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ENVIRONMENTAL IMPACT ASSESSMENT

Prepared in Compliance with the
Township of East Whiteland Ordinance
Chapter 175, Article V., §175-23(C)

Malin Road Development (Former Bishop Tube Site)
T.M.P. #42-4-321.2
1 Malin Road
East Whiteland Township
Chester County, Pennsylvania

June 30, 2020

Prepared For:

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TWT Project No.: 06476.1003.00

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Environmental Professional



EXECUTIVE SUMMARY

This Environmental Impact Statement (EIS) has been completed in accordance with East Whiteland Township Ordinance, Chapter 175, Article V, Section 175-23(C). The purpose of the Environmental Impact Assessment is to disclose the environmental consequences of the proposed development.

The Site is known as Tax Map Parcel # 42-4-321.2 located at 1 Malin Road, in East Whiteland Township, Chester County, PA. The Site consists of approximately 13.71 acres within the RRD – Residential Revitalization District. The Site currently contains the former Bishop Tube manufacturing facility consisting of asphalt and concrete surfaces, structures and overgrown vegetation. The former Bishop Tube and other historical operations caused environmental releases to the subsurface. These releases and current environmental conditions at the site are currently being investigated by others.

The project consists of the construction of ninety-two residential dwelling units, and three private roads. Stormwater management to control the increase in runoff from the new construction will be handled by three rain gardens, each consisting of soil media of required thickness to provide for water quality and an underground detention basin.

Three areas of impacted soil exist within the proposed development that will be addressed by the responsible parties under supervision of the PADEP prior and during development. The soil impacts are associated with the former Bishop Tube and other historical operations.

This EIS describes and evaluates existing site conditions, the proposed new construction, and key features of the proposed project in sufficient detail to support a finding that the project will not result in any significant adverse impacts to the environment.



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1. PROJECT DESCRIPTION

This Environmental Impact Statement (EIS) has been prepared in accordance with the East Whiteland Township Ordinance, Chapter 175. Subdivision and Land Development, Article VI. Content of Required Plans, Section 175-23. Conservation Plan, (C) Environmental Impact Assessment. The purpose of this report is to provide a comprehensive analysis of the environmental impacts that are associated with the proposed land development project.

The Site is known as Tax Map Parcel # 42-4-321.2 located at 1 Malin Road, in East Whiteland Township, Chester County, PA. The Site consists of approximately 13.71 acres within the RRD – Residential Revitalization District. The Site currently contains the former Bishop Tube manufacturing facility consisting of asphalt and concrete surfaces, structures and overgrown vegetation. The former Bishop Tube and other historical operations caused environmental releases to the subsurface. These releases and current environmental conditions at the site are currently being investigated by others. A summary of the findings to date can be found on the following website run by the Pennsylvania Department of Environmental Protection (PADEP):

<https://www.dep.pa.gov/About/Regional/SoutheastRegion/Community%20Information/Pages/Bishop-Tube.aspx>

The project consists of the construction of ninety-two residential dwelling units, and three private roads. Stormwater management to control the increase in runoff from the new construction will be handled by three rain gardens, each consisting of soil media of required thickness to provide for water quality, and an underground detention basin.

Three areas of impacted soil exist within the proposed development that will be addressed by the responsible parties under supervision of the PADEP prior and during development. The soil impacts are associated with the former Bishop Tube and other historical operations.

The surrounding region consists of commercial and residential development. Malin Road borders the site to the west followed by Mack Services group and Buckeye terminal. The Little Valley Creek and a residential development borders the Site to the east. A railroad track, commercial/retail and State Route 30 borders the site to the north. Railroad tracks operated by SEPTA and Amtrak exists to the south.

Water service shall be provided by Aqua Pennsylvania, Inc. Sanitary sewer service shall be provided by East Whiteland Township.

The project site is depicted on the Site Location Map and Aerial Map (**Figures 1 and 2**). These maps show the site relative to roads and highways in the immediate vicinity.



2. SITE FEATURES

a. Soils

According to the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey, four soil types exist at the subject property, as follows:

- Manor loam, 15 to 25% slopes (MaD);
- Urban land-Conestoga complex, 8 to 25% slopes (UrgD); and,
- Urban land-Udorthents, schist and gneiss complex, 8 to 25% slopes (UugD)

b. Topography and Slope

The Site slopes from northwest to southeast, with a maximum elevation of 445 feet above mean sea level (MSL) and a minimum of 370 feet MSL. Slopes of 25% or greater exist on the subject property. Most of their disturbance is located immediately adjacent to the existing building.

c. Geology

According to the Geologic Map of Pennsylvania (2007) from the Pennsylvania Department of Conservation and Natural Resources (Map 7, PA DCNR), the Site is underlain by unconsolidated sediments deposited in the Cambrian Era (490-570 million years ago) which consists of limestone, dolomite, sandstone, shale, quartzite and phyllite.

