward from the Fall Line. The Maryland Coastal Plain Aquifers system is comprised of 16 aquifers and 14 confining units. Included in this are portions of the four aquifers which underlie sections of Kent County. The Aquia Aquifer provides water primarily for Anne Arundal, Calvert, Queen Anne's Kent, St. Mary's, and Talbot counties. The aquifer is comprised of fine- to coarse-grained quartzose and glauconitic sands interbedded with layers of cemented sandstone and shell. The Monmouth Aquifer is a source of water for the northern portion of the Eastern Shore of Maryland, particularly Kent County. The Monmouth Aquifer consists of predominantly sandy portions of the Mount Laurel Formation which includes dark gray, micaceous, clayey, and quartzose sands. The Magothy Aquifer is an important source of water for Anne Arundals, Charles, Cecil, Dorchester, Kent, Queen Anne's, and Talbot counties. The Magothy Aquifer consists of predominantly sandy portions of the Magothy Formation which includes light gray to white quartzose sands and gravels imbedded with layers of white, gray, and black clays. The Patapsco Aquifer consists of predominantly sandy portions of the Patapsco Formation which includes medium- to coarse-grained feldpatjic and quartzose sands and gravels interbedded with layers of red, gray, and molted clay. Depth to shallow groundwater in the site vicinity is estimated to be within 10 to 15 feet below ground

surface (bgs). In general, shallow groundwater gradient tends to mimic surface topography, which has a dendritic drainage pattern within the site vicinity sloping to the north, southeast, and southwest. However, shallow groundwater at the site is estimated to have a northerly gradient but may vary.

4.0 CHARACTERISTICS OF THE SITE VICINTY AND ADJOINING PROPERTIES

The characteristics of the general area, site vicinity, and adjoining properties are based upon information gathered during a site reconnaissance and review of *readily available* public information.

Characteristics of the General Area

The subject property is situated to the west of the town of Massey in an unincorporated area of Kent County. Kent County was founded in 1642 and occupies approximately 413 square miles, of which roughly 136 square miles is water. The population of Kent County is about 20,000 and is the least populated county is Maryland. Kent County is bordered by the Sassafras River then Cecil County to the north, by New Castle and Kent Counties (Delaware) to the east, by the Chester River and Queen Anne's County to the south, and by the Chesapeake Bay to the west. Kent County includes the towns of Betterton, Chesterton (county seat), Galena, Millington, and Rock Hall; as well as the communities of Butlertown, Edesville, Fairlee, Georgetown, Kennedyville, Tolchester, Worton, Lynch, Massey, and Still Pond. The principal industries are agricultural as working fishing. Chesapeake Bay and the many tributaries provide for rich croplands and large fishing areas which include crabs, oysters, and a variety of fish. Kent County is connected to other parts of Maryland and surrounding areas by US Highway 301 and numerous State Routes.

Site Vicinity and Adjoining Properties

Adjoining properties were visually observed from public rights-of-way and/or easements to determine current land use and ascertain whether current business operations could potentially impact the subject property. For the purposes of this report, *adjoining property* means a property that borders or is contiguous or partially contiguous with the subject property including those properties separated from the subject property by a public street or alley or private easement.

The site vicinity is a mixed-use, but predominantly agricultural area composed of a variety of undeveloped/wooded, agricultural, and residential land uses with other scattered land uses. The subject property is generally bordered by the following:

- North A combination of undeveloped/wooded and agricultural land uses;
- East Agricultural land uses;
- South A railroad line then a combination of agricultural and residential land uses; and
- West Galena Road then a combination of undeveloped/wooded and residential land uses.

A reconnaissance of the site vicinity failed to identify any facilities, properties, or business operations or activities situated within a 1,000-foot radius of the site and located in apparent up-slope and/or inferred up-gradient positions with respect to the subject property that would appear to pose a concern to the environmental condition of the site with the exception of a railroad line that adjoins the site to the south.

A section of a railroad line borders the site to the south. In general, the rail line has an east-west orientation within the site vicinity. The railroad lines appear to have been present since at least 1900. A typical railroad track and right-of-way are constructed with creosote treated wooden railroad ties on a bed of rock ballast. The passing locomotives and rail cars periodically release oils, acids from lead acid batteries, and various hazardous substances that are on or in the rail cars. Based on a combination of

position, distance, and longevity of this feature in the area, the possibility that the rail line has impacted or could pose and adverse environmental concern to the subject property and the southern portion of the proposed lease area is considered to be low to moderate. However in the event that ground disturbing activities encounter stained or malodorous soils in areas near the rail line, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

5.0 SITE INFORMATION, DESCRIPTION, AND RECONNAISSANCE

EarthTouch, Inc. personnel conducted an inspection to observe the present use(s) and condition(s) pertaining to the possible presence of potentially hazardous substances, non-hazardous regulated substances, and/or petroleum products at the site. Mr. Sean Thal, an *Environmental Professional* at EarthTouch, Inc. inspected the subject property on 3-Apr-2015. Access to the subject property was authorized by Ms. Megan Owings (representative of the Owner) and access was by provided Mr. Tony Monza (current tenant and longtime resident of the site); who were also *readily available* to answer questions regarding historical uses and environmental conditions of the subject property.

Adjoining properties and nearby properties were observed from the subject property and adjacent public roads, easements, or rights-of-way to identify land uses and the potential presence of structures, operations, activities, or environmental conditions that may involve the use, treatment, storage, disposal, or generation of hazardous wastes, non-hazardous regulated wastes, and/or petroleum products under conditions that may pose a concern of adverse impact to the site.

Photographic documentation of the subject property and adjoining properties is included in Appendix A of this report.

5.1 Civic Address and Legal Description

The civic address for the site is given as 12213 Galena Road, near the town of Massey, Kent County, Maryland (21650). It should be noted that a separate address is also identified for the site and includes 32559 Bramble Way, near the town of Massey, Kent County, Maryland (21650). The site is depicted on a Tax Assessor Map as an irregularly-shaped tract of land encompassing about 224.67 acres that is partially bordered by Galena Road, a rail line, and variable-sized agricultural and residential properties; and private and public rights-of-way. The Maryland State Department of Assessments and Taxation identified the subject property by the following Map Grid Parcel Numbers as well as the District Account Numbers: 0016 0004B 0009 and 01 017217. The size, shape, and dimensions of the subject property are summarized below and depicted in Figure 3. A summary legal description of the subject property is included as follows:

- 224.67 acres, 12213 Galena Road W of Massey

5.2 Site-specific Zoning

Specific zoning for the subject property was obtained from personnel with the Kent County Department of Planning, Housing, and Development who identified the site as being within the Industrial (I) zoning district. The Development Code of Kent County identified the purpose of the 'I' zoning district as follows:

- This district is intended to provide for a range of industrial uses which are environmentally sound, sustainable, and compatible with adjacent uses. Furthermore, the district is limited to light manufacturing and support businesses. Light industries include those which manufacture, process,

store, package or distribute goods and materials, and are, in general, dependent on raw materials refined elsewhere.

5.3 Site Utilities

The subject property is reportedly served by the following utilities:

• Electricity	Choptank Electric Cooperative
• Natural Gas	None on site
• Potable Water	Potable water wells on-site
• Sanitary Sewer / Wastewater	Septic system near residence and office
• Storm Water	Not Applicable
• Irrigation Water	Not Applicable

5.4 General Description of the Site

The subject property encompasses 224.67 acres and includes a combination of undeveloped-wooded areas, agricultural land, residential compound that included an automobile service and repair shop, and an industrial hot mix asphalt plant. Additional improvements to the site included dirt/gravel access drives, fencing, and an irrigation system. The site extended easterly from State Route 313 an approximate distance of 0.7 miles and extended to the north of a railroad line about 0.5 miles. The site was bisected by gravel covered access roads that extend to the east and north of State Route 313, which met at the residential compound (and also included a gravel covered access road that extended to the hot mix asphalt plant). The terrain of the subject property is relatively flat with relatively little topographic relief but does include ponds and sections tributaries that generally slope to the north and are associated with Swantown Creek. A pivot irrigation system was situated within the central portion of the site.

An approximate 3-acre residential compound was situated about 1,700 feet north of State Route 313. This area included a residence, a garage, a barn, and several out buildings. The residence consisted of a two-story, wood-framed building, and had a barn-style asphalt shingled roof. The residence had an east-west orientation and was flanked to the south and east by mature trees. A garage was situated about 65 feet to the northwest of the residence and was used for automobile service and repair. This building was a single-story, concrete block constructed building, and a pitched corrugated metal roof that had a north-south orientation and was flanked to the northwest by an open air carport. The garage included five garage-style roll-up doors along the eastern elevation. A barn was situated about 140 feet to the northwest of the residence and was used for storage that included a variety of automobile parts. This building was a two-story, wood-framed above concrete block structure, and a pitched corrugated metal roof and a north-south orientation that was flanked to the north by a silo and the southeast by a former milking room. An out building was situated about 190 feet to the northwest of the residence and was used for storage that included a variety of automobile parts. This building was a single-story structure (with partial mezzanine level), wood-framed, and metal sided building that had a pitched corrugated metal roof and a north-south orientation. An out-building was situated about 155 feet to the north of the residence and was used for storage that included a variety of automobile parts. This building was a single-story structure, wood-framed, and metal sided building that had a pitched corrugated metal roof and a north-south orientation. An out-building was situated about 50 feet to the north of the residence and was used for vehicle storage. This building was a single-story structure, concrete block constructed building that had a pitched corrugated metal roof and a north-south orientation. What appeared to be a well-house was situated about 25 feet north of the northwestern corner of the residence. This building was a single-story structure, concrete block constructed building, with a pitched asphalt shingled roof. The area to the north and northeast of the residence contained numerous wooden utility poles and served

as a display area for an electrical insulator collection. The remaining areas of the residential compound included a combination of storage areas, gravel covered access roads, and turf grasses.

An approximate 19-acre industrial area developed as a hot mix asphalt plant was situated within the northwestern section of the site about 1,200 feet east of State Route 313. This area included an asphalt production facility, an administrative/quality control building, and material storage areas. The asphalt production facility included a complex system of aboveground storage tanks (ASTs), hoppers, conveyors, mixers, grinders, loading/unloading areas, etc. The administrative/quality control building was positioned about 150 west of the asphalt production facility and consisted of a rectangular-shaped, two-story, concrete block constructed building that had a barn-style asphalt shingled roof, and a north-south orientation. In general the remaining areas of the hot mix asphalt plant included material storage areas and included mounds of soil, gravel, broken concrete, road millings, as well as two ponds. This facility was accessed via a gated gravel covered access road from the south.

The proposed ground leases are generally confined to the southern portion of the site, to the south of the central access road and residential complex. The proposed ground lease would consist of approximately 63-acres of areas that consist of cultivated agricultural fields.

5.5 Site-Specific Observations and Features

The following observations were made during the course of a site inspection. The majority of improvements addressed in this section of the report were situated within an approximate 3-acre area residential compound and an approximate 19-acre hot mix asphalt plant located about 1,700 feet north and roughly 1,200 feet east of State Route 313, respectively.

Storage Tanks and Associated Equipment

There were two underground storage tanks (USTs) located within the residential compound, including a reported 500-gallon heating oil tank (HOT) and a 500-gallon UST for diesel fuel.

The HOT is associated with the heating system and situated near the northeast corner of the residence (39°18’54.1”/75°49’49.6”). The installation date of the HOT is unknown.

The UST for diesel fuel is associated with the garage (39°18’54.1”/75°49’51.2”) and included a single dispenser pump and nozzle. The installation date of this UST is unknown but the garage was reportedly constructed in 1982. There did not appear to be any monitoring system associated with the HOT or the UST.

The bulk storage of heating oil in a HOT and diesel fuel in a UST would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting. However, in the event that ground disturbing activities encounter stained or malodorous soils in areas near the USTs, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

There are three aboveground storage tanks (ASTs) located within the residential compound, including; one reported 275-gallon AST for heating oil, one 275-gallon AST for fresh oil, and one approximate 400-gallon AST for gasoline (currently not-in-use). The AST with heating oil (39°18’54.2”/75°49’51.6”) and the AST with fresh oil (39°18’54.7”/75°49’51.7”) are along the western wall of the garage. The AST

with is situated near a storage building about 150 north of the residence (39°18'55.6"/75°49'50.2"). The installation dates of these ASTs are unknown. The ASTs are situated atop unstained ground surfaces with the ASTs for fresh oil and heating oil connected to interior areas of the garage by piping.

The bulk storage of petroleum products in ASTs would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a low to moderate concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting. However, in the event that ground disturbing activities encounter stained or malodorous soils in areas near the ASTs, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

The hot mix asphalt plant within the northwestern portion of the site included at least nine ASTs ranging in capacities from 500 to 30,000 gallons (generally centered around 39°19'5.7"/75°50'19.0"). These ASTs were used to store a variety of petroleum products and/or other substances typical of a batch asphalt plant. The capacities and contents of these ASTs generally corresponded to those outlined in Section 7. The observed ASTs included both vertical and horizontal style and were situated within a combination of individual metal and common concrete secondary containment systems. Roughly 30-square feet of moderate to heavy staining was noted within the southwestern corner of the concrete secondary containment system and approximately 10-square feet of heavy staining was observed on asphalt paved surfaces to the west of the secondary containment system. Mild staining was noted surrounding the ASTs with metal secondary containment systems. The bulk storage of petroleum products in ASTs would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, with the exception of a catastrophic release, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

There was an approximate 300-gallon propane tank located within the hot mix asphalt plant and was situated to the west of the administrative/quality control building (39°19'5.7"/75°50'22.3"). Propane volatilizes at standard temperatures and pressures and while the presence of this AST represents a potential health and safety concern, does not appear to represent a significant environmental concern.

There were a few compressed gas cylinders within the residential compound and were situated within the garage building. These cylinders were reportedly used to welding gasses. Welding gasses volatilize at standard temperatures and pressures and while the presence of compressed gas cylinders represents a potential health and safety concern, does not appear to represent a significant environmental concern.

Drums and Other Multi-gallon Containers

Six 55-gallon drums and five containers with capacities of five gallons or less were noted within the hot mix asphalt plant (39°19'5.4"/75°50'17.8"). These drums and containers were identified as containing antifreeze and petroleum products associated with the maintenance of the hot mix asphalt plant equipment. The drums were situated beneath/adjacent to a hopper on spill trays atop roughly 15-square feet of moderately stained concrete surfaces and were not within a secondary containment systems. The bulk storage of petroleum products would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant

concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

Between 150 and 200 containers with capacities of one-gallon or less were noted within what appeared to be a well house roughly 25 feet to the north of the northwestern corner of the residence within the residential compound (39°18'54.5"/75°49'50.4"). The contents of these containers included petroleum products, paints, automobile fluids, and other automobile related substances that are likely associated with activities within the nearby garage. The containers were situated on shelves above mildly stained concrete surfaces and were not within a secondary containment system posing a moderate concern of adverse impact to the environmental condition of the site given the individual and aggregate volumes. However, these containers would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

Several 55-gallon drums were noted within storage structures within the residential compound. These drums were empty and/or used to store miscellaneous materials and household items and do not appear to represent an environmental concern for the site.

Several 55-gallon drums were noted within storage area to the north of the administrative/quality control building associated with the hot mix asphalt plant. These drums were empty and do not appear to represent an environmental concern for the site.

There were no ±300-gallon totes, other 55-gallon drums, 30-gallon kegs, totes, or other multi-gallon containers of hazardous substances, petroleum products, or unknown substances in containers with capacities of more than 5-gallons observed on the site.

Transformers and other Equipment that potentially contain Polychlorinated Biphenyls (PCBs)

There were pole and/or pad-mounted transformers associated with the residential compound, irrigation system, and the hot mix asphalt plant. The observed transformers were not identified by any placards indicating that the transformers have fluids that do not contain polychlorinated biphenyls (PCBs). There were no stains, sheens, or other indications of spills or releases from the transformer, which was likely owned by Choptank Electric Cooperative; the entity that would be responsible to respond to a leak or spill from the units.

No equipment that would likely have PCB-containing fluids was observed on the site, including; capacitors or electromagnets; elevators; or circuit breakers or reclosers.

Sumps, Trench Drains, Oil-Water Separators, Clarifiers, and/or Grease Traps

Toilets within the residence are connected to a septic system located to the northeast of the dwelling (39°18'54.2"/75°49'48.9").

Sinks and other interior drains within the residence are connected to a septic system located to the west of the dwelling (39°18'54.0"/75°49'51.1").

Sinks, toilets, and interior drains within the administrative/quality control building associated with the hot mix asphalt plant are connected to a septic system located to the north of the building (39°19'6.0"/75°50'22.0").

There are no sumps, sump- or trench-drains, grease- or sediment-traps, oil-water separators, clarifiers, or other sub-grade units for the capture or pre-treatment of effluent with potentially hazardous substances and/or petroleum products noted on the site.

No storm drains were noted on the subject property or along adjoining streets during the site inspection.

Pits, Ponds and Lagoons

What appeared to be two manmade ponds/drainages were adjacent to the material storage areas of the hot mix asphalt plant. It is unknown if these ponds are used for storage, treatment, or evaporation of effluent or process waters, storage of liquids or sludge, or disposal of liquid or solid wastes associated with the hot mix asphalt plant; however, they are included in the discussion in *Industrial/ Manufacturing/ Processing Equipment and Machinery* portion of this section.

Engineering Controls

There is no evidence of engineering systems designed to mitigate environmental conditions associated with potentially hazardous substances and/or petroleum products in soil, soil vapor, or groundwater on the subject property, including; groundwater treatment systems, vapor recovery systems, slurry walls, permeable reactive barriers, or cap and/or liner systems.

Wells

No oil/gas exploration/production wells, injection wells, groundwater monitoring wells, or dry wells were noted on the subject property during the site inspection.

Two drinking water wells to the north of the northwestern corner of the residence were noted at the time of the site inspection and were used for potable purposes (39°18’54.4”/75°49’50.3” and 39°18’54.3”/75°49’50.4”).

There is a drinking water well to the north of the administrative/quality control building within the hot mix asphalt plant (39°19’6.5”/75°50’22.1”) used for potable purposes.

There is a drinking water well to the north of the access road and associated with a pivot irrigation system (39°18’57.5”/75°49’56.5”) used for irrigation purposes.

Industrial/Manufacturing/Processing Equipment and Machinery

The hot mix asphalt plant encompassed about 19 acres within the northwestern portion of the site, including; material storage areas (39°18’59.4”/75°50’15.0”), an administrative/quality control building (39°19’5.5”/75°50’21.7”), and an asphalt production facility (39°19’5.1”/75°50’18.0”) along with a complex system of ASTs, hoppers, conveyors, mixers, grinders, loading/unloading areas, etc. The material storage area encompassed a significant portion of the eastern and southern sections of the facility and included mounds of soil, gravel, broken concrete, and road millings. What appeared to be two man-made ponds/drainages were adjacent to the material storage areas and included a northern pond (39°19’7.8”/75°50’14.0”) and a southern pond/drainage (39°18’45.5”/75°50’18.6’). It is unknown if these ponds are used for storage, treatment, or evaporation of effluent or process waters, storage of liquids or sludge, or disposal of liquid or solid wastes associated with the hot mix asphalt plant. However, surface water runoff from material storage areas may include elevated concentrations of asphalt related contaminants of concern (COCs), which could be transported into surface waters. The potential for the introduction of asphalt related COCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating,

characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease in areas adjacent and downstream from the southern pond/drainage due to a combination of distance, position, and physical setting. In the event that ground disturbing activities encounter stained or malodorous soils in these areas, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

The residential compound contained a garage building that was used for automobile service and repair (39°18'54.6"/75°49'51.4"). This building contained several work spaces and included an aboveground hydraulic lift and a spray-paint booth within the northern portion of the structure. This spray-paint booth was positioned directly on top of the concrete floor and included an air-collection plenum passing through filtration media on the ceiling and walls with exhaust to the exterior of the building. The air-collection system appeared to substantially capture over-spray. The cleaning system associated with the spray paint equipment was not apparent at the time of the site inspection but commonly involves the use of solvents. The garage building was reportedly not connected to plumbing systems and no floor drains were observed within the structure. Other work areas associated with automobile related activities included the following: an exterior aboveground hydraulic lift atop concrete surfaces about 50 feet to the east of the garage (39°18'54.5"/75°49'50.5"); a carport reportedly used for sandblasting atop exposed soils was situated to the west of the garage (39°18'54.7"/75°49'52.2"); and several of the outbuildings were used to store vehicles and/or vehicle parts. Additionally, during the site inspection, a site representative indicated that the garage building was originally constructed in 1982, that it was expanded in the mid 1980s, and that automobile service and repair activities have occurred within or near the garage from that time to the present. The use of the site for automobile service and repair that includes sand blasting and spray painting would be a *recognized environmental condition* for the subject property due the *material threat* of spill(s), release(s), and unauthorized discharge(s) and/or the migration of vapor(s) through the concrete flooring into the subsurface. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease area due to a combination of distance, position, and physical setting. In the event that ground disturbing activities encounter stained or malodorous soils in areas near automobile related areas, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

Sinks, toilets, and interior drains within the administrative/quality control building associated with the hot mix asphalt plant are connected to a septic system located to the north of the building (39°19'6.0"/75°50'22.0"). This building conducts quality control testing of asphalt material that involves incineration and cleaning equipment within a stainless steel sink that discharges into the septic system. Semi-volatile organic compounds (SVOCs) are a common by-product of asphalt production. Additionally, the manufacturing process may involve other hazardous and non-hazardous regulated substances. An on-site employee was unaware of the presence of an oil-water separator or other sub-grade feature associated with the building. The introduction of SVOCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

Potentially Hazardous Substances and Petroleum Products: Storing, Handling, and Disposing

Potentially hazardous substances and/or petroleum products observed on the site included a variety of petroleum products associated with a hot mix asphalt plant as well as heating oil, diesel fuel, gasoline,

motor oil, automotive fluids, etc. These substances were stored in containers with capacities that ranged from less than 1 gallon to more than 30,000 gallons. In general, these containers and ASTs are stored in areas somewhat protected from vehicle strike and upset and secured from *attractive nuisance*. There is approximately 120,000 gallons of potentially hazardous substances and petroleum products on the site. In general, the storing and handling practices associated with the potentially hazardous substances and petroleum products observed at the site was fair to good; which somewhat mitigates the *material threat* of a spill(s), release(s), and/or unauthorized discharge(s).

Stained Soil and Pavement

Observed staining observed on the site varied from light to moderate/heavy. The moderate/heavy staining was generally noted atop concrete floors within a secondary containment system which would somewhat mitigate the *material threat* of release.

There were no pools of liquids likely containing potentially hazardous substances and/or petroleum products observed on the subject property at the time of the site inspection.

Surface Water Runoff

Meteoric water would infiltrate the surface until saturated and then sheet flow across the subject property following topography to nearby drainages and eventually to Swantown Creek to the north of the site.

Potable Water

Drinking and irrigation water at the subject property is obtained from the water wells which are discussed in the *Wells* portion of this section.

Wastewater

Wastewater at the subject property is directed to septic systems to the northeast and west of the residence as well as to the north of the administrative/quality control building, which are reportedly serviced as needed. Environmental concerns associated with septic systems are discussed in the *Industrial/Manufacturing/Processing Equipment and Machinery* portion of this section.

Solid Waste

Solid waste from the subject property was directed to two 6-cubic yard dumpster located within the hot mix asphalt plant and within the residential compound. Cursory inspection of the dumpsters used for solid waste identified some paper products, plastic containers, packaging materials, and other sundry wastes. There were no indications of the disposal of hazardous wastes, bio-hazardous wastes, or universal wastes to the solid waste dumpster. Solid waste was removed from the site by Waste Management.

Odors

Aside from odors typical of hot mix asphalt plant and automobile garage, there were no strong, pungent, noxious, or unusual odors noted on the subject property that would be generally indicative of storing, using, or disposing of significant volumes of chemical compounds or masking agents; treating or processing wastewater or effluent; or germinating of mold and emitting of microbial volatile organic compounds.

Staining and Corrosion of Construction Materials or Buildings Systems

There is no significant staining, water marking, and other visual evidence indicative of chronic water infiltration or compromise of building roof or other structural elements noted within interior portions of the structure during the site inspection; however, the majority of interior areas of the improvements were not *readily available* as part of this assessment.

Heating and Cooling Units

Heating of the residence and garage appear to have been accomplished by heating oil and involve the use of a HOT and AST, respectively. The HOT and AST associated with these heating systems are discussed above in the *Storage Tanks and Associated Equipment* portion of this section. Cooling appears to be performed by units that operate using electricity.

Heating of the administrative/quality control building appears to have been accomplished by propane store in an above-grade tank, which is discussed above in the *Storage Tanks and Associated Equipment* portion of this section. Cooling appears to be performed by units that operate using electricity.

Stressed Vegetation

Vegetation on the subject property included turf grass, shrubs, trees, cultivated agricultural fields, and other native/non-native species; which did not appear to be stressed or impaired due to chemical compounds or biological agents.

6.0 HISTORICAL USE INFORMATION

Historical land use information for the subject property that was *readily available* was obtained by reviewed, including; title information and tax assessor records, aerial photographs, city directories, fire insurance maps, historic maps, and other historic land use information resources.

6.1 Land Use Records

Review of *readily available* records on file with the Maryland State Department of Assessments and Taxation, Kent County Clerk, and other Kent County departments pertaining to the subject property was completed to obtain information regarding previous ownership and possible land uses associated with the site. In addition, land use records were inspected to identify legal or physical restrictions or limitations that may be associated with the use or access to the subject property.

Title

Title information for the subject property obtained from the Maryland State Department of Assessments and Taxation indicated that ownership of the site at the time of this assessment was vested with:

- David A. Bramble, Inc.

Chain-of-title

Review of *readily available* recorded land title records indicated ownership of the subject property has included the following legal entities and/or individuals:

Unknown to 1998	Randall B. Stafford III
1998 present	David A. Bramble, Inc.

It should be noted that Mr. Monza indicated that the subject property had been a family-owned farm since the 1780s through 1998 when the current owner acquired the subject property.

Assessment Cards

Information from the Maryland State Department of Assessments and Taxation indicated that the residence was constructed in 1900 and included 1,640 square feet. It should be noted that '1900' is a common date entered into databases when the actual date of construction is unknown.

Land Contracts, Liens, Leases, and/or Covenants

Review of *readily available* information on file with the Kent County Clerk regarding the site indicated the following:

- There were no apparent restrictive covenants or deed restrictions limiting the use(s) of the site due to the presence or potential presence of hazardous substances or non-hazardous regulated substances.
- No environmental regulatory agency, private entity, or individual has recorded documents requiring institutional controls or engineering controls to be associated with the subject property and preventing certain types of land uses or activities.
- There were no apparent environmental liens imposed against the subject property by judicial authorities or recorded against the site by environmental regulatory agencies, private entities, or individuals.

6.2 Historical Topographic Maps

Historic maps were reviewed to evaluate historical land uses in the general area and changes that have occurred over time. Historic topographic maps developed at discrete intervals from 1900 to 2014 with coverage including the site were *readily available* from the US Geological Survey (Appendix B). A summary of the review of historical maps included:

1900 The site is shown as containing a single structure that is accessed via an unimproved road within the east-central section of the site, in the area currently noted as containing the residential compound. A railroad lines borders the site to the south and a precursor of Galena Road has a slightly different route than noted at the time of the site inspection. The site vicinity is shown to include the town of Massey to the southeast and what are likely widely scattered rural residential improvements.

1944 to 1993 (1944, 1953, 1973, and 1993)
The site and site vicinity appear generally similar to the previous map with the following exceptions: the east-central section of the site includes between three to six structures within the residential compound portion of the site with an unimproved access road extending to the west at times; a pond and two ponds are shown within the western section of the site on the 1973 and 1993 map, respectively; Galena Road appears to be in a similar position as noted during the site inspection; and what are likely rural residential development with scattered other land uses are shown as increasing slowly in volume and density over time.

2011 to 2014 (2011 and 2014)
These topographic maps depict topographic contours and surface water features as well as streets and some street names with no additional significant level of detail. The site is shown as containing access roads and ponds as similar to previous maps.

6.3 Aerial Photographs

Aerial photographs of the subject property and surrounding vicinity at discrete intervals from 1959 to 2013 were *readily available* from the US Geological Survey, Google Earth, and private sources. Historical aerial photographs were obtained and reviewed to evaluate previous land uses at the site and within the site vicinity and document changes that may have occurred over time. Representative aerial photographs are included in Appendix C.

1959 to 1998 (1959, 1970, 1972, 1973, 1982, 1988, 1992, 1995, and 1998)

The site contains a cluster of structures that is accessed from the south within the east-central area of the subject property in the same general location as the rural residential compound noted during the site inspection. An access road that extends to the west of the residential compound is visible at various times and the western section of the site contains a single pond in the 1970s and two ponds by the 1980s. A railroad lines borders the site to the south. The site vicinity is shown to include the town of Massey and a combination of undeveloped, agricultural, and rural residential land uses with scattered other land uses with improvements increasing in volume and density over time.

2005 to 2013 (2005, 2007, 2011, and 2013)

The site and site vicinity are shown as similar to the observations noted during the site inspection with the exception of the material storage yard associated with the hot mix asphalt facility (within the northwestern section of the site) is situated within the north-central section of the subject property about 340 feet to the northwest of the residential compound. The materials storage yard encompasses an approximate 420- by 550-foot area and likely includes mounds of similar materials noted within the current materials storage areas at the time of the site inspection.

The aerial photographs showed only modest changes to the site and within the site vicinity over the period of time covered with improvements generally similar to the interpretation provided in the *Historical Topographic Map* section.

6.4 Fire Insurance Maps

In the late 1800s, a number of companies began preparing maps for use by fire insurance companies that identified construction materials of specific structures in developed urban areas. When the use of tanks associated with retail gasoline service stations and other professional/personal services businesses, the approximate locations of these structures were often noted. These maps were periodically updated and coverage expanded geographically as central business districts and core urban areas increased in size or became established.

- Fire insurance maps for the subject property or site vicinity were not *readily available* due to the historically rural/agricultural nature of the site vicinity and a generally low density of structures within the site vicinity during the time-frame in which these historical resources were produced.

6.5 City Directories

City directories generally include a listing of residents, businesses, and professional concerns organized both alphabetically and alphanumerically by street names and street addresses. These directories have prepared for many urban and suburban areas of the United States since the early 1900s. Where available, city directories were reviewed at a minimum of five-year increments to determine historic uses of the subject property and adjoining properties.

- Local city directories with coverage of the site vicinity were not *readily available* for the site and the site vicinity given the rural nature of the general area.

6.6 Local Department Records

In response to a request, personnel with the Kent County indicated that the following permits are on file for the subject property:

1999	Single-family dwelling
	Driveway, berms, and other grading
	Storage of contractor's materials and equipment
	Planning Commission approval for a hot mix asphalt facility
2000	Borrow area for KE-4335176 SHA Project
2001	Borrow area for use on site
	Two-story quality-control building
2002	7,300 square feet for footings associated with an asphalt batch plant
2006	Operate a portable crusher

6.7 Previous Environmental Reports

No previously completed environmental reports pertaining to the subject property were *readily available* for review from the *User* or others during the course of this assessment.

6.8 User Information

The ASTM Standard Practice identifies the "User" of a Phase I ESA as, *"...the party seeking to use the Practice (E1527-13) to complete and environmental site assessment of the property,"* including; a potential purchaser, a possible tenant, and existing owner, a lender, or property manager. OneEnergy Development, LLC as the "User" of this Phase I ESA provided EarthTouch, Inc. with the reports identified in Section 6.7 and the following information to assist in the evaluation and preparation of this Phase I ESA:

- User Questionnaire (Attachment 2).

- Environmental Review for Proposed Blue Star Solar Project at 12213 Galena Road, Kent County, Maryland. Prepared for OneEnergy Development, LLC by Maryland Department of Natural Resources (18-Dec-2014).

As stated in Section 1.1, the purpose of this Phase I ESA was to assist OneEnergy Development, LLC in the initiation of a*ll appropriate inquiries* into previous ownership and uses of the subject property generally consistent with *good commercial or customary practice*, as defined at 42 USC §9601 (35)(B) and satisfy a portion of the requirements to qualify for one of the limitation liability protections (LLPs) to CERCLA, as amended. This Phase I ESA was requested by OneEnergy Development, LLC as a part of

an evaluation of the site as part of the consideration for a long-term lease arrangement that would provide for developing and operating a solar power facility.

Pursuant to Section 6 of the ASTM Standard Practice ("User's Responsibilities"), EarthTouch, Inc. also received information from the current *Owner* of the site and "User" information from OneEnergy Development, LLC, which has been included in relevant sections of this report as appropriate and consistent with the scope, content, and substance of the "User's Responsibilities," including:

- The *User* did not identify any current environmental liens against the subject property that have been recorded with a federal, state or local governmental agency under applicable law.

- The *User* was not aware of any activity and use limitations (AULs), such as engineering controls, institutional controls, or land use restrictions that have been filed or recorded with a federal, state or local agency under applicable law; or aware of any AULs that may have been included in the Covenants, Conditions, and Restrictions (CC&Rs) for the subject property.

- The *User* described the site as a farm/agricultural property. However, the *User* was not aware of specific chemical uses or processes, or general industry experience that may be indicative of past or present spills, releases, and/or unauthorized discharges of potentially hazardous substances or petroleum products; and was not aware of any information that would help identify conditions indicating spills, releases, or unauthorized discharges or *material threat* of spills, releases, or unauthorized discharges at the site.

- The *User* reported that an evaluation and/or analysis of the subject property that included comparison to similar properties within the general area did not appear to reflect a significant deviation in the market price or lease rate; or appear to be a substantial discount-to-value of the market price due to environmental conditions or soil contamination.

- The *User* did not report any commonly known or *readily available* information about the site with respect to obvious indicators of past or current spills, releases, or unauthorized discharges of potentially hazardous substances and/or petroleum products; or past or current presence of contamination at the subject property in soil, soil vapor, or groundwater.

6.9 Interviews

Interviews were conducted to obtain information regarding the environmental history and current conditions of the subject property and to evaluate the potential presence of hazardous substances and petroleum products on the site. Information obtained from these interviews is summarized in this section and included in the relevant sections of this report as appropriate.

- Ms. Megan Owings (representative of the Owner) was questioned regarding the historical uses and environmental conditions of the subject property. According to Ms. Owings, the subject property has been used for agricultural and rural residential land uses for an extended period of time. She said that the site uses have included a hot mix asphalt facility for 10 to 15 years and that the associated materials storage area had been moved to the current location in the last few years. Ms. Owings stated that she was not aware of any spills or releases that required notification of local, state or federal government agencies or of any violations against the site by local, state or federal environmental regulatory agencies, including the local fire department. Ms. Owings was also not aware of any pending, threatened, or past litigation, administrative proceedings, and/or notices from a government agency regarding violations with respect to potentially hazardous substances and/or petroleum products associated with the site.

- Mr. Tony Monza (current tenant and longtime resident of the site from 1973 to the present – with the exception of a few years when he lived out of state) was questioned regarding the historical uses and environmental conditions of the subject property. According to Mr. Monza, the subject property has been used for agricultural and rural residential purposes for an extended period of time. He stated that the residence is believed to have been constructed in the 1780s and that this structure has been expanded and/or altered at various times including in the 1860s, as dates from these timeframes had been observed on building materials within the residence. Mr. Monza indicated that past uses included livestock and dairy farm activities in the past. He indicated that he has been conducting automobile bodywork within the garage to the northwest of the residence from 1982 to the present time. Mr. Monza said that he helped construct to the garage building in 1982 and that it was expanded to the north at various times through the mid 1980s. He indicated that the residence was heated by heating oil with fuel stored in a 500-gallon underground storage tank near the northeast corner of the residence. He went on to state that the residence was supplied by water from two private wells and that this structure is connected to two separate septic systems, one for the bathroom and one for laundry. He indicated that heating for the residence included heating oil stored in an approximate 500-gallon UST/HOT and that a 500-gallon diesel fuel UST was situated near the southeastern corner of the garage. He also stated that the garage was not connected to any plumbing system and did not contain any drains. Mr. Monza said that the hot mix asphalt facility has been present from the early 2000s to the present and that the material storage yard had been located within the north-central section of the site until a few years ago when it was moved to the current location (south of the hot mix asphalt facility). When asked, Mr. Monza indicated that the site had been used for a variety of agricultural crops but was generally unaware of any applications of pesticides and other agricultural related substances applied on the site. Mr. Monza reported that there were no sumps, clarifiers, or other sub-grade structures for storing, processing, or treating potentially hazardous substances and/or petroleum products. Mr. Monza stated that he was not aware of any spills or releases that required notification of local, state or federal government agencies or of any violations against the site by local, state or federal environmental regulatory agencies, including the local fire department. Mr. Monza was also not aware of any pending, threatened, or past litigation, administrative proceedings, and/or notices from a government agency regarding violations with respect to potentially hazardous substances and/or petroleum products associated with the site.

6.10 Historical Information Summary

Historical information indicated the subject property has been used for agricultural and rural residential land uses from roughly the late 1780s to the present time. The site uses were expanded to include an automobile body shop in 1982 and a hot mix asphalt facility in the late 1990s. The subject property continues to include a combination of undeveloped, agricultural, automobile service and repair, and hot mix asphalt facility land uses to the present time.