The Site is part of the Piedmont Lowland Section of the Piedmont Physiographic Province (Map 13, PA DCNR). Karst terrain can be found in this Section.

In June of 2015, Earth Engineering Incorporated of East Norriton, PA reviewed the available geologic information provided from the investigations conducted as part of the former Bishop Tube Site environmental investigations to determine if the project site is underlain by karst geology. The review indicated that the site is underlain by calcareous schist/phyllitic calcareous schist bedrock. Consequently, the site is not underlain by limestone or karst geology.

d. Flood Hazards

According to FEMA, the Site including the adjacent section of the Little Valley Creek is in Zone X (1% Annual Chance Flood Hazard). According to the flood insurance rate map for Chester county, Pennsylvania, map number 42029c0160f, map date September 29, 2006, there is no FEMA 100-year flood plain located on the subject property.

e. Vegetation

The Site consists of asphalt and concrete surfaces, structures and overgrown vegetation. A Tree Survey was performed on February 20, 2020. 227 trees, 12-inch caliper or greater, were located on the property.

f. Surface Water

The Little Valley Creek flows through the eastern portion of the property. The proposed development proposes three rain gardens and an underground detention basin to provide for water quality and volume



reduction while also limiting stormwater flow to the Creek. The receiving water classification of Little Valley Creek is Exceptional Value (EV).

g. Existing Features

The Site contains the buildings of the former industrial manufacturing at the site. The Site currently contains the former Bishop Tube manufacturing facility consisting of asphalt and concrete surfaces, structures and overgrown vegetation. The former Bishop Tube and other historical operations caused environmental releases to the subsurface. These releases and current environmental conditions at the site are currently being investigated by others. Three areas of impacted soil exist within the proposed development that will be addressed by the responsible parties under supervision of the PADEP prior and during development. The soil impacts are associated with the former Bishop Tube and other historical manufacturing operations.

h. Historic Resources

According to the Chester County Planning Commission “National Register Eligible and Listed Historic Resources and Districts”, January 2018, the subject property is not present within the National Historic Landmark District or the National Register Historic District. Also, National Register Structures, Buildings or Sites, National Historic Landmarks, or National Register Bridge are not present on the subject property. Lastly, the subject property is not located within a Local Historic District.

i. Air Quality and Noise Pollution

The Pennsylvania Department of Environmental Protection (PADEP), Bureau of Air Quality operates several monitoring sites in the Southeast PA region. The sites monitor levels of air pollutants including ozone, particulate matter, sulfur dioxide, carbon monoxide and nitrogen dioxide. The Chester station is nearest to the subject Site. According to data publicly available on the Department’s website, air quality in the surrounding region falls within the “good” range.

The current noise levels in the immediate vicinity of the subject property are vehicular traffic along Route 30 (Lincoln Highway).

j. Sewage Disposal

A blanket easement shall be provided to East Whiteland township for the purpose of access, inspection, repair, and maintenance of the sanitary sewer system. All sewer facilities shall be offered for dedication to East Whiteland Township. All sanitary sewer design and construction shall conform to the East Whiteland Township standard specifications for construction of sanitary sewers. The sanitary sewer system will be 8” PVC and gravity fed to an existing 8” sanitary main at the northeast corner of the property. The on-site system will be privately owned and maintained by the Township.

k. Water Supply

The proposed development will be serviced by public water provided by Aqua PA. The applicant is proposing to install an 8” ductile iron pipe main servicing the units. The proposed water main will form a loop, connecting to the existing 12” water main beneath Malin Road and the existing water main beneath Village Way.



3. COMMUNITY SERVICES AND FACILITIES

Schools

The proposed development is in East Whiteland Township and within the Great Valley School District. Great Valley School District is served by the Great Valley High School, Kathryn D Markley Elementary School, Great Valley Middle School, Sugartown Elementary School, General Wayne Elementary School, and Charlestown Elementary School. Schools in East Whiteland Township that would serve the proposed development in East Whiteland Township would likely be the Kathryn D Markley Elementary School, the Great Valley Middle School, and the Great Valley High School.