Historical information indicated the subject property was utilized as agricultural land and developed with a residential structure and various outbuildings from roughly the 1780s to the present time. Agricultural uses have included the planting and harvesting of a variety of row crops from the time of original development to the present time; along with limited livestock grazing. Aerial photographs depicted the majority of the site as cultivated fields from at least 1959 to the present day and the applications of organochlorine pesticides (OCPs) or metal-based pesticides cannot be ruled out. Additionally, a portion of the east-central section of the site was noted to contain a residence and associated out buildings. Typical farm homesteads would include a residential structure along with storage buildings for tractors and farm equipment, possible fueling locations, and storage areas for applied pesticides and herbicides. The likely use and applications of OCPs or metal-based pesticides as well as the presence of homestead with likely storage of various hazardous materials would be a *recognized environmental condition* for the site and the proposed ground lease.

The north-central portion of the site contained a material storage yard associated with the hot mix asphalt facility from at least 2005 through 2013 (likely since the late 1990s) (roughly centered around 39°19'2.0"/75°49'57.0"). The materials storage yard encompassed an approximate 420- by 550-foot area and likely included mounds of similar materials noted within the current materials storage areas at the time of the site inspection (soil, gravel, broken concrete, and road millings). The depth of soil excavated (if any) from this former materials storage yard is unknown. This area was noted to contain a pivot irrigation system at the time of the site inspection. Depending on the removal activities, it is possible that asphalt related contaminants of concern (COCs) may be present in this area. The introduction of asphalt related COCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

Historical information indicated the site vicinity consisted of widely scattered rural residential and agricultural land uses with wooded areas bisected by transportation routes including a railroad line to the northwest of the town of Massey from at least the early 1900s. Similar land uses have continued to dominate the general area with residential and other land uses increasing in density over time. The site vicinity continues to include a combination of wooded, undeveloped, agricultural, rural residential, and other scattered land uses to the northwest of the town of Massey.

7.0 SITE REGULATORY RECORDS REVIEW

Information gathered from various federal, state, regional and local environmental regulatory agency databases compiled by and obtained from Environmental Data Resources, Inc. (EDR) was reviewed (regulatory database report) to identify environmental regulatory agency listings, suspect environmental concerns or issues, and/or possible *recognized environmental conditions* that may be associated with the subject property, adjoining/adjacent properties, and other properties, facilities, and/or business operations within a specified search radius from the site. The accuracy or completeness of the information contained in the regulatory database report (Appendix E) was not independently verified by EarthTouch, Inc. However, the use and reliance on this information is a generally accepted practice in performing environmental due diligence.

Review of the information in regulatory database report also included a cursory evaluation of the potential for vapor migration in general conformance with the *Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions* (ASTM Standard Practice E2600), which involved approximating groundwater gradient, reviewing the distances and positions of reported releases to soil and/or groundwater relative to the site, and identifying possible vapor migration and 'encroachment conditions,' defined as '…the presence or likely presence of contaminant vapors in the subsurface of the subject property caused by the release of vapors from contaminated soil or groundwater either on or near the site.' Unless specifically identified within Section 7 or Section 8 as 'existing,' 'likely to exist,' or 'cannot be ruled out;' the potential for vapor migration and/or possibility of vapor encroachment at the subject property is considered to be 'ruled out because it does not exist or is not likely to exist.'

7.1 Regulatory Database Search for the Subject Property

According to the information provided in the regulatory database report, the subject property was listed on the following environmental regulatory agency databases reviewed as a part of this assessment:

- **AST:** The Aboveground Storage Tank database contains registered ASTs. The data come from the Department of the Environment's Listing of Aboveground Storage Tanks Reported in Maryland.

- **EDR US Hist Auto Stat:** EDR Exclusive Historic Gas Stations. Proprietary database created and included in the regulatory database report take in possible locations of historical automotive facilities based upon review of city directories and other historical resources and include sources that in the opinion of the provider of the regulatory database report may have included automobile service, maintenance and repair shops; and/or the possible former presence and use of USTs or automotive fluids.

The site was listed on the Aboveground Storage Tank (AST) environmental regulatory agency database as "David A. Bramble, Inc. – Massey," which is also identified as AST Facility No.: 8177 and A100357686. According to this listing, the site includes nine ASTs as following:

Capacity	Substance
30,000-gal.	Asphalt Cement
30,000-gal.	Asphalt Cement
20,000-gal.	Heating Oil No. 4
15,000-gal.	Heating Oil No. 2
10,000-gal.	Diesel Fuel
10,000-gal.	Asphalt Cement
2,000-gal.	Asphalt Antistrip
2,000-gal.	Asphalt Rejuvenator
500-gal.	Used Oil

No significant additional information was supplied within the database report. The presence of the ASTs is identified as a *recognized environmental condition* and is discussed in more detail in the *Storage Tanks and Associated Equipment* portion of Section 5.5.

The site was listed on the proprietary EDR Historical Auto Stations (EDR Hist Auto) database as "Tony's Custom Auto Body." According to this listing, the site has been occupied by Tony's Custom Auto Body from 2006 to 2009. No significant additional information was supplied within the database report. The use of the site for automobile service and repair is identified as a *recognized environmental condition* and is discussed in more detail in the *Industrial/Manufacturing/Processing Equipment and Machinery* portion of Section 5.5.

Although not identified within the database report, the subject property is identified by the Envirofacts database as a facility on the National Pollutant Discharge Elimination System (NPDES) database. The site is identified as the Massey Asphalt Materials Plant (NPDES ID: MDG491670) and addressed at 32559 Bramble Way, Kent County, Maryland. According to the information reviewed, the NPDES permit for the hot mix asphalt plant has an effective/issue date of 1-Jan-2011 and expired on 30-Apr-2015. The NPDES permit is identified as involving "flow, in conduit or thru treatment plant," solids (total suspended), and pH in gross effluent. Additionally, there have been 39 Compliance Violations on file associated with the site from May-2013 through Feb-2015. These violations appear to be associated with lack of data submitted from the subject property in relation to the NPDES reporting requirements.

The use of the site as a hot mix asphalt plant is identified as a *recognized environmental condition* and is discussed in more detail in the *Industrial/Manufacturing/Processing Equipment and Machinery* portion of Section 5.5.

Environmental Reports Pertaining to the Site on File with Regulatory Agencies

Although the subject property, current or prior tenants, and associated civic addresses were identified on environmental regulatory agency databases review as part of this assessment:

- There were no reports on file with governmental environmental/health agencies pertaining to the subject property that were *readily available* for reviewed within the timeframe of this report.

7.2 Regulatory Database Search for Adjoining Properties

According to the information provided in the regulatory database report, the following adjoining properties were listed on the identified environmental regulatory agency databases:

- There were no listings in the regulatory database report for the adjoining properties.

Environmental Reports Pertaining to Adjoining Properties on File with Regulatory Agencies

The adjoining properties, past and present tenants, and associated civic addresses were not identified on the any of the environmental regulatory agency databases review as part of this assessment.

- As a consequence, there were no reports on file with governmental environmental/health agencies pertaining to the adjoining properties.

8.0 REGULATORY RECORDS REVIEW FOR THE SITE VICINITY

Information from federal, state, regional, and local environmental regulatory agency databases was compiled in a manner consistent with the ASTM Standard Practice into a regulatory database report that EarthTouch, Inc. obtained from a subcontractor. The regulatory database report includes a list of government databases searched, a statistical profile listing the number of properties within ASTM Standard Practice specified search radii, selected detailed information from environmental regulatory agency databases, and a map illustrating the identified properties, facilities, or business operations of interest. The purpose of the regulatory database report review is to evaluate, to the extent possible, whether activities, processes, operations or actions on the subject property, adjoining/adjacent properties, and/or nearby locations within a specified radius may be suspected sources of adverse impact to the site, have the potential to adversely impact the environmental condition of the subject property, or may be *recognized environmental condition* for the site.

Properties, facilities, and/or business operations identified in the regulatory database report were screened using location-specific criteria that took into consideration the nature of the database listing; the physical environment of the site vicinity; and distance and position of the listed properties, sites, operations, and/or facilities relative to the subject property. After applying location-specific screening criteria; the properties, facilities and/or business operations that, in the judgment of the environmental analyst, pose a potential environmental concern to the subject property were further reviewed and the potential adverse impact to the subject property discussed in this section of the report.

The regulatory database report provides a mechanism to evaluate a relatively large number of environmental regulatory agency databases and eliminate many properties, sites, operations, and/or facilities that have a low potential of adversely impacting the subject property. However, it should be

noted that the information included in the regulatory database report is not necessarily all-inclusive and environmental regulatory agency files may have been purged by public officials prior to release to the public. In addition, mapping errors may not reflect actual distances and directions between the subject property and the properties, facilities, and/or business operation listed in the regulatory database report. The regulatory database report includes information from approximately 75 federal, state, local, military, and tribal environmental regulatory agency databases. A summary of the majority of commonly referenced environmental regulatory agency databases is included in this section.

8.1 National Priority List (Superfund)

The National Priority List (NPL) or 'Superfund Sites' are properties or facilities where uncontrolled or abandoned hazardous waste has been investigated and evaluated incorporating a predetermined Hazard Ranking System (HRS) score and found to pose a significant human health and/or environmental threat. NPL sites are designated by the US Environmental Protection Agency (EPA) as a priority for cleanup under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

- NPL Listings: 0 Search radius: 1-mile
- Proposed NPL Listings: 0 Search radius: ½-mile
- De-listed NPL Listings: 0 Search radius: ½-mile

8.2 Resource Conservation and Recovery Act (RCRA) - Corrective Actions (CORRACTS)

The Resource Conservation and Recovery Information System (RCRIS) database includes a listing of permitted hazardous waste generating facilities that have completed; or have on-going corrective actions or remedial activities (CORRACTS) pursuant to specific requirements implementing through the Resource Conservation and Recovery Act (RCRA).

- RCRA-CORRACTS Listings: 0 Search radius: 1-mile

8.3 Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)

CERCLIS or the 'CERCLA Information System' maintains and tracks information on properties and areas where spills or releases of hazardous substance(s) may require evaluation or cleanup under the Superfund or through listing on the NPL. Inclusion in CERCLIS indicates that an evaluation and assessment of a property or area has been completed or may be necessary.

- CERCLIS Listings: 0 Search radius: ½-mile

8.4 Resource Conservation and Recovery Act - Treatment, Storage, Disposal Facilities (TSDFs)

The RCRIS database includes information on facilities currently or historically involved in the treatment, storage, or disposal (TSDF) of hazardous waste received from an off-site location; treatment and/or disposal of hazardous wastes generated from on-site activities; and/or storage of hazardous waste generated on-site for periods of time longer than specifically provided for under RCRA.

- TSDF Listings: 0 Search radius: ½-mile

8.5 CERCLIS - No Further Remedial Action Planned (NFRAP)

Properties identified on CERCLIS at which the EPA has determined that no additional investigation or remedial actions pursuant to CERCLA appear warranted are identified as "No Further Remedial Action Planned" (NFRAP). This include properties, areas, or sites where; no contamination may have been found during an initial investigation; contamination was found and quickly removed; contamination was not serious enough to require additional action through CERCLA; and/or the properties, areas, or sites were referred to another agency and addressed pursuant to another environmental law.

- CERC-NFRAP Listings: 0 Search radius: ½-mile

8.6 Resource Conservation and Recovery Act (RCRA) - Hazardous Waste Generators

Information pertaining to current and former generators of hazardous waste in volumes sufficient to be identified as Small Quality Generators (SQGs), generators of more than 100 kg (220 pounds) a month, or Large Quantity Generators (LQGs), generators of more than 1,000 kg (2,200 pounds) a month; or other generators of hazardous waste as defined by RCRA is included in the RCRIS database.

- Large Quantity Generators (LQGs): 0 Search radius: ¼-mile
- Small Quantity Generators (SQG): 0 Search radius: ¼-mile
- Conditionally Exempt SQGs (CESQGs): 0 Search radius: ¼-mile
- Former Generators (NonGens): 0 Search radius: ¼-mile

8.7 State Listed Sites Identified for Hazardous Waste Investigation or Remediation

The Maryland DE maintains the Notice of Potential Hazardous Waste Sites (SHWS), which is the state equivalent to the federal CERCLIS listing. Priority sites planned for cleanup using state funds area included along with sites that will be paid for by potentially responsible parties. In accordance with the ASTM Standard Practice, state-listed hazardous waste investigation or remediation sites within ½-mile radius of the subject property was gathered and reviewed.

- Number of listings identified: 0 Search radius: ½-mile

8.8 Solid Waste Facilities/Landfills

Solid Waste Facilities/Landfills (SWF/LF) database information varies from state to state but typically includes an inventory of active and/or inactive solid waste disposal facilities/landfills, incinerators, transfer stations, recycling facilities, and other facilities at which solid waste is stored or treated. The Maryland Department of the Environment (DE), Solid Waste Program maintains the Permitted Solid Waste Disposal Facilities database that contains information on facility type, regulatory and operational status, type(s) of waste(s) received, and local enforcement actions.

- SWF/LF Listings: 0 Search radius: ½-mile

8.9 Leaking Underground Storage Tanks

The Maryland DE, Oil Control Program maintains an inventory of reported leaking underground storage tank (OCPCASE) incidents or other below ground releases and historic (prior to 1999) leaking underground storage tank (HIST LUSTs) facilities that occur within the state of Maryland.

- OPCASE Listings: 1 Search radius: ½-mile
- HIST LUST Listings: 0 Search radius: ½-mile

The "Fred Carpenter Residence" listing at 12120 Galena Road is situated more than 900 feet to the southeast and in an inferred down-gradient position with respect to the subject property. This facility is identified as having a contaminated well from motor/lube oil that was opened in 2004. This facility has been investigated, characterized, and remediated to the satisfaction of the local oversight program (LOP), and administratively closed requiring *No Further Action* (2009). Based on a combination of position, distance, physical setting, and regulatory status; the possibility that this facility has impacted or could pose and adverse environmental concern to the site is considered to be low.

8.10 Underground Storage Tanks

Underground storage tanks (USTs) are regulated under RCRA Subtitle I. Within the state of Maryland, USTs must be registered with the Maryland DE. The Maryland DE also maintains the Historical UST Registered database of historic USTs.

- UST Listings: 0 Search radius: ½-mile
- HIST UST Listings: 0 Search radius: ½-mile

8.11 Spills and Releases of Hazardous Materials and Petroleum Products

The EPA-Region III maintains the Emergency Response Notification System (ERNS) for the State of Maryland that contains records and information on reported releases or spill of oil and hazardous substances in volumes greater than reportable quantities.

- ERNS Listings: 0 Search radius: Site and Abutting Properties

8.12 Institutional Control/Engineering Control Registries

The Engineering Controls (ENG CONTROLS) and Institutional Controls (INST CONTROLS) databases include listings of properties, facilities, of remedial action sites where engineering or institutional controls that have been emplaced to eliminate pathways for hazardous and non-hazardous regulated substances impact on human health and/or the environment. Engineering controls include caps, liners, foundational elements, and treatment systems. Institutional controls include administrative measures such as groundwater use restrictions, construction restrictions, land use restrictions, and post-remedial action requirements intended to prevent exposure to residual contaminants. The types of land use restrictions include deed notice, deed restriction, or land use restriction that binds current and future owners.

The Maryland DE also maintains a record of properties with Deed Restrictions. This database includes a listing of properties that are included in the Voluntary Cleanup Program (VCP) that have recorded land use restrictions on file with the recorder. The types of land use restrictions include deed notice, deed restriction, or land use restriction that binds current and future owners.

- ENG CONTROLS Listings: 0 Search radius: ¼-mile
- INST CONTROLS Listings: 0 Search radius: ¼-mile
- DEEDS Listing: 0 Search radius: ¼-mile

8.13 Other Environmental Records

Various supplemental environmental-related databases are maintained by federal, state, and local agencies that identify generation, storage, use, releases, and disposal of regulated or potentially hazardous substances and "pointers" that identify other databases that may contain more detail.

The ASTM Standard Practice provides for the use of additional environmental records sources when these sources are *readily available*.

There were no other Federal, State, and local environmental regulatory agency database listings identified within the regulatory database report.

8.14 Unmapped ('Orphan') Sites

Review of regulatory database information failed to reveal the presence of any listings that were not mapped due to inadequate address information being reported to the relevant regulatory agency and associated databases.

9.0 FINDINGS, CONCLUSIONS AND OPINIONS

We have performed a Phase I Environmental Site Assessment (ESA) of a rural residential, agricultural, and industrial land use property located at 12213 Galena Road, near the town of Massey, in unincorporated Kent County, Maryland. This Phase I ESA has been conducted in conformance with the scope and limitations of the ASTM Standard Practice E1527-13 and in a manner generally consistent with the agreement between OneEnergy Development, LLC and EarthTouch, Inc. for this type of report. Any exceptions to, or deletions from, the ASTM Standard Practice are described below. This assessment has revealed no evidence of *recognized environmental conditions* in connection with the property, with the exception of the following:

- The hot mix asphalt plant within the northwestern portion of the site included at least nine ASTs with capacities ranging from 500 to 30,000 gallons and used to store a variety of petroleum products and/or other substances typical of a hot mix asphalt plant (39°19'5.7"/75°50'19.0"). The site is also listed on the Aboveground Storage Tank (AST) database as "David A. Bramble, Inc. – Massey," and identified as AST Facility No.: 8177 and A100357686. The ASTs included heating oil, diesel fuel, asphalt cement, asphalt antistrip, and used/waste oil with aggregate capacities of approximately 120,000 gallons. The observed ASTs were situated within a combination of individual metal and common concrete secondary containment systems. Roughly 30-square feet of moderate to heavy staining was noted within the southwestern corner of the concrete secondary containment system and approximately 10-square feet of heavy staining was observed on asphalt paved surfaces to the west of the secondary containment system. Mild staining was noted surrounding the ASTs with metal secondary containment systems. The bulk storage of petroleum products in ASTs would be a

recognized environmental condition due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, with the exception of a catastrophic release, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

- Six 55-gallon drums and five containers with capacities of five gallons or less were noted within the hot mix asphalt plant (39°19'5.4"/75°50'17.8"). These drums and containers were identified as containing antifreeze and petroleum products associated with the maintenance of the hot mix asphalt plant equipment. The drums were situated beneath/adjacent to a hopper on spill trays atop roughly 15-square feet of moderately stained concrete surfaces and were not within a secondary containment systems. The bulk storage of petroleum products would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

- A hot mix asphalt plant encompassing about 19 acres of the northwestern portion of the site, including material storage areas (39°18'59.4"/75°50'15.0"), an administrative/quality control building (39°19'5.5"/75°50'21.7"), and an asphalt production facility (39°19'5.1"/75°50'18.0") along with a complex system of ASTs, hoppers, conveyors, mixers, grinders, loading/unloading areas, etc. The material storage area encompassed a significant portion of the eastern and southern sections of the facility and included mounds of soil, gravel, broken concrete, and road millings. What appeared to be two man-made ponds/drainages were adjacent to the material storage areas and included a northern pond (39°19'7.8"/75°50'14.0") and a southern pond/drainage (39°18'45.5"/75°50'18.6'). It is unknown if these ponds are used for storage, treatment, or evaporation of effluent or process waters, storage of liquids or sludge, or disposal of liquid or solid wastes associated with the hot mix asphalt plant. However, surface water runoff from material storage areas would likely include elevated concentrations of asphalt related contaminants of concern (COCs) that could be transported into surface waters.