According to the Great Valley School District Level Plan July 2019 to June 2022, “Currently the District accommodates 4271 students in four K-5 elementary, one 6-8 middle school and one 9-12 high school. In addition, Great Valley is one of four sending districts to a grades 9-12 vocational-technical school. Elementary school attendance boundaries cross municipal lines to provide the best balance of classes per grade level and educational services in each building. All of the Great Valley schools are state of the art facilities that are designed to support teaching and learning.”

According to the Great Valley School District Budget 2017-2018, all the great Valley School District enrollment are below capacity. For this reason, additional community schools are not needed to support the proposed development.

Building	Year of Construction		Sq. Ft.	Capacity*	CLASSROOMS		
	Original	Addition			Regular	Total	Enrollment**
Charlestown Elementary	1925	1964, 1968, & 2003	57,995	450	18	24	256
District Administration (located on same site as KDM)	1939	1951 & 1956	22,000	N/A	N/A	N/A	N/A
Kathryn D. Markley Elementary	2001		81,150	675	27	36	548
Sugartown Elementary	1957	1967 & 2006	77,000	550	18	22	501
General Wayne Elementary	1958	1975 & 2001	112,899	675	27	38	455
Great Valley Middle School	2000		175,530	1,175	47	65	953
Great Valley High School	1962	1968, 1995 & 2006	246,335	1,650	50	88	1247

*Source: Pennsylvania Department of Education. "Capacity of Buildings"
 **Third day enrollment

Libraries

Chester County Library System currently has 18 library locations, three of which are local to the proposed development including the Chester County Library branch in Exton, PA, the Paoli Library branch in Paoli, PA, and the Malvern Library branch in Malvern, PA. No additional library services are needed to accommodate the proposed development.



Hospitals and Health Care

Medical care in the region has received national rankings. Chester County Hospital in West Chester, PA has been named one of the 100 Top Hospitals by IBM Watson Health. In addition to its high rankings, the hospital is undertaking a large expansion to serve the increasing population of the region. From their web site Chester County Hospital is currently “expanding implementing programmatic innovation to bring new possibilities for all who come to us for care. With 250,000 square feet of progressive design, we're not only building a better space for healing, we're defining the future of medicine in our community. Another reason your life is worth Penn Medicine. Our multi-phase construction project is anticipated to be completed by January 2020 and will feature:

- 15 modern Operating Room suites, including 3 high-tech labs for Catheterization and Electrophysiology plus 3 reserved for future growth;
- 13 additional Emergency Department rooms;
- New areas for non-invasive cardiology and pre-admission testing;
- Patient Tower with 99 new inpatient beds;
- Rooftop helipad;
- New Gift Shop, Retail Pharmacy and Main Lobby Bistro; and
- Calming public spaces and a new green roof – contributing to the expansion’s LEED Silver Certification

The region of the proposed development is also served by Paoli Memorial Hospital and Phoenixville Hospital. No additional hospital or other health care facilities are needed to accommodate the demands of the proposed development.

Fire Protection, Police and EMS

From East Whiteland Township’s website, the township is served by the “Fire, Rescue, Basic Life Support EMS, HazMat, and Fire-Police services to East Whiteland Township and a portion of Charlestown Township. The company is also a “first due” EMS provider to part of neighboring West Whiteland Township. Our first due coverage area includes the Pennsylvania Turnpike, Route 202, Route 401, Route 30, Immaculata University, a number of corporate centers, and numerous residential areas. In addition to handling emergencies in the community, members of East Whiteland provide Public Safety Education to schools and other community organizations.”

East Whiteland Township “employs 10 fulltime and 10 part-time career Firefighter/EMTs working 24/7/365 covering both Fire and Ambulance responses to supplement the Volunteer Firefighter/EMTs in the fire station located at the corner of Mill Lane and Route 401. These career personnel assist the volunteers with emergencies, public safety education, training and maintenance of the building and vehicles.”

Police services are provided by East Whiteland Township Police Department.

No additional fire protection, police or EMS services are needed to accommodate the demands of the proposed development.



4. NATURAL RESOURCES IMPACT

a. Topography

The proposed development will not significantly alter the existing topography. No movement of material (soils) on or off the Site is being proposed.

b. Flooding and Flood Plain Impact

According to FEMA digital mapping the majority Site is located within 'Zone X', which is defined as an area of minimal flood hazard. The area near the Little Valley Creek marked 'Zone A' will not be disturbed. Therefore, no flooding or flood plain impact is anticipated.

c. Vegetation

The proposed development will remove 58 trees, 12-inch caliper or greater. A total of 197 new trees will be planted throughout the site.

For new development within the Riparian Buffer Area (RBA), no disturbance of vegetation and soil except for restoration and/or reforestation shall occur. Where prohibitive slopes of 25% or greater are located within the designated area, the RBA shall be increased in width such that, at any location, the minimum width of designated area with slopes less than 25% is 25 feet.

Forested and unforested vegetation shall be established through natural succession. Selective planting shall be incorporated on sites devoid of vegetation to stimulate native species and discourage invasive species. Plant selection and planting shall be consistent with the Chester county conservation district, PADEP and the USDA riparian forested buffer guidelines.

Riparian buffer areas shall be restricted to the following uses: flood control, utility right-of-ways, pedestrian trails, passive recreational uses, street crossings, and stormwater Best Management Practices (BMPs). Tree removal in an RBA shall require prior township approval in writing. Riparian buffer areas shall be preserved or restored with native vegetation that can be maintained through the delineation, plan review and permitting process, construction, and occupancy stages of the project.

d. Impact on Surface Water and Groundwater Capacity

The proposed development is not anticipated to adversely impact groundwater capacity or groundwater quality as Stormwater BMPs proposed for the subject property includes three rain gardens and an underground detention basin as part of the development. Each Stormwater BMP will include soil media of required thickness to provide for water quality. Stormwater runoff to the existing Creek will be limited. The development should not alter the natural drainage pattern of the surrounding area.

e. Sewage Disposal Impacts

The proposed project will be connected to the existing sanitary sewer service in the vicinity of the project which is serviced by the East Whiteland Township Public Works.



f. Destruction or Disturbance of Cultural Resources

No cultural resources will be destroyed or disturbed with the proposed development.

g. Noise Level Impacts

There will likely be elevated noise levels associated with construction equipment during the construction phase between normal working hours. Construction noise may be detected at adjoining areas, primarily the adjacent commercial and residential development. Due to the proximity of major roadways and distance to surrounding residential development, however, construction noise will not significantly affect the surrounding areas. Construction noise will be controlled by allowing construction only during normal working hours.

5. RECREATION IMPACT

East Whiteland Township controls 118 acres of Township owned community parks, open spaces, and nature preserves. The Valley Forge Nation Park (Valley Forge, PA) is also a short distance from the proposed development.

The proposed development has a planned courtyard within the footprint of the development consisting of recreational grassy areas including picnic tables, awnings and fire pits. The developer or manager will maintain the recreational area on the property.

Due to the proposed on-site recreational area and the ample and local nature of both the township and Federal recreational land nearby, no additional recreational areas are needed to accommodate the demands of the proposed development.

The applicant will pay a fee in lieu of dedicating land for park, open space and recreational (por) use, in accordance with section 175-40 b of the East Whiteland Township subdivision and land development ordinance.

6. CONCLUSIONS

This Environmental Impact Statement (EIS) has been completed in accordance with East Whiteland Township Ordinance, Chapter 175, Article V, Section 175-23(C). The purpose of the Environmental Impact Assessment is to disclose the environmental consequences of the proposed development.

This EIS describes and evaluates existing site conditions, the proposed new construction, and key features of the proposed project in sufficient detail to support a finding that the project will not result in any significant adverse impacts to the environment.



7. REFERENCES

Chester County Planning Commission. *National Register Eligible and Listed Historic Resources and Districts*. January 2018.