  Although not identified within the database report, the subject property is identified by the Envirofacts database as a facility on the National Pollutant Discharge Elimination System (NPDES) database. The site is identified as the Massey Asphalt Materials Plant (NPDES ID: MDG491670) and addressed at 32559 Bramble Way, Kent County, Maryland. According to the information reviewed, the NPDES permit for the hot mix asphalt plant has an effective/issue date of 1-Jan-2011 and expired on 30-Apr-2015. The NPDES permit is identified as involving "flow, in conduit or thru treatment plant," solids (total suspended), and pH in gross effluent. Additionally, there have been 39 Compliance Violations on file associated with the site from May-2013 through Feb-2015. These violations appear to be associated with lack of data submitted from the subject property in relation to the NPDES reporting requirements.

  The introduction of asphalt related COCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease in areas downstream from the southern pond/drainage due to a combination of distance, position, and physical setting. In the event that

ground disturbing activities encounter stained or malodorous soils in these areas, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

- The north-central portion of the site contained a material storage yard associated with the hot mix asphalt facility from at least 2005 through 2013 (roughly centered around 39°19'2.0"/75°49'57.0"). The material storage yard may have been developed as early as the 1990s and encompassed an approximate 420- by 550-foot area and likely included mounds of similar materials noted within the current materials storage areas at the time of the site inspection (soil, gravel, broken concrete, and road millings). The depth of soil excavated (if any) from this former materials storage yard is unknown. This area was noted to contain a pivot irrigation system at the time of the site inspection. Depending on the removal activities, it is possible that asphalt related contaminants of concern (COCs) may be present in this area. The introduction of asphalt related COCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

- Sinks, toilets, and interior drains within the administrative/quality control building associated with the hot mix asphalt plant are connected to a septic system located to the north of the building (39°19'6.0"/75°50'22.0"). This building conducts quality control testing of asphalt material that involves incineration and cleaning equipment within a stainless steel sink that discharges into the septic system. Semi-volatile organic compounds (SVOCs) are a common by-product of asphalt production, which may also include other hazardous and non-hazardous regulated substances. An on-site employee was unaware of the presence of an oil-water separator or other sub-grade feature associated with the building. The introduction of SVOCs into the environment would be considered a *recognized environmental condition* due to potential unauthorized discharge necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. However, this *recognized environmental condition* would not appear to pose a significant concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting.

- There is a roughly 500-gallon heating oil tank (HOT) and a 500-gallon underground storage tank (UST) within the residential compound for heating oil and diesel fuel. The HOT was situated near the northeast corner of the structure (39°18'54.1"/75°49'49.6"). The UST for diesel fuel was situated near the southeastern corner of the building and included a single dispenser pump and nozzle (39°18'54.1"/75°49'51.2"). The installation dates of the HOT and UST are unknown but this structure was reportedly constructed in 1982. There did not appear to be any monitoring system associated with either of these USTs. The bulk storage of heating oil and diesel fuel in USTs would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting. However, in the event that ground disturbing activities encounter stained or malodorous soils in areas near the HOT or UST, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

- There were three aboveground storage tanks (ASTs) located within the residential compound, including; a 275-gallon AST for heating oil, a 275-gallon AST for fresh oil, and a 400-gallon AST for gasoline (currently not in use). The heating oil AST (39°18'54.2"/75°49'51.6") and the fresh oil AST (39°18'54.7"/75°49'51.7") were along the western wall of the garage and the gasoline AST was situated near a storage building about 150 feet north of the residence (39°18'55.6"/75°49'50.2"). The ASTs were situated atop unstained ground surfaces and the fresh oil and heating oil ASTs were connected to interior areas of the garage by piping. The bulk storage of petroleum products in ASTs would be a *recognized environmental condition* due to the *material threat* of a release necessitating reporting, investigating, characterizing, and cleaning up a release and consulting with and obtaining administrative closure from the relevant environmental regulatory agency with oversight. This *recognized environmental condition* would appear to pose a low to moderate concern of adverse impact to the environmental condition of the proposed ground lease due to a combination of distance, position, and physical setting. However, in the event that ground disturbing activities encounter stained or malodorous soils in areas near the ASTs, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

- The residential compound contained a garage that was used for automobile service and repair that contained several work spaces and included an aboveground hydraulic lift and a spray-paint booth within the northern portion of the structure (39°18'54.6"/75°49'51.4"). The spray-paint booth was positioned directly on top of the concrete floor and included an air-collection plenum passing through filtration media on the ceiling and walls with exhaust to the exterior of the building. The air-collection system appeared to substantially capture over-spray. The cleaning system associated with the spray-paint equipment was not apparent at the time of the site inspection but commonly involves the use of solvents. The garage was reportedly not connected to plumbing systems and no floor drains were observed. Other work areas associated with automobile related activities included an exterior aboveground hydraulic lift atop concrete surfaces about 50 feet to the east of the garage (39°18'54.5"/75°49'50.5"); and a carport reportedly used for sandblasting atop exposed soils was situated to the west of the garage (39°18'54.7"/75°49'52.2"); and several of the outbuildings were used to store vehicles and/or vehicle parts. During the site inspection, a representative indicated that the garage was originally constructed in 1982, that it was expanded in the mid 1980s, and that automobile service and repair activities have occurred within or near the garage from that time to the present. The use of the site for automobile service and repair that includes sand blasting and spray painting would be a *recognized environmental condition* for the subject property due the *material threat* of spill(s), release(s), and unauthorized discharge(s) and/or the migration of vapor(s) through the concrete flooring into the subsurface. This *recognized environmental condition* would appear to pose a moderate concern of adverse impact to the environmental condition of the proposed ground lease area due to a combination of distance, position, and physical setting. In the event that ground disturbing activities encounter stained or malodorous soils in areas near automobile related areas, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

- Historical information indicated the subject property was utilized as agricultural land and developed with a residential structure and various outbuildings from roughly the 1780s to the present time. Agricultural uses have included the planting and harvesting of a variety of row crops from the time of original development to the present time; along with limited livestock grazing. Aerial photographs depicted the majority of the site as cultivated fields from at least 1959 to the present day and the applications of organochlorine pesticides (OCPs) or metal-based pesticides cannot be ruled out. Additionally, a portion of the east-central section of the site was noted to contain a residence and associated out buildings. Typical farm homesteads would include a residential structure along with storage buildings for tractors and farm equipment, possible fueling locations, and storage areas for applied pesticides and herbicides. The likely use and applications of OCPs or metal-based pesticides

as well as the presence of homestead with likely storage of various hazardous materials would be a *recognized environmental condition* for the site and the proposed ground lease.

Additional Comments

Other environmental concerns associated with the subject property that do not meet the definition of a *recognized environmental condition*, but may or may not be considered as business environmental risks associated with the site, include:

- A section of a railroad line borders the site to the south. In general, the rail line has an east-west orientation within the site vicinity. The railroad lines appear to have been present since at least 1900. A typical railroad track and right-of-way are constructed with creosote treated wooden railroad ties on a bed of rock ballast. The passing locomotives and rail cars periodically release oils, acids from lead acid batteries, and various hazardous substances that are on or in the rail cars. Based on a combination of position, distance, and longevity of this feature in the area, the possibility that the rail line has impacted or could pose and adverse environmental concern to the subject property and the southern portion of the proposed lease area is considered to be low to moderate. However in the event that ground disturbing activities encounter stained or malodorous soils in areas near the rail line, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

Opinion

Based on the review of the available historical information, regulatory databases, and site reconnaissance information, some sampling of near surface soil within the proposed lease area should be considered. The subject property has been used for agricultural purposes for likely over 200 years and perhaps longer, during a period of time in which some application of a variety of organic and inorganic pesticides, herbicides, and fertilizers may have occurred. Past applications of fertilizers, pesticides, and herbicides commonly used in conjunction with agricultural activities in the past may have included organochlorides, organophosphates, toxiphene, dieldrin, DDT, and metals-based pesticides; which have relatively long latency in the near surface. However, there is not a regulatory mandate in Maryland that requires soil sampling at former agricultural land use properties intended to be converted to commercial/industrial or residential use.

Additionally, the past and present uses of the site have included automobile service and repair from 1982 to the present and an industrial hot mix asphalt plant from the late 1990s to the present. The majority of the areas associated with the automobile service and repair as well as the hot mix asphalt plant land uses are in inferred cross- or down-gradient positions with respect to the proposed ground lease areas; however in the event that ground disturbing activities encounter stained or malodorous soils, construction activities should cease in these areas and soil and/or groundwater sampling should be considered.

Should any additional information regarding the environmental condition of the site become available or the proposed action change, it should be provided to EarthTouch, Inc. for review and re-evaluation of the above conclusions.

Deviations

There were no *Deviations* to the ASTM Standard Practice associated with preparing and developing this Phase I ESA, with the exception that interior areas of improvements and the hot mix asphalt plant had limited access at the time of the site inspection. Additionally, significant areas of the site were covered by vegetative cover. Significant *Deviations* are included in the discussions above.

Data Gaps

In general, a *Data Gap* is the inability to gather information as prescribed in the ASTM Standard Practice despite good faith efforts. This may include, but not be limited to, a lack of historical information, inability to interview knowledgeable individuals, or inspect portions of the subject property. There were *Data Gaps* encountered as a part of this assessment, including the *Deviation* identified above, the lack of regulatory file information for the subject property, and the lack of *readily available* historical resource information prior to the time of first development, which would also be considered to be a *Data Failure*. However, due to the use of the site for agricultural purposes from at least the early 1900s to the present, these *Data Gaps* and *Data Failure* would not appear to be considered to be significant.

Data Failures

The objective of reviewing historical information is to identify all obvious uses of the subject property from first developed use or 1940, whichever is earlier, in order to identify the likelihood of previous uses resulting in a *recognized environmental condition(s)*. Generally, a *Data Failure* is when all obvious uses of the site cannot be determined despite gathering and reviewing all of the standard historical sources that are reasonably ascertainable. A historical source is considered reasonably ascertainable if it is (1) publicly available, (2) obtainable within a reasonable period of time and at a reasonable cost, and (3) practically reviewable. Historical information prior to the time of first development was not *readily available* during the course of this assessment. As such, first development of the site for agricultural purposes could not be identified. This *Data Failure* is not deemed to be significant, and would not appear to affect the conclusions of this report.

10.0 REFERENCES

- Environmental Data Resources, Inc., Regulatory Database Research, Regulatory Database Report - (The EDR Radius Map Report) No. 4297046.2s dated 15-May-2015.
- US Geological Survey Topographic 7.5-Minute Series Map, Millington, Maryland 7.5-minute Quadrangle Maps.
- US Environment al Protection Agency.
- US Geological Survey, Earth Resources & Observation Services Section, Earth Explorer Aerial Photography.
- US Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Kent County, Maryland.
- US Fish & Wildlife Service, National Wetlands Inventory database mapping program.
- Federal Emergency Management Agency (FEMA), Floodplain Map Service Center database, Community Panels for Kent County.
- Maryland Department of the Environment.
- Maryland State Department of Assessments and Taxation.
- Kent County.
- Kent County Clerk.
- Kent County Department of Land, Construction, and Zoning.
- Groundwater Atlas of the U.S.
- Google Earth.
- Environmental Review for Proposed Blue Star Solar Project at 12213 Galena Road, Kent County, Maryland. Prepared for OneEnergy Development, LLC by Maryland Department of Natural Resources (18-Dec-2014).

11.0 QUALIFICATIONS OF TECHNICAL STAFF

Short resumes for the environmental professionals contributing to the completion of this report are included in this section as required by the ASTM Standard Practice.

Sean M. Thal ***Field Scientist / Archaeologist***

Mr. Thal has earned a degree in Anthropology with an emphasis in Archaeology from Brigham Young University and is an experienced environmental professional and archaeologist. He has experience in a wide range of projects within the environmental industry, which includes real estate evaluations, investigations, and sampling projects throughout the United States with a focus in the western United States. His experience with environmental due diligence has been in conjunction with commercial developments, land grant exchange, transmission corridor, military installations, mining areas, transportation corridor, and telecommunication field investigations, as well as foreclosures, loan originations, and other property transactions. Mr. Thal has experience authoring hundreds of reports including Phase I Environmental Site Assessments (ESAs), Phase II investigations, property condition reports, NEPA compliance, and archaeological reports.

Brett E. Cox ***Senior Scientist***

Mr. Cox has a diverse educational background and professional experience in environmental compliance, air quality, asbestos, geology, and geophysics. He has managed environmental site assessments and subsurface investigations, conducted compliance evaluations, and managed remedial action projects, and developed and implemented large-scale site evaluation programs. Mr. Cox has conducted and managed site assessment programs that have involved 100s of Phase I ESAs and NEPA checklist evaluations of proposed wireless telecommunications sites in seven western states. As a project manager, he has overseen a multi-disciplinary effort to complete site evaluations, formulate deliverables, interface with relevant regulatory agencies, and complete additional environmental processing in compliance with Federal Communications Commission rules. Scopes of work completed have included FCC-focused NEPA Checklist evaluations, Phase I ESAs, ASTM Transaction Screens, geotechnical analysis, soil and groundwater contaminant assessment, historical/cultural resource inventories, biological assessments/inventories, and Environmental Assessments.

11.1 Technical Staff Signatures

The following EarthTouch, Inc. personnel were responsible for this Phase I ESA.

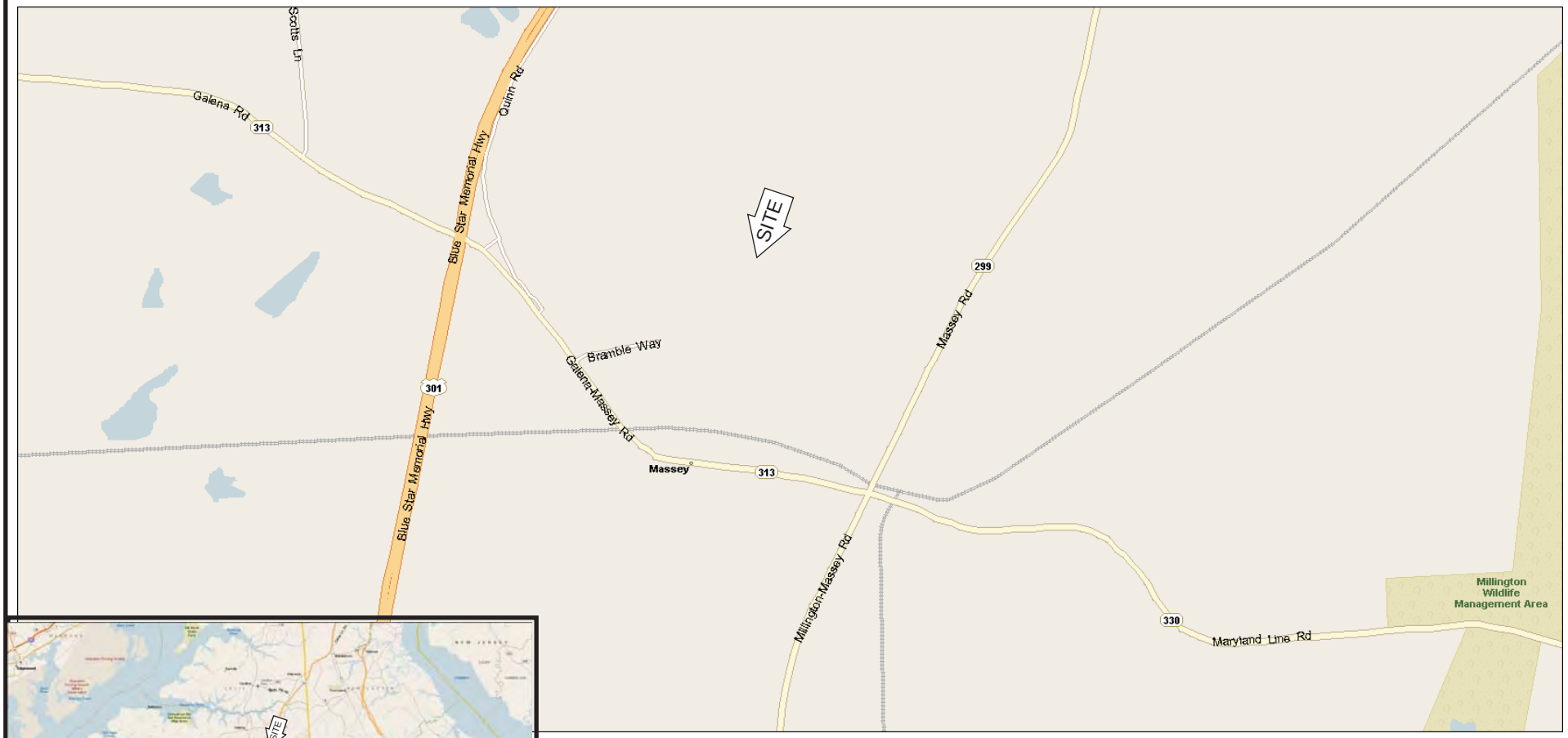
We declare that, to the best of our professional knowledge and belief, we meet the definition of *Environmental Professional* as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Sean M. Thal
Field Scientist/Archaeologist
Environmental Professional
Phase I Environmental Site Assessment

Brett E. Cox
Senior Scientist
Environmental Professional
Technical Review

FIGURE 1

SITE LOCATION



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

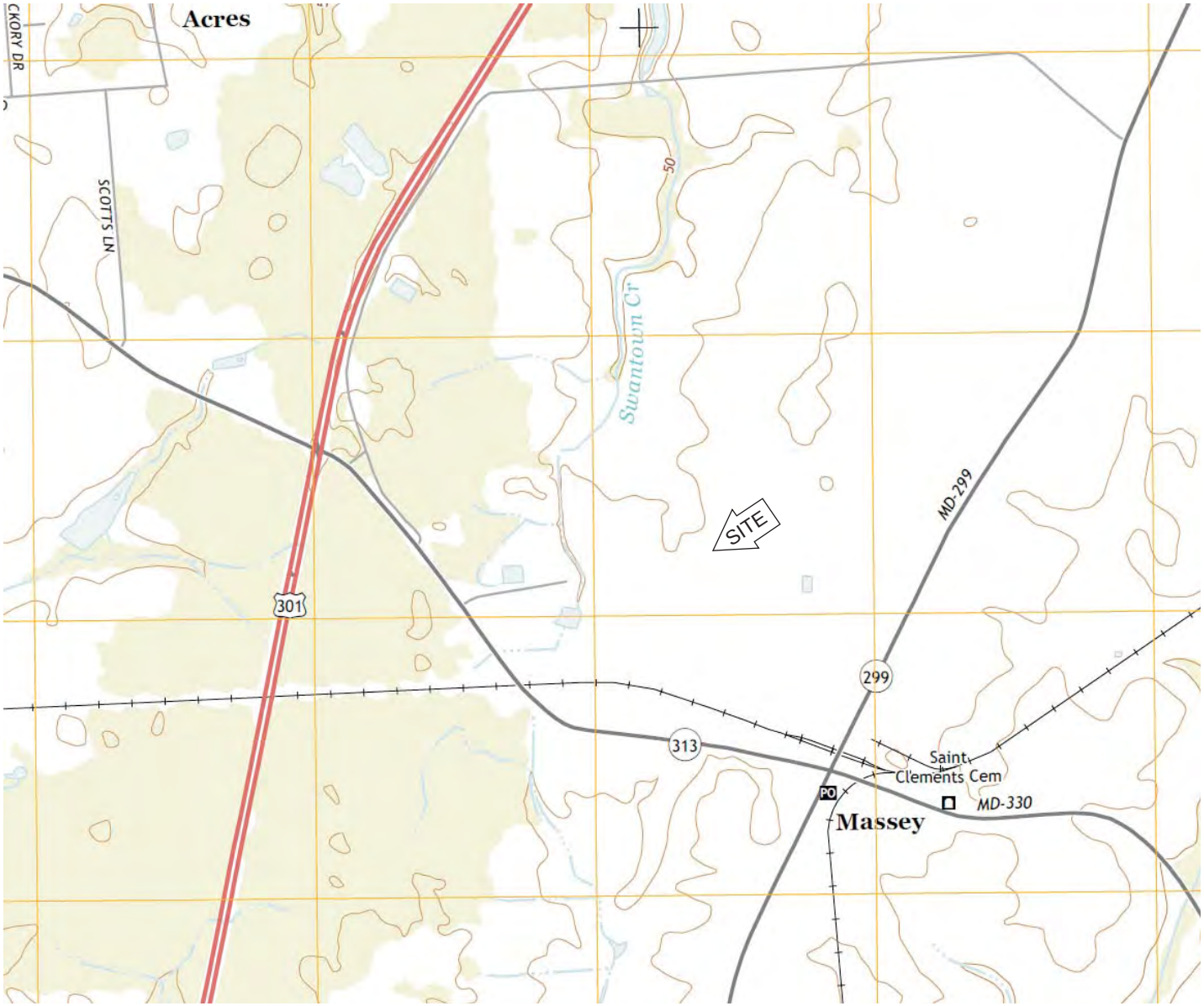
FIGURE 1
Site Location
(Street Map)

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	1
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	MS Streets & Trips 2010 Edition Massey, Maryland

FIGURE 2

TOPOGRAPHIC MAP



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

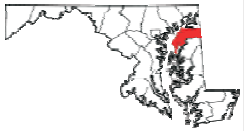


FIGURE 2

Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	2
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey 7.5-minute quadrangle map, Millington, Maryland

FIGURE 3

TAX ASSESSOR MAP

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041
Tel: 801.771.2800

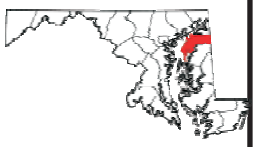


FIGURE 3

Plat Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure: 3
Append: Phase I Environmental Site Assessment

Project: OER-0009-MD / Blue Star
Analyst: Sean Thal

Source: Maryland State Assessor

FIGURE 4

SITE SKETCH

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041
Tel: 801.771.2800

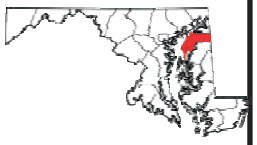


FIGURE 4

Site Sketch

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure: 4
Append: Phase I Environmental Site Assessment

Project: OER-0009-MD / Blue Star
Analyst: Sean Thal

Inspected: 30-Apr-2015
Prepared: 19-May-2015

ATTACHMENT 1

USER QUESTIONNAIRE

Kent County

USER QUESTIONNAIRE

Pursuant to ASTM E 1527-13 Appendix X.3, in order to qualify for one of the Landowner Liability Protections (LLPs) offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the "Brownfields Amendments), the User must provide the following Information (if available) to the Environmental Professional (EP). (The *User* is defined as the party seeking to use Practice ASTM E 1527: 13 to complete an environmental site assessment of the Property. A User may include, without limitation, a potential purchaser of property, a potential tenant of property, an owner of property, a lender, or a property manager). Failure to provide the information could result in a determination that "All Appropriate Inquiry" is not complete. This form represents a type of interview and as such, the User has an obligation to answer all questions in good faith, to the extent of his or her actual knowledge.

1. Are you aware of any environmental cleanup liens against the Property that are filed or recorded under federal, tribal, state or local law? This can be determined by providing a current title report.

   No ☒ Yes ☐ If yes please explain.

   See attached title report.

2. Are you aware of any activity and land use limitations (AULs), such as engineering controls, land use restrictions or institutional controls that are in place at the site and/or have been filed or recorded in a registry under federal, tribal, state, or local law?

   No ☒ Yes ☐ If yes please explain.

3. As the User of this Environmental Site Assessment (ESA) do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Property or an adjoining Property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

   No ☒ Yes ☐ If yes please explain.

4. Does the purchase price (or lease price) being paid, for this Property, reasonably reflect the fair market value of the Property?

   No ☐ Yes ☒

   If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the Property?

   No ☐ Yes ☐ If yes please explain.

5. Are you aware of commonly known or reasonably ascertainable information about the Property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as User (a) do you know of the past uses of the Property?; (b) Do you know of specific chemicals that are present or were once present at the Property?; (c) Do you know of spills or other chemical releases that have taken place at the Property?; (d) Do you know of any environmental cleanups that have taken place at the Property?

   No ☐ Yes ☒ If yes please explain. Property farmed for conventional crops. There was also a gravel operation for some time.

6. As the User of this ESA, based on your knowledge and experience related to the Property are there any obvious indicators that point to the presence or likely presence of contamination at the Property?

   No ☒ Yes ☐ If yes please explain.

Proceedings Involving the Property

Pursuant to ASTM E 1527-13 §10.9, as the User of this ESA do you know of (1) any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Property; (2) any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the Property; and (3) any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products?

No ☒ Yes ☐ If yes please explain.

Helpful Documents Checklist

Pursuant to ASTM E 1527-13 §10.8, do you know whether any of the following documents exist related to the Property, and if so, whether copies can and will be provided to EarthTouch, Inc. for review? Check all that apply. If none apply then please check the last box.

- ☐ Previous environmental site assessment reports (ESAs) such as Phase I and II ESAs, remediation reports, asbestos reports, etc.
- ☐ Environmental compliance audit reports
- ☐ Environmental permits (for example solid waste disposal permits, hazardous waste disposal permits, wastewater permits, NPDES permits, underground injection permits)
- ☐ Registrations for above or underground storage tanks
- ☐ Registration for underground injection systems
- ☐ Material safety data sheets
- ☐ Community right-to-know plan
- ☐ Risk assessments
- ☐ Safety plans; preparedness and prevention plans; spill prevention, countermeasure and control (SPCC) plans; etc.
- ☐ Reports regarding hydrogeologic conditions on the Property or surrounding area

- ☐ Notices or other correspondence from any governmental agency relating to past or current violations of environmental laws with respect to the Property or relating to environmental liens encumbering the Property
- ☐ Hazardous waste generation notices or reports
- ☐ Geotechnical studies
- ☐ Recorded activity and land use limitations (AULs)
- ☒ User has no knowledge of any of the above documents available for the Property

This Phase I is being performed to qualify GreEnergy Development, LLC as an innocent landowner and/or lessee under applicable state and federal law.

ROBERT COLLIER — Name (User or Authorized User Representative)

PROJECT MANAGER — Title

RWC — Signature

4/29/2015 — Date

PLEASE NOTE THAT THE RESPONSES HEREIN ARE MADE ON BEHALF OF THE USER, PURSUANT TO ASTM E 1527-13 AND NOT AS THE ENVIRONMENTAL PROFESSIONAL. THE RESPONSES TO ITEMS 1 & 2 ABOVE ARE NOT FROM A LEGAL REVIEW, BUT AS THE USER UNDER THE ASTM STANDARD. THE ENVIRONMENTAL PROFESSIONAL WILL TAKE THIS AND ALL INFORMATION HEREIN INTO ACCOUNT FOR THE PHASE I AND WILL MAKE THEIR OWN INDEPENDENT DETERMINATION.

APPENDIX A

PHOTOGRAPHS

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 1

Description: View towards the residential compound from the intersection of the access road and the railroad line

View: North

Photograph 2

Description: View towards the south-central portion of the site along the railroad line

View: West

Photograph 3

Description: View towards the residential compound from along the access road

View: North

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 4

Description: View towards the residence

View: Northeast

Photograph 5

Description: View towards the residence

View: East-southeast

Photograph 6

Description: View towards the residence

View: South-southwest

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 7

Description: View towards the 500-gallon UST for heating oil associated with the residence

View: West

Photograph 8

Description: View towards the residence

View: West-northwest

Photograph 9

Description: View toward two water wells and pump house associated with the residence (wells – arrows)

View: Northwest

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 10

Description: View towards a water well

View:

Photograph 11

Description: View towards a water well

View:

Photograph 12

Description: View towards the pump house associated with the residence

View: Interior

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 13

Description: View towards garage

View: Northwest

Photograph 14

Description: View towards garage

View: North

Photograph 15

Description: View towards the 500-gallon UST for diesel fuel associated with the garage

View: North

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 16

Description: View towards garage

View: North-northeast

Photograph 17

Description: View towards a HOT associated with the garage

View: East

Photograph 18

Description: View towards a fresh oil AST associated with the garage

View: Easterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 19

Description: View towards garage

View: Southeast

Photograph 20

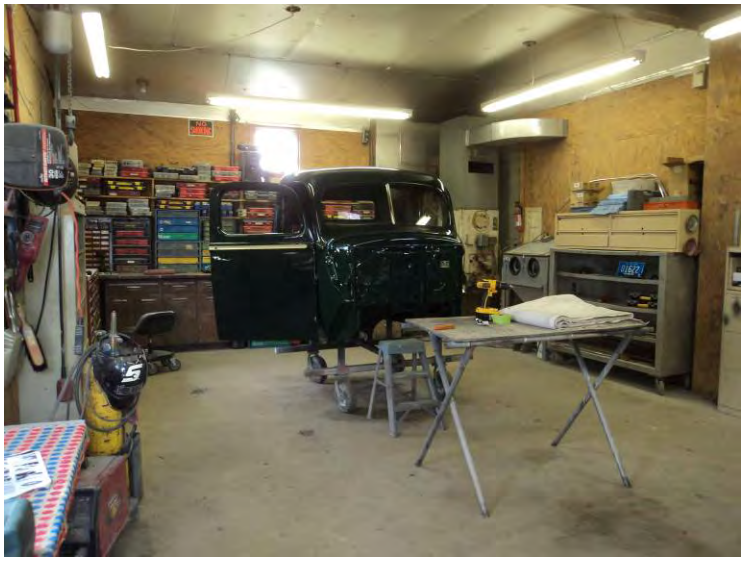
Description: View towards garage

View: West-southwest

Photograph 21

Description: View of garage

View: Interior



OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 22

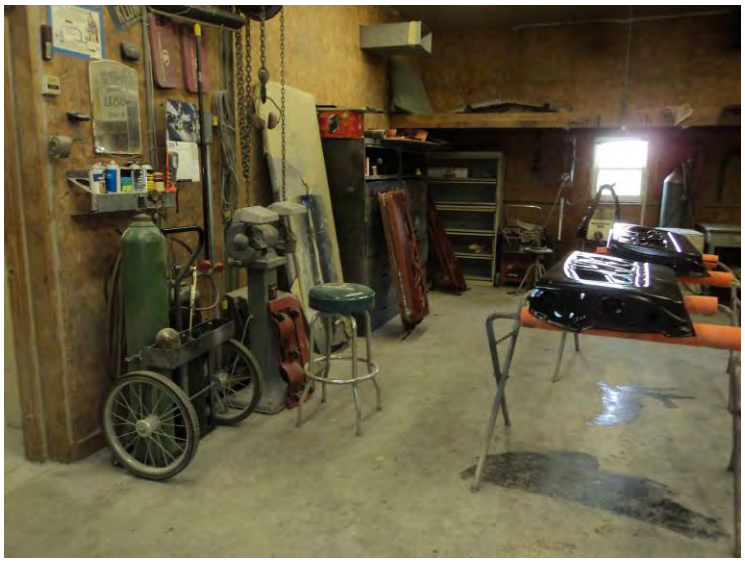
Description: View of garage

View: Interior

Photograph 23

Description: View of garage

View: Interior



Photograph 24

Description: View of garage

View: Interior

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 25

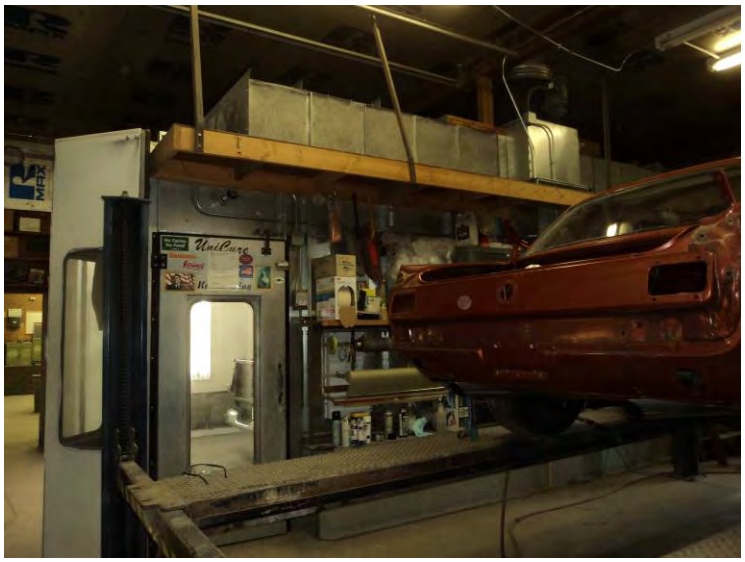
Description: View of garage (paint booth)

View: Interior

Photograph 26

Description: View towards garage (paint booth)

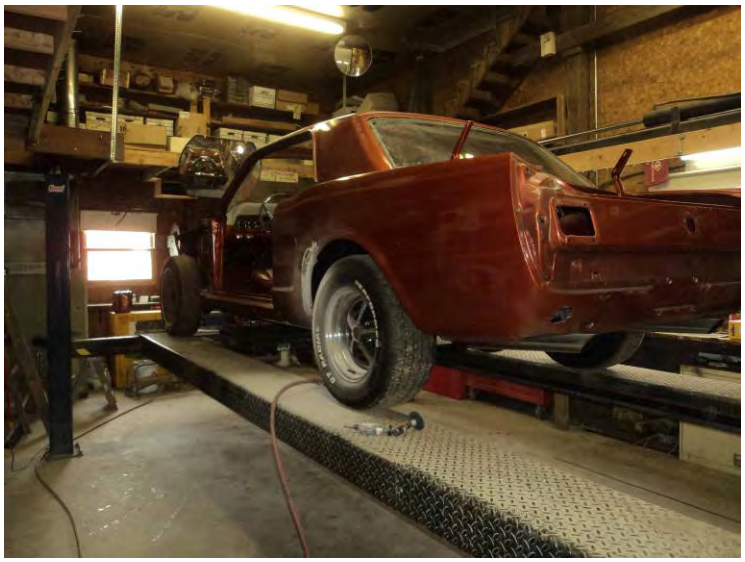
View: Interior



Photograph 27

Description: View towards garage (aboveground lift)

View: Interior



OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 28

Description: View towards a carport to the west of the garage that is reportedly used for sandblasting

View: Southeasterly

Photograph 29

Description: View towards a storage building

View: Southeast

Photograph 30

Description: View towards a storage building

View: Southwesterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 31

Description: View towards a storage building (note that the drums in this photograph were used for storage of miscellaneous items)

View: Interior

Photograph 32

Description: View towards a storage building

View: Interior

Photograph 33

Description: View towards the barn

View: South

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 34

Description: View towards the barn

View: Northeast

Photograph 35

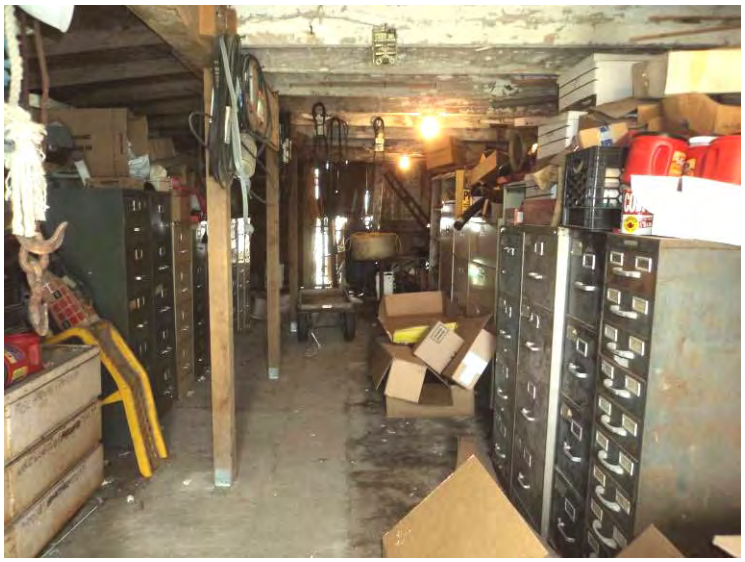
Description: View towards the barn

View: Northwest

Photograph 36

Description: View towards the barn

View: Interior



OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 37

Description: View towards the barn

View: Interior

Photograph 38

Description: View towards the barn

View: Interior

Photograph 39

Description: View towards the barn

View: Interior

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 40

Description: View towards the barn (milk room)

View: Interior

Photograph 41

Description: View towards a storage building

View: East

Photograph 42

Description: View towards a storage building

View: Northeast

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 43

Description: View towards a storage building

View: Interior

Photograph 44

Description: View towards an unused AST near a storage building

View: East

Photograph 45

Description: View towards a storage building

View: Interior

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 46

Description: View towards the residence and a storage building

View: South

Photograph 47

Description: View towards a storage building

View: East

Photograph 48

Description: View towards a storage building (aboveground lift)

View: Northeast

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 49

Description: View towards a storage building

View: Interior

Photograph 50

Description: View towards a storage building

View: Interior

Photograph 51

Description: View towards the hot mix asphalt facility

View: Northwest

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 52

Description: View towards the entrance to the hot mix asphalt facility

View: Northerly

Photograph 53

Description: View towards the materials storage area associated with the hot mix asphalt facility

View: Northwesterly

Photograph 54

Description: View towards the hot mix asphalt facility

View: West-northwesterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 55

Description: View towards the hot mix asphalt facility

View: Northeast

Photograph 56

Description: View towards the hot mix asphalt facility

View: Northeast

Photograph 57

Description: View towards the hot mix asphalt facility (within secondary containment)

View:

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 58

Description: View towards the hot mix asphalt facility (within secondary containment)

View: Northeast

Photograph 59

Description: View towards the hot mix asphalt facility (within secondary containment)

View: Northerly

Photograph 60

Description: View towards the hot mix asphalt facility

View: Southeasterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 61

Description: View towards the hot mix asphalt facility (outside of the secondary containment)

View: Southeasterly

Photograph 62

Description: View towards the hot mix asphalt facility

View: Southerly

Photograph 63

Description: View towards the hot mix asphalt facility

View: Southeasterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 64

Description: View towards the hot mix asphalt facility

View: Southwesterly

Photograph 65

Description: View towards the hot mix asphalt facility

View: Southwesterly

Photograph 66

Description: View towards 55-gallon drums associated with the hot mix asphalt facility

View: South

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 67

Description: View towards the hot mix asphalt facility

View: Westerly

Photograph 68

Description: View towards the administrative/quality control building associated with the hot mix asphalt facility

View: Westerly

Photograph 69

Description: View towards the administrative/quality control building associated with the hot mix asphalt facility

View: Southwesterly

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 70

Description: View towards the administrative/quality control building associated with the hot mix asphalt facility

View: South

Photograph 71

Description: View towards the administrative/quality control building associated with the hot mix asphalt facility

View: Southeast

Photograph 72

Description: View towards the septic system and water well near the administrative/quality control building associated with the hot mix asphalt facility

View: North

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 73

Description: View towards the AST containing propane near the administrative/quality control building associated with the hot mix asphalt facility

View: South-southwest

Photograph 74

Description: Equipment within the administrative/quality control building associated with the hot mix asphalt facility

View: Interior

Photograph 75

Description: Equipment within the administrative/quality control building associated with the hot mix asphalt facility

View: Interior

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 76

Description: Storage area associated with the hot mix asphalt facility

View: Northwest

Photograph 77

Description: Pond near the hot mix asphalt facility

View: Northeast

Photograph 78

Description: Irrigation pivot within the north-central section of the site. Note that this is the former location of the materials storage area associated with the hot mix asphalt facility

View: North

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 79

Description: View of a portion of the proposed solar project location

View: East

Photograph 80

Description: View of a portion of the proposed solar project location

View: Northwest

Photograph 81

Description: View of the access road between the residential compound and the hot mix asphalt facility. Note the area to the south (left) is a portion of the proposed solar project location

View: West

OneEnergy Development, LLC
Blue Star Solar Project
OER-15-0009-MD

David A. Bramble, Inc.
12213 Galena Road
Massey, Maryland 21650

Photograph 82

Description: View of a portion of the proposed solar project location

View: Southwest

Photograph 83

Description: View of a portion of the proposed solar project location and surface water features

View: South-southwest

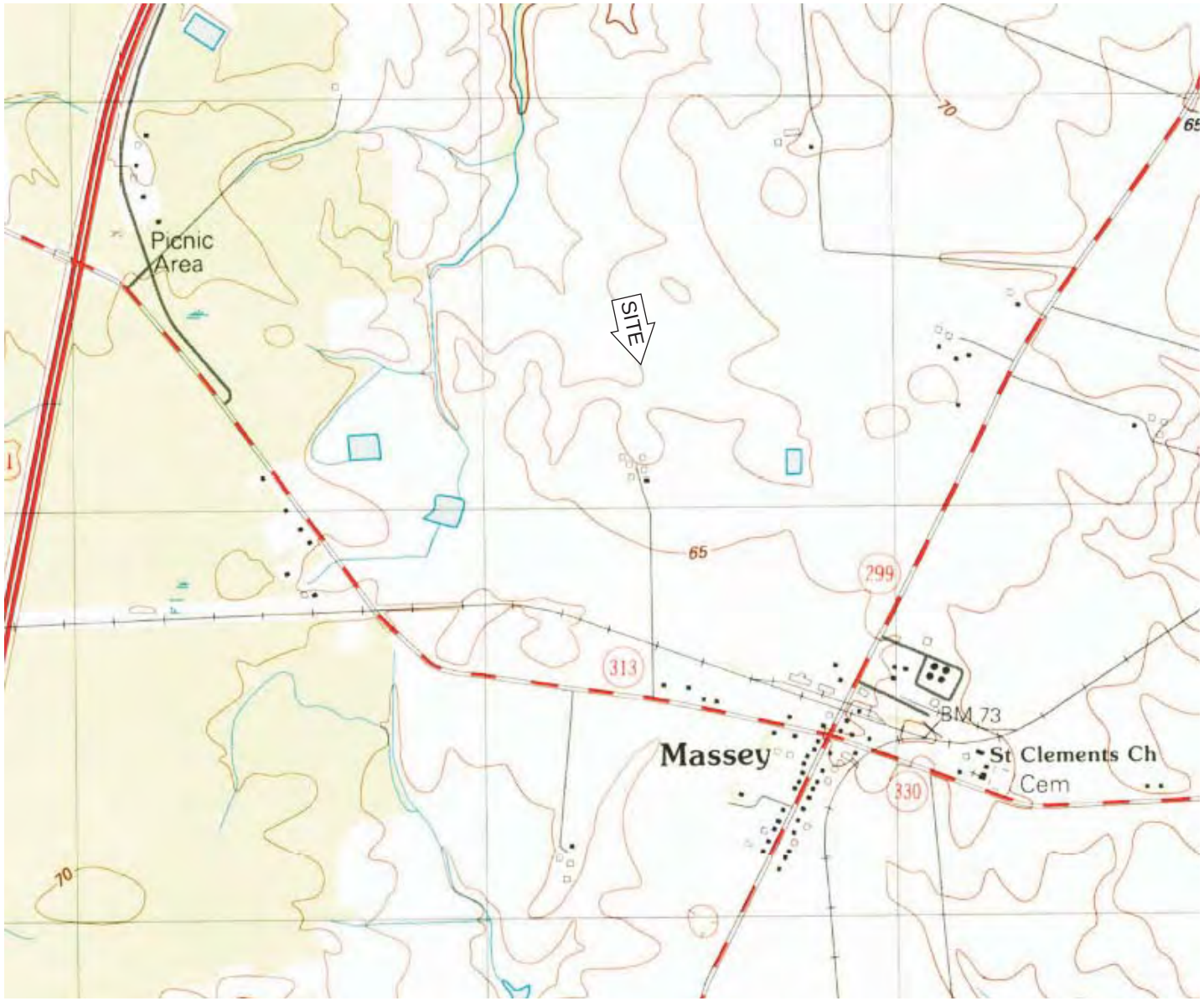
Photograph 84

Description: View of a portion of the proposed solar project location and surface water features

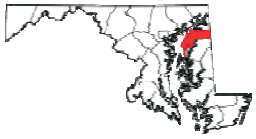
View: South

APPENDIX B

HISTORIC MAP(S)



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



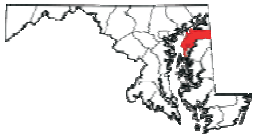
Appendix B

Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix B
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1993) Historical Topographic Map Collection

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

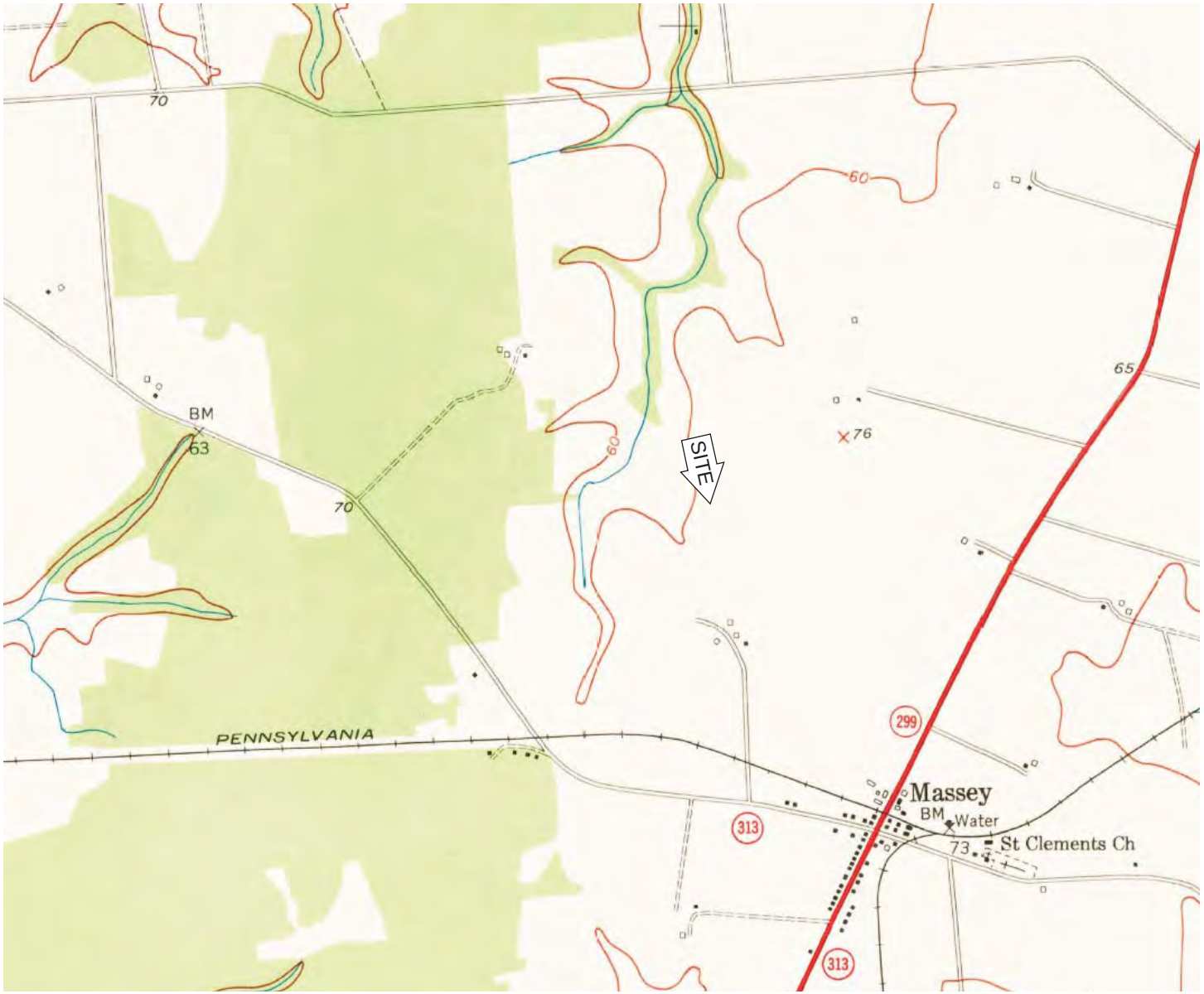


Appendix B

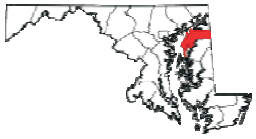
Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix B
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1973) Historical Topographic Map Collection



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

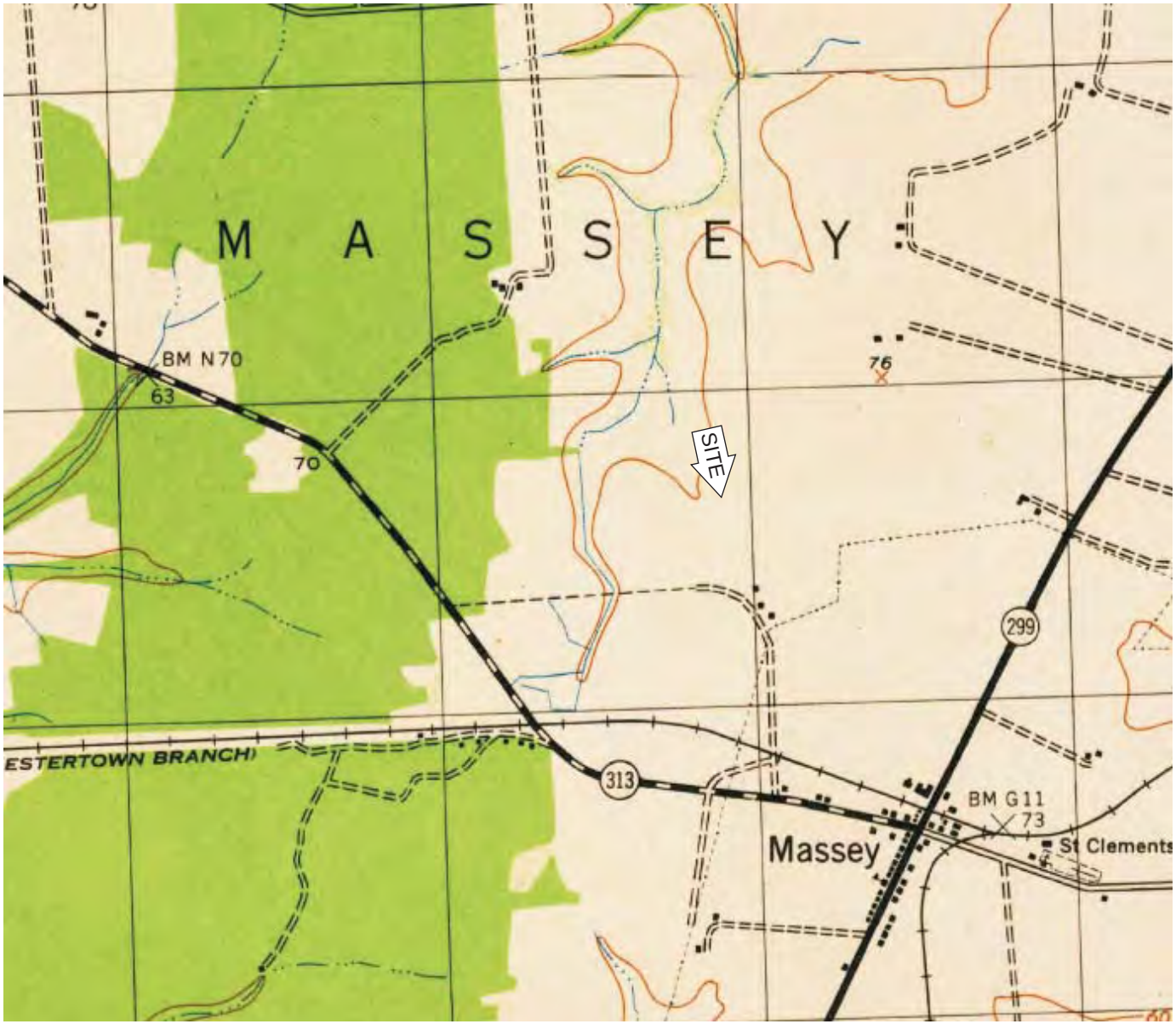


Appendix B

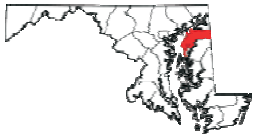
Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix B
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1953) Historical Topographic Map Collection



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

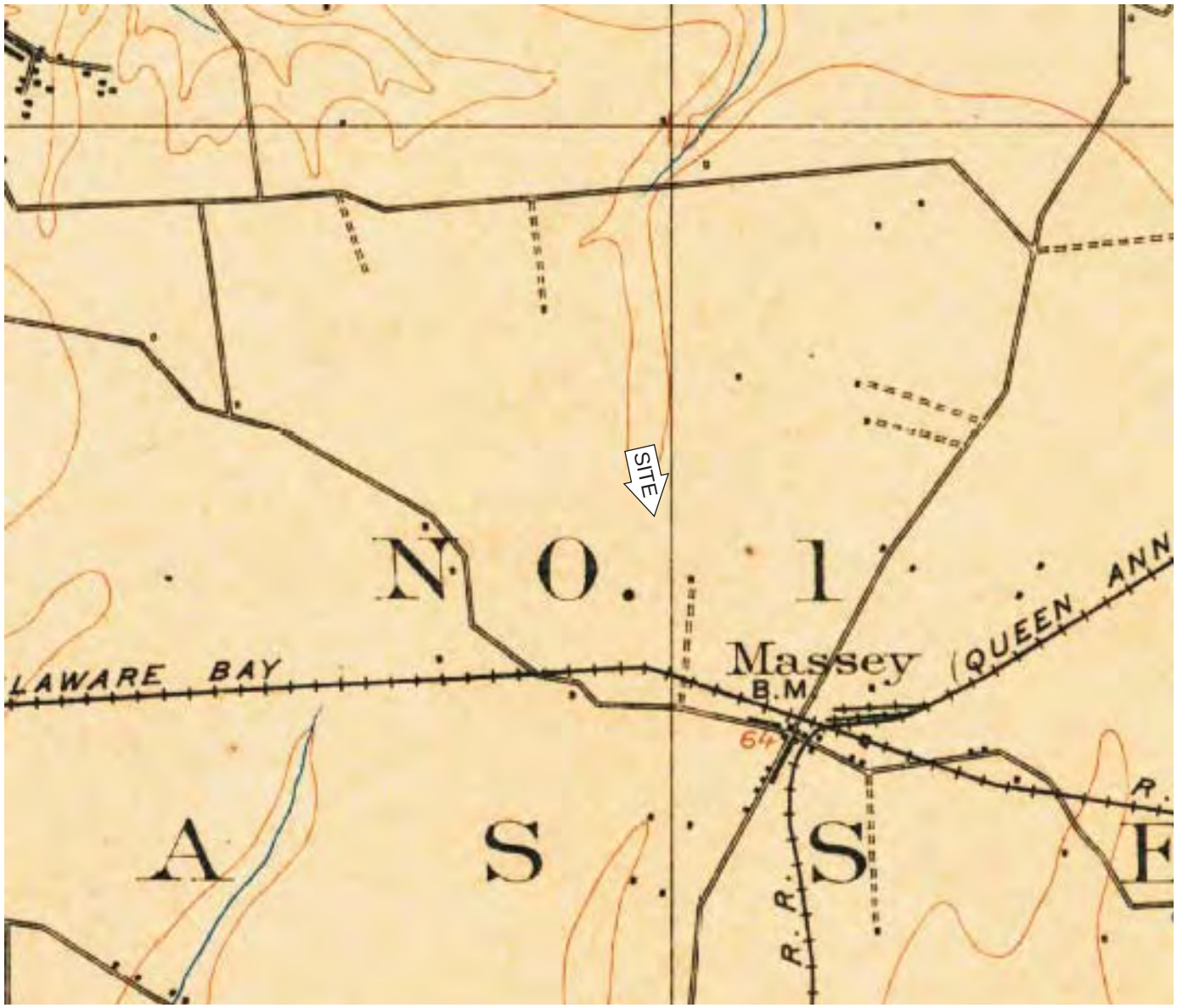


Appendix B

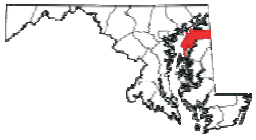
Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix B
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1944) Historical Topographic Map Collection



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



Appendix B

Topographic Map

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

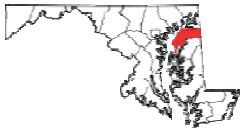
Figure:	Appendix B
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1900) Historical Topographic Map Collection

APPENDIX C

AERIAL PHOTOGRAPH(S)

earthTouch inc
www.earthtouchinc.com

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



Appendix C

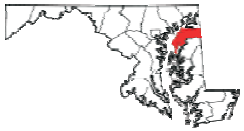
Aerial Photograph

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix C
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (2013) Google Earth

earthTouch inc
www.earthtouchinc.com

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



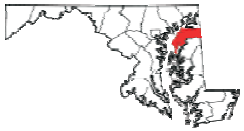
Appendix C

Aerial Photograph

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix C
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (2005) Google Earth

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041

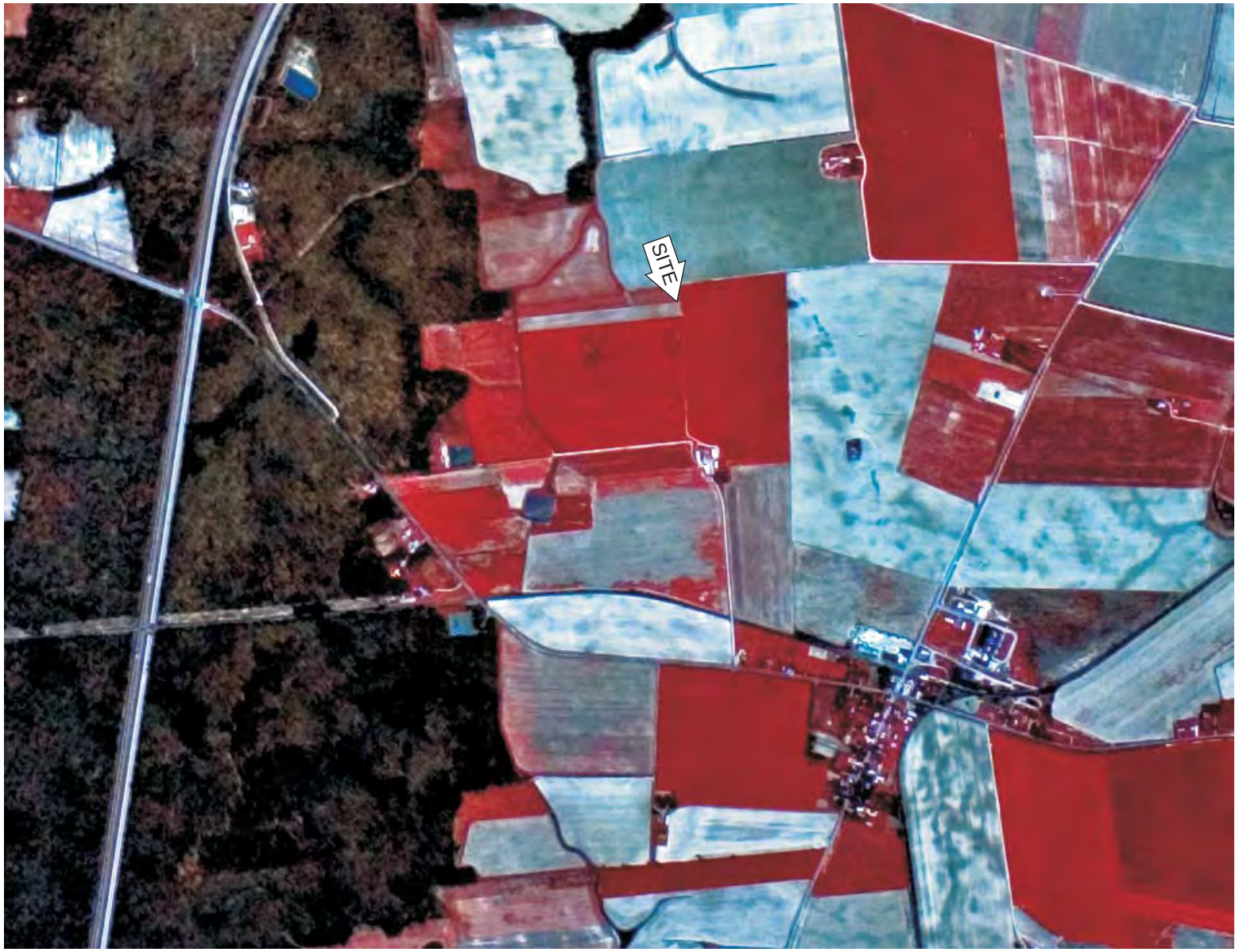


Appendix C

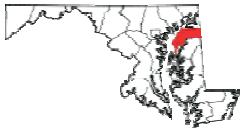
Aerial Photograph

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix C
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1998)



EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



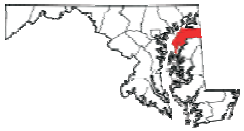
Appendix C

Aerial Photograph

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure:	Appendix C
Append:	Phase I Environmental Site Assessment
Project:	OER-0009-MD / Blue Star
Analyst:	Sean Thal
Source:	US Geological Survey (1988)

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



Appendix C

Aerial Photograph

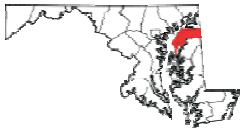
Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure: Appendix C
Append: Phase I Environmental Site Assessment

Project: OER-0009-MD / Blue Star
Analyst: Sean Thal

Source: US Geological Survey (1973)

EarthTouch, Inc.
3135 North Fairfield Road
Layton, Utah 84041



Appendix C

Aerial Photograph

Blue Star
12231 Galena Road
Massey, (Kent County), Maryland 21650

Figure: Appendix C
Append: Phase I Environmental Site Assessment

Project: OER-0009-MD / Blue Star
Analyst: Sean Thal

Source: US Geological Survey (1959)

APPENDIX D

REGULATORY DATABASE REPORT
ENVIRONMENTAL DATA RESOURCES (EDR)

Blue Star
12213 Galena Road
Massey, MD 21650

Inquiry Number: 4297046.2s
May 15, 2015

The EDR Radius Map™ Report

Prepared using the EDR FieldCheck® System

Environmental Data Resources Inc

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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SECTION	PAGE
Executive Summary	ES1
Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	10
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

GeoCheck - Not Requested

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of the environmental records was conducted by Environmental Data Resources, Inc. (EDR). EARTHTOUCH, INC. used the EDR FieldCheck System to review and/or revise the results of this search, based on independent data verification by EARTHTOUCH, INC.. The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

12213 GALENA ROAD
MASSEY, MD 21650

COORDINATES

Latitude (North):	39.3153000 - 39° 18' 55.08''
Longitude (West):	75.8308000 - 75° 49' 50.88''
Universal Tranverse Mercator:	Zone 18
UTM X (Meters):	428377.6
UTM Y (Meters):	4351887.0
Elevation:	64 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	39075-C7 MILLINGTON, MD DE
Most Recent Revision:	1993

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20110630
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
12213 GALENA ROAD
MASSEY, MD 21650

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	DAVID A. BRAMBLE, IN	32559 BRAMBLE WAY	AST		TP
A2		12213 GALENA RD	EDR US Hist Auto Stat		TP
3	FRED CARPENTER RESID	12120 GALENA RD	OCPCASES	Lower	1545, 0.293, SSE

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8.

Site	Database(s)	EPA ID
DAVID A. BRAMBLE, IN 32559 BRAMBLE WAY MASSEY, MD 21650	AST Facility Id: 8177	N/A
12213 GALENA RD 12213 GALENA RD MASSEY, MD 21650	EDR US Hist Auto Stat	N/A

DATABASES WITH NO MAPPED SITES

No sites were identified in following databases.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---------- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---------- Federal Facility Site Information listing

Federal CERCLIS NFRAP site List

CERC-NFRAP ---------- CERCLIS No Further Remedial Action Planned

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG ---------- RCRA - Large Quantity Generators

RCRA-SQG ---------- RCRA - Small Quantity Generators
RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls
LUCIS ---------- Land Use Control Information System

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS ---------- Notice of Potential Hazardous Waste Sites

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Permitted Solid Waste Disposal Facilities

State and tribal leaking storage tank lists

HIST LUST ---------- Recovery Sites
INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---------- Registered Underground Storage Tank List
INDIAN UST ---------- Underground Storage Tanks on Indian Land
FEMA UST ---------- Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS ---------- Engineering Controls Site listing
INST CONTROL ---------- Voluntary Cleanup Program Applicants/Participants

State and tribal voluntary cleanup sites

VCP ---------- Voluntary Cleanup Program Applicants/Participants
INDIAN VCP ---------- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---------- Eligible Brownfields Properties

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---------- Open Dump Inventory

EXECUTIVE SUMMARY

DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
SWRCY ---------- Recycling Directory
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---------- Clandestine Drug Labs
US HIST CDL ---------- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

HIST UST ---------- Historical UST Registered Database

Local Land Records

LIENS 2 ---------- CERCLA Lien Information

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
SPILLS 90 ---------- SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR ---------- RCRA - Non Generators / No Longer Regulated
DOT OPS ---------- Incident and Accident Data
DOD ---------- Department of Defense Sites
FUDS ---------- Formerly Used Defense Sites
CONSENT ---------- Superfund (CERCLA) Consent Decrees
ROD ---------- Records Of Decision
UMTRA ---------- Uranium Mill Tailings Sites
US MINES ---------- Mines Master Index File
TRIS ---------- Toxic Chemical Release Inventory System
TSCA ---------- Toxic Substances Control Act
FTTS ---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ---------- FIFRA/TSCA Tracking System Administrative Case Listing
SSTS ---------- Section 7 Tracking Systems
ICIS ---------- Integrated Compliance Information System
PADS ---------- PCB Activity Database System
MLTS ---------- Material Licensing Tracking System
RADINFO ---------- Radiation Information Database
FINDS ---------- Facility Index System/Facility Registry System
RAATS ---------- RCRA Administrative Action Tracking System
RMP ---------- Risk Management Plans
UIC ---------- Underground Injection Wells Database
DRYCLEANERS ---------- Registered Drycleaning Facilities
NPDES ---------- Wastewater Permit Listing
AIRS ---------- Permit and Facility Information Listing
LEAD ---------- Lead Inspection Database
INDIAN RESERV ---------- Indian Reservations
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
Financial Assurance ---------- Financial Assurance Information Listing
US AIRS ---------- Aerometric Information Retrieval System Facility Subsystem
COAL ASH ---------- Coal Ash Disposal Site Listing

EXECUTIVE SUMMARY

US FIN ASSUR ---------- Financial Assurance Information
EPA WATCH LIST ---------- EPA WATCH LIST
LEAD SMELTERS ---------- Lead Smelter Sites
LRP ---------- Land Restoration Program
COAL ASH EPA ---------- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---------- PCB Transformer Registration Database
COAL ASH DOE ---------- Steam-Electric Plant Operation Data
2020 COR ACTION ---------- 2020 Corrective Action Program List
PRP ---------- Potentially Responsible Parties

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---------- EDR Proprietary Manufactured Gas Plants
EDR US Hist Cleaners ---------- EDR Exclusive Historic Dry Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LUST ---------- Recovered Government Archive Leaking Underground Storage Tank
RGA HWS ---------- Recovered Government Archive State Hazardous Waste Facilities List
RGA LF ---------- Recovered Government Archive Solid Waste Facilities List

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal leaking storage tank lists

OCPCASES: Cases monitored by the Oil Control Program.

An online review and analysis by EARTHTOUCH, INC. of the OCPCASES list, as provided by EDR, and dated 12/31/2014 has revealed that there is 1 OCPCASES site within approximately 0.5 miles of the target property.

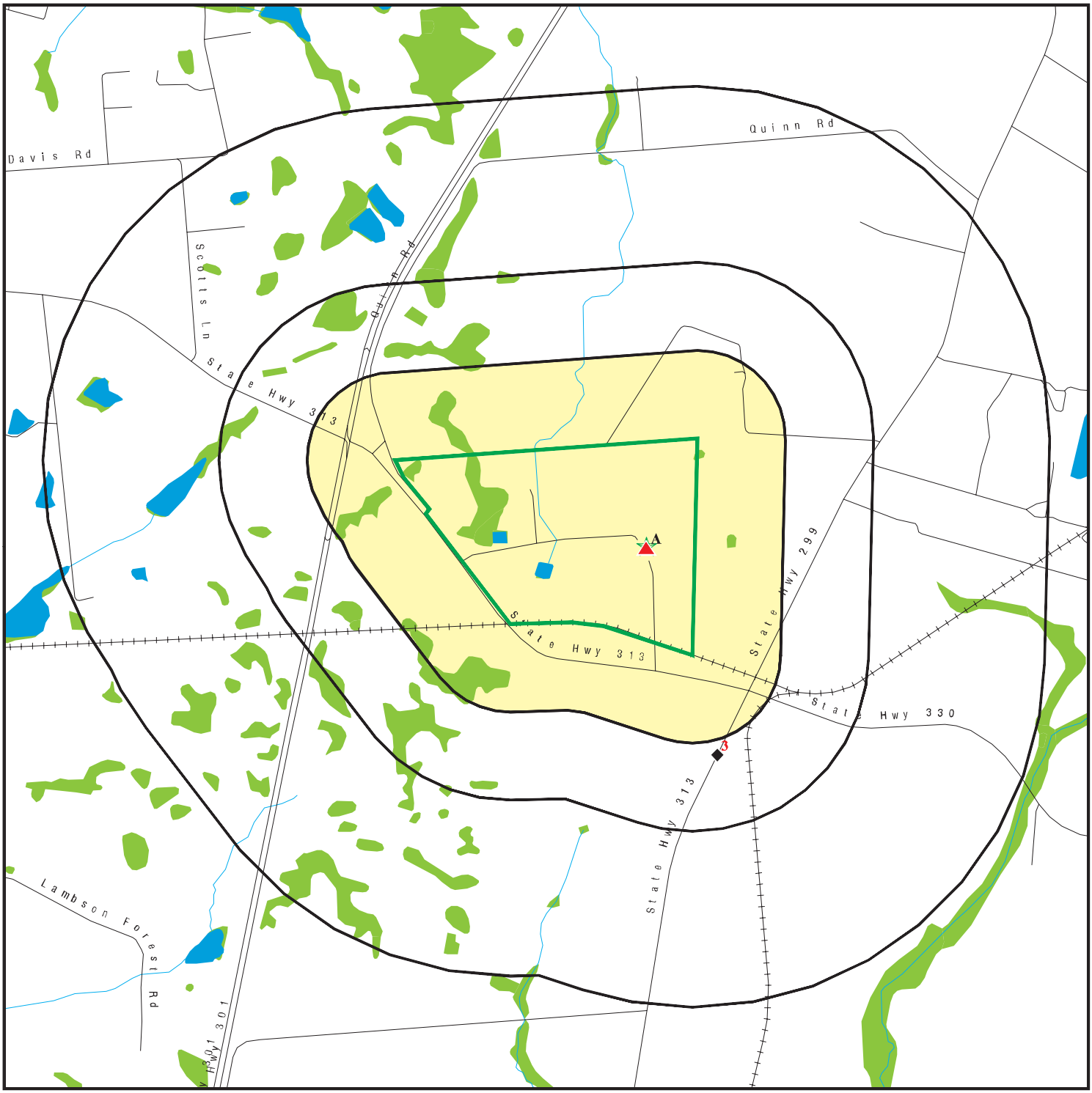
EXECUTIVE SUMMARY

Lower Elevation	Address	Direction / Distance	Map ID	Page
FRED CARPENTER RESID Date Closed: 05/22/2009 Facility Status: CLOSED Facility Id: 05-0564KE	12120 GALENA RD	SSE 1/4 - 1/2 (0.293 mi.)	3	9

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 4297046.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Oil & Gas pipelines from USGS

100-year flood zone

500-year flood zone

National Wetland Inventory

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	Blue Star	CLIENT:	Earthtouch, Inc.
ADDRESS:	12213 Galena Road Massey MD 21650	CONTACT:	Sean Thal
LAT/LONG:	39.3153 / 75.8308	INQUIRY #:	4297046.2s
		DATE:	May 15, 2015 6:14 pm

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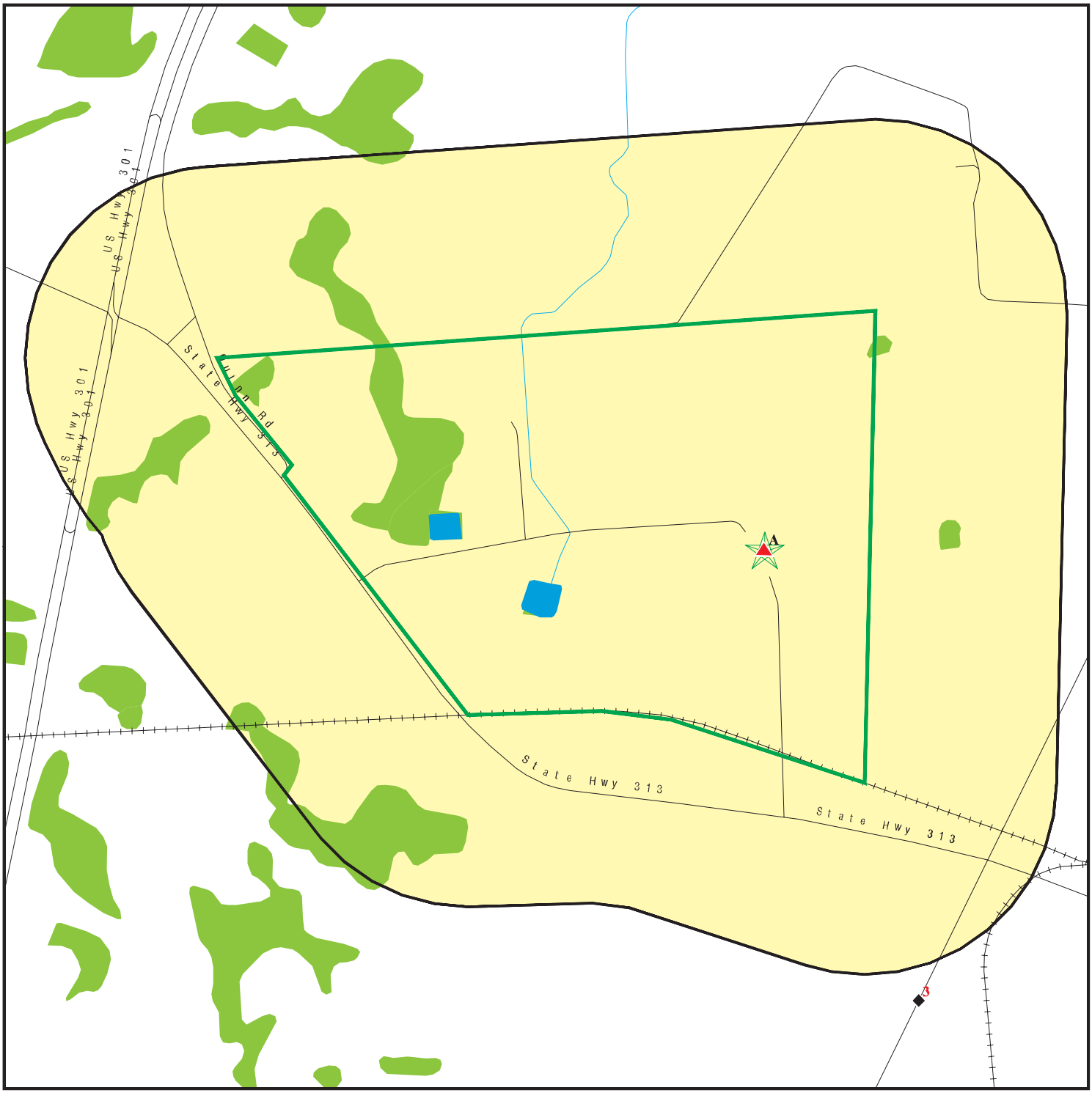
DETAIL MAP - 4297046.2S



- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines from USGS
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory

0 1/8 1/4 1/2 Miles

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Blue Star ADDRESS: 12213 Galena Road Massey MD 21650 LAT/LONG: 39.3153 / 75.8308	CLIENT: Earthtouch, Inc. CONTACT: Sean Thal INQUIRY #: 4297046.2s DATE: May 15, 2015 6:15 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	TP		NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS	0.500		0	0	0	NR	NR	0
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	0	NR	NR	NR	0
RCRA-SQG	0.250		0	0	NR	NR	NR	0
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
LUCIS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
OCPCASES	0.500		0	0	1	NR	NR	1
HIST LUST	0.500		0	0	0	NR	NR	0
INDIAN LUST	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST	0.250		0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
AST	0.250	1	0	0	NR	NR	NR	1
INDIAN UST	0.250		0	0	NR	NR	NR	0
FEMA UST	0.250		0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS	0.500		0	0	0	NR	NR	0
INST CONTROL	0.500		0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP	0.500		0	0	0	NR	NR	0
INDIAN VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	0	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL	TP		NR	NR	NR	NR	NR	0
US HIST CDL	TP		NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
HIST UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS 2	TP		NR	NR	NR	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	0	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
DOD	1.000		0	0	0	0	NR	0
FUDS	1.000		0	0	0	0	NR	0
CONSENT	1.000		0	0	0	0	NR	0
ROD	1.000		0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
UMTRA	0.500		0	0	0	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
AIRS	TP		NR	NR	NR	NR	NR	0
LEAD	TP		NR	NR	NR	NR	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
COAL ASH	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
LRP	0.500		0	0	0	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR US Hist Auto Stat	0.250	1	0	0	NR	NR	NR	1
EDR US Hist Cleaners	0.250		0	0	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LUST	TP		NR	NR	NR	NR	NR	0
RGA HWS	TP		NR	NR	NR	NR	NR	0
RGA LF	TP		NR	NR	NR	NR	NR	0
- Totals --		2	0	0	1	0	0	3

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1 **DAVID A. BRAMBLE, INC. - MASSEY** **AST** **A100357686**
Target **32559 BRAMBLE WAY** **N/A**
Property **MASSEY, MD 21650**

Site 1 of 2 in cluster A

Actual:
64 ft.

Facility Id:	8177
Bill Name:	DAVID A. BRAMBLE, INC.
Bill Addr:	705 MORGNEC ROAD
Bill Addr2:	Not reported
Bill City/State/Zip:	CHESTERTOWN, MD 21620
Bill Phone:	4107783023
Owner:	DAVID A. BRAMBLE, INC.
Owner Address:	705 MORGNEC ROAD
Owner City State Zip:	CHESTERTOWN, MD 21620

Tanks:

Tank ID:	1
Capacity:	30000
Product:	ASPHALT CEMENT
Tank ID:	2
Capacity:	30000
Product:	ASPHALT CEMENT
Tank ID:	3
Capacity:	10000
Product:	ASPHALT CEMENT
Tank ID:	4
Capacity:	2000
Product:	ASPHALT ANTISTRIP
Tank ID:	5
Capacity:	2000
Product:	ASPHALT REJUVENATOR
Tank ID:	6
Capacity:	20000
Product:	HEATING OIL - #4
Tank ID:	7
Capacity:	15000
Product:	HEATING OIL - #2
Tank ID:	8
Capacity:	10000
Product:	DIESEL FUEL
Tank ID:	9

DAVID A. BRAMBLE, INC. - MASSEY (Continued) **A100357686**

Capacity: 500
Product: USED OIL

A2
Target Property
12213 GALENA RD
MASSEY, MD 21650

EDR US Hist Auto Stat **1015186765**
N/A

Site 2 of 2 in cluster A

Actual: 64 ft.

EDR Historical Auto Stations:

Name: TONYS CUSTOM AUTO BODY
Year: 2006
Address: 12213 GALENA RD

Name: TONYS CUSTOM AUTO BODY
Year: 2007
Address: 12213 GALENA RD

Name: TONYS CUSTOM AUTO BODY
Year: 2009
Address: 12213 GALENA RD

3
SSE
1/4-1/2
0.293 mi.
1545 ft.

FRED CARPENTER RESIDENCE
12120 GALENA RD
MASSEY, MD 21650

OCPCASES **S106862509**
N/A

Relative: Lower

Actual: 61 ft.

OCPCASES:

Facility ID: 05-0564KE
Facility Status/Code: CLOSED/Well/GW Contamination - Motor/Lube Oil
Date Open: 11/01/2004
Date Closed: 05/22/2009
Release: YES
Cleanup: YES
Registration Number: Not reported

Count: 0 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
		NO SITES FOUND			

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 12/16/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32

Source: EPA
Telephone: N/A
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 07/21/2014
Date Data Arrived at EDR: 10/07/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/08/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 11/11/2013
Date Made Active in Reports: 02/13/2014
Number of Days to Update: 94

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 09/18/2014
Date Data Arrived at EDR: 09/19/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 02/26/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/03/2014
Date Data Arrived at EDR: 12/12/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 48

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 02/16/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 09/30/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 37

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: Notice of Potential Hazardous Waste Sites

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 12/11/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 3

Source: Department of the Environment
Telephone: 410-537-3000
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Permitted Solid Waste Disposal Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 03/12/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/19/2015
Number of Days to Update: 6

Source: Department of the Environment
Telephone: 410-537-3375
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Annually

State and tribal leaking storage tank lists

OCPCASES: Oil Control Program Cases

Cases monitored by the Oil Control Program. these cases can be leaking underground storage tanks and other belowground releases, leaking aboveground storage tanks, spills and inspections.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 03/26/2015
Number of Days to Update: 7

Source: Department of Environment
Telephone: 410-537-3433
Last EDR Contact: 04/06/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Semi-Annually

HIST LUST: Recovery Sites

In 1999, the Department of the Environment stopped adding new sites to its Recovery Sites Database. Current leaking underground storage tank information maybe found in the OCPCASES database.

Date of Government Version: 03/01/1999
Date Data Arrived at EDR: 03/22/1999
Date Made Active in Reports: 04/16/1999
Number of Days to Update: 25

Source: Department of the Environment
Telephone: 410-537-3433
Last EDR Contact: 02/19/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/10/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 31

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 01/28/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 01/08/2015
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 02/09/2015
Number of Days to Update: 32
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 01/08/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 11/01/2013
Number of Days to Update: 184
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/03/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 32
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Registered Underground Storage Tank List
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/11/2015
Number of Days to Update: 19
Source: Department of the Environment
Telephone: 410-537-3433
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

AST: Permitted Aboveground Storage Tanks
Registered Aboveground Storage Tanks.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 01/12/2015
Date Made Active in Reports: 01/21/2015
Number of Days to Update: 9

Source: Department of The Environment
Telephone: 410-537-3000
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/30/2015
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 36

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/23/2014
Date Data Arrived at EDR: 11/25/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 65

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 12/14/2014
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 28

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 01/26/2015
Next Scheduled EDR Contact: 05/11/2015
Data Release Frequency: Quarterly

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 02/03/2015
Date Data Arrived at EDR: 02/12/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 29

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/01/2013
Date Data Arrived at EDR: 05/01/2013
Date Made Active in Reports: 01/27/2014
Number of Days to Update: 271

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 09/30/2014
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 10

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Semi-Annually

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 01/29/2015
Date Data Arrived at EDR: 01/30/2015
Date Made Active in Reports: 03/13/2015
Number of Days to Update: 42

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Quarterly

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site listing

Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/10/2008
Date Data Arrived at EDR: 11/21/2008
Date Made Active in Reports: 12/17/2008
Number of Days to Update: 26

Source: Department of the Environment
Telephone: 410-537-3422
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Varies

INST CONTROL: Voluntary Cleanup Program Applicants/Participants

Sites included in the Voluntary Cleanup Program Applicants/Participants listing that have Deed Restrictions.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/01/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 12

Source: Department of the Environment
Telephone: 410-537-3493
Last EDR Contact: 03/19/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 09/29/2014
Date Data Arrived at EDR: 10/01/2014
Date Made Active in Reports: 11/06/2014
Number of Days to Update: 36
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 04/02/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Applicants/Participants
The Voluntary Cleanup Program, administrated by the Dept. of the Environment, streamlines the environmental cleanup process for sites, usually industrial or commercial properties, that are contaminated, or perceived to be contaminated, by hazardous substances. Developers and lenders are provided with certain limitations on liability and participants in the program are provided certainty in the process by knowing exactly what will be required.

Date of Government Version: 03/30/2015
Date Data Arrived at EDR: 04/01/2015
Date Made Active in Reports: 04/13/2015
Number of Days to Update: 12
Source: Dept. of the Environment
Telephone: 410-537-3000
Last EDR Contact: 03/19/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Semi-Annually

State and tribal Brownfields sites

BROWNFIELDS: Eligible Brownfields Properties
The Site Assessment Section of the State Superfund Division is responsible for conducting federally funded assessments of eligible brownfields properties. These assessments are undertaken to determine whether there are environmental cleanup requirements at these sites.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/19/2015
Number of Days to Update: 6
Source: Department of Environment
Telephone: 410-537-3000
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 12/22/2014
Date Data Arrived at EDR: 12/22/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 38
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/24/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/23/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

SWRCY: Recycling Directory
A listing of recycling facilities.

Date of Government Version: 03/26/2015
Date Data Arrived at EDR: 03/27/2015
Date Made Active in Reports: 03/31/2015
Number of Days to Update: 4
Source: Department of the Environment
Telephone: 410-631-3314
Last EDR Contact: 03/23/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Quarterly

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/25/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/03/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

Historical UST: Historical UST Registered Database

In 1997 the Department of the Environment sent out registration forms to all the owner's listed in the UST database. Once they got the registration forms back they entered the information into a new UST database. we call this database UST. Because not all owners returned their forms, we kept the old UST database and labeled it HIST UST so that we would not be missing any past UST records. This listing is no longer updated or maintained by the agency. It is current through November 1996.

Date of Government Version: 11/21/1996
Date Data Arrived at EDR: 09/10/1997
Date Made Active in Reports: 10/22/1997
Number of Days to Update: 42

Source: Department of Environment
Telephone: 410-537-3433
Last EDR Contact: 05/15/2000
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/30/2014
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 69

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 07/15/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 03/06/2013
Number of Days to Update: 62

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/09/2014
Date Data Arrived at EDR: 12/29/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 800-438-2474
Last EDR Contact: 03/31/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/05/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 06/06/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 09/18/2014
Number of Days to Update: 8

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 24

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 02/27/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Varies

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 12/30/2014
Date Data Arrived at EDR: 12/31/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 03/06/2015
Next Scheduled EDR Contact: 06/15/2015
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/31/2013
Date Made Active in Reports: 09/13/2013
Number of Days to Update: 44

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/29/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 01/23/2015
Date Data Arrived at EDR: 02/06/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 10/15/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 33

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/17/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 01/08/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 21

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 02/27/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/09/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 01/18/2015
Date Data Arrived at EDR: 02/27/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 26

Source: EPA
Telephone: (215) 814-5000
Last EDR Contact: 03/09/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2015
Date Data Arrived at EDR: 02/13/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/27/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 02/26/2013
Date Made Active in Reports: 04/19/2013
Number of Days to Update: 52
Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 02/24/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Biennially

UIC: Underground Injection Wells Database

A listing of underground injection well locations. The UIC Program is responsible for regulating the construction, operation, permitting, and closure of injection wells that place fluids underground for storage or disposal.

Date of Government Version: 03/11/2014
Date Data Arrived at EDR: 04/29/2014
Date Made Active in Reports: 05/30/2014
Number of Days to Update: 31
Source: Department of the Environment
Telephone: 410-537-3507
Last EDR Contact: 05/12/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

DRYCLEANERS: Registered Drycleaning Facilities

A listing of registered drycleaning facilities.

Date of Government Version: 04/10/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 05/08/2015
Number of Days to Update: 21
Source: Department of the Environmental
Telephone: 410-537-3220
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

NPDES: Wastewater Permit Listing

A listing of wastewater permit locations.

Date of Government Version: 01/15/2015
Date Data Arrived at EDR: 03/13/2015
Date Made Active in Reports: 03/19/2015
Number of Days to Update: 6
Source: Department of the Environment
Telephone: 410-537-3507
Last EDR Contact: 03/10/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

AIRS: Permit and Facility Information Listing

A listing of permitted facilities and emissions information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 10/30/2014
Date Made Active in Reports: 01/08/2015
Number of Days to Update: 70
Source: Department of the Environment
Telephone: 410-537-3220
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

LEAD: Lead Inspection Database
The Childhood Lead Poisoning Prevention Program data of lead inspection for the state.

Date of Government Version: 04/13/2015
Date Data Arrived at EDR: 04/15/2015
Date Made Active in Reports: 05/08/2015
Number of Days to Update: 23
Source: Department of Environment, Lead Poisoning Prevention Program
Telephone: 410-537-3000
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Varies

INDIAN RESERV: Indian Reservations
This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34
Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing
The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 03/07/2011
Date Data Arrived at EDR: 03/09/2011
Date Made Active in Reports: 05/02/2011
Number of Days to Update: 54
Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 02/18/2015
Next Scheduled EDR Contact: 06/01/2015
Data Release Frequency: Varies

EPA WATCH LIST: EPA WATCH LIST
EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/07/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List
The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/24/2015
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 11/25/2014
Date Data Arrived at EDR: 11/26/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 64

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/10/2015
Next Scheduled EDR Contact: 07/20/2015
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: N/A

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 04/15/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Site Listing

Coal combustion byproduct site locations.

Date of Government Version: 08/13/2010
Date Data Arrived at EDR: 01/05/2011
Date Made Active in Reports: 01/31/2011
Number of Days to Update: 26

Source: Department of the Environment
Telephone: 410-537-3507
Last EDR Contact: 03/27/2015
Next Scheduled EDR Contact: 07/06/2015
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for storage tank sites.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/20/2015
Date Made Active in Reports: 03/11/2015
Number of Days to Update: 19

Source: Department of the Environment
Telephone: 410-537-3461
Last EDR Contact: 04/13/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Quarterly

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 05/01/2015
Next Scheduled EDR Contact: 08/10/2015
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information
All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/09/2015
Date Data Arrived at EDR: 03/10/2015
Date Made Active in Reports: 03/25/2015
Number of Days to Update: 15
Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/14/2015
Next Scheduled EDR Contact: 08/31/2015
Data Release Frequency: Quarterly

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information.

Date of Government Version: 05/01/2013
Date Data Arrived at EDR: 05/22/2013
Date Made Active in Reports: 06/27/2013
Number of Days to Update: 36
Source: Department of the Environment
Telephone: 410-537-3345
Last EDR Contact: 05/04/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Varies

LRP: Land Restoration Program
A listing of Land Restoration Program sites. Site types included in the database are: Voluntary Cleanup Program, National Priority List, Brownfields, Site Assessment, Formerly Used Defense Site, State Master List, Non Master List, Groundwater Investigation and Federal Facility.

Date of Government Version: 07/08/2013
Date Data Arrived at EDR: 09/11/2013
Date Made Active in Reports: 09/25/2013
Number of Days to Update: 14
Source: Department of the Environment
Telephone: 410-537-3000
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/22/2015
Data Release Frequency: Quarterly

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17
Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/16/2014
Date Data Arrived at EDR: 10/31/2014
Date Made Active in Reports: 11/17/2014
Number of Days to Update: 17

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/30/2015
Next Scheduled EDR Contact: 07/13/2015
Data Release Frequency: Annually

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR US Hist Auto Stat: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR US Hist Cleaners: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of the Environment in Maryland.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/16/2014
Number of Days to Update: 199

Source: Department of the Environment
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of the Environment in Maryland from 1995-1999..

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of the Environment
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA HWS: Recovered Government Archive State Hazardous Waste Facilities List

The EDR Recovered Government Archive State Hazardous Waste database provides a list of SHWS incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of the Environment in Maryland.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/03/2014
Number of Days to Update: 186

Source: Department of the Environment
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/17/2014
Next Scheduled EDR Contact: 03/02/2015
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2011
Date Data Arrived at EDR: 07/19/2012
Date Made Active in Reports: 08/28/2012
Number of Days to Update: 40

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/14/2015
Next Scheduled EDR Contact: 07/27/2015
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2015
Date Data Arrived at EDR: 02/04/2015
Date Made Active in Reports: 02/27/2015
Number of Days to Update: 23

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/06/2015
Next Scheduled EDR Contact: 08/17/2015
Data Release Frequency: Annually

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/21/2014
Date Made Active in Reports: 08/25/2014
Number of Days to Update: 35

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/16/2015
Next Scheduled EDR Contact: 08/03/2015
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 07/15/2014
Date Made Active in Reports: 08/13/2014
Number of Days to Update: 29

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 02/23/2015
Next Scheduled EDR Contact: 06/08/2015
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 03/19/2015
Date Made Active in Reports: 04/07/2015
Number of Days to Update: 19

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/13/2015
Next Scheduled EDR Contact: 06/29/2015
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.
Daycare Centers: Child Care Providers
Source: Department of Human Resources
Telephone: 410-767-7805

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2011 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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