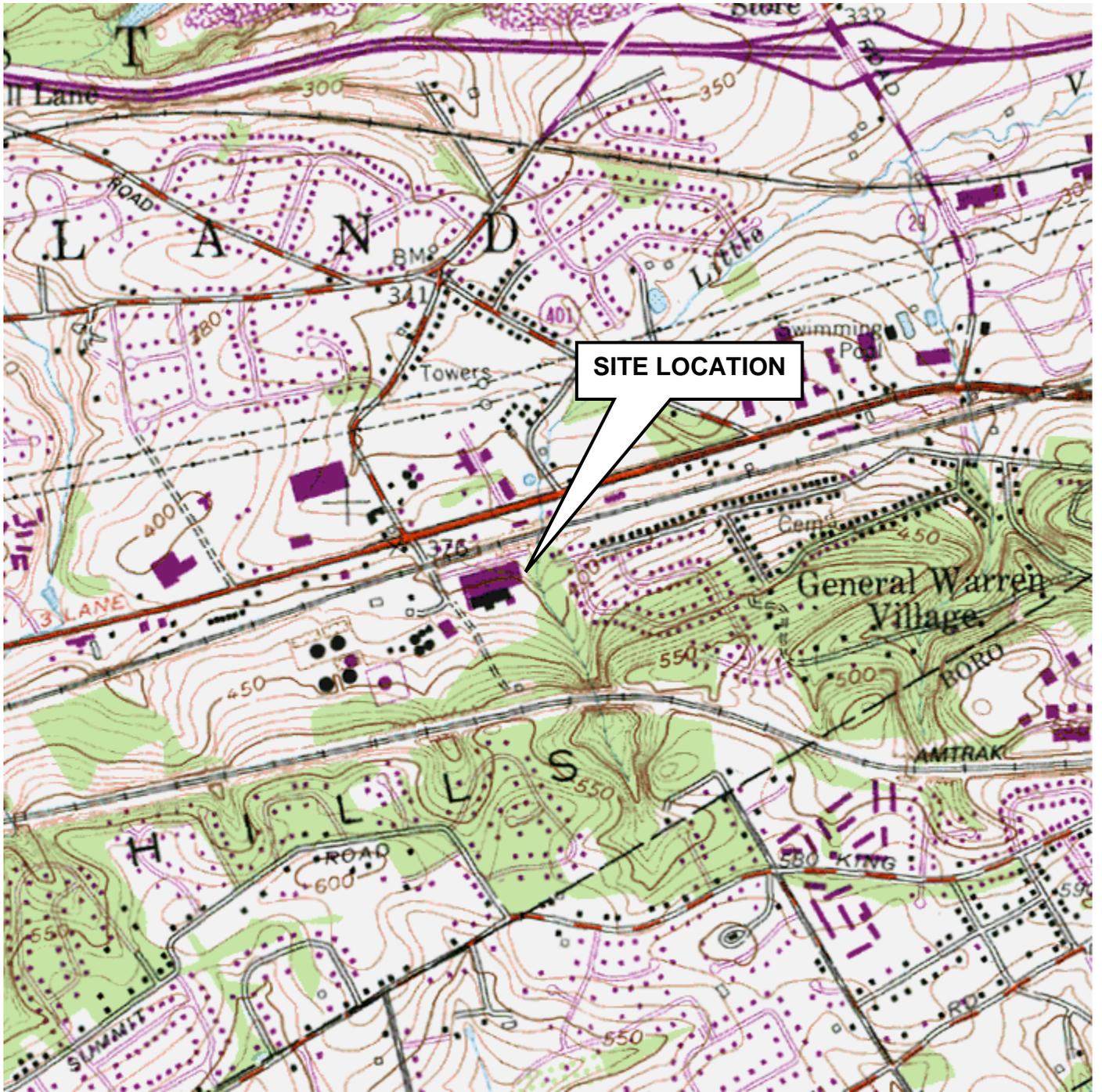
East Whiteland Township Ordinance. Chapter 175. Subdivision and Land Development. Article V. Content of Required Plans. Section 175-23. Conservation plan, (C) Environmental Impact Assessment.

Federal Emergency Management Agency. Flood Insurance Rate Map. Chester County, PA. Panel 160 of 380. Version Number 2.3.2.3. Map Number 42029C0160G. September 29, 2017.

Natural Resource Conservation Service. "Web Soil Survey." United States Department of Agricultural. <http://websoilsurvey.nrcs.usda.gov/app/>. September 20, 2019.

Pennsylvania Department of Environmental Protection. Ambient Air Monitoring Data Reports <https://www.dep.pa.gov/Business/Air/BAQ/MonitoringTopics/AirQualityIndex/Pages/default.aspx>. March 23-24, 2020

United States Geologic Survey, 7.5 Minute Quadrangle Map for Malvern, PA.



Site Location Map



Source: U.S.G.S. 7.5 Minute Quadrangle Map
for Malvern, PA

Scale: 1" = 2,000'

Job Number: 06476.1003.00

Figure 1

T.M.P. #42-4-321.2
East Whiteland Township
Chester County, Pennsylvania

April 1, 2020



Aerial Map



Source: Google Earth®

Scale: N/A

Job Number: 06476.1003.00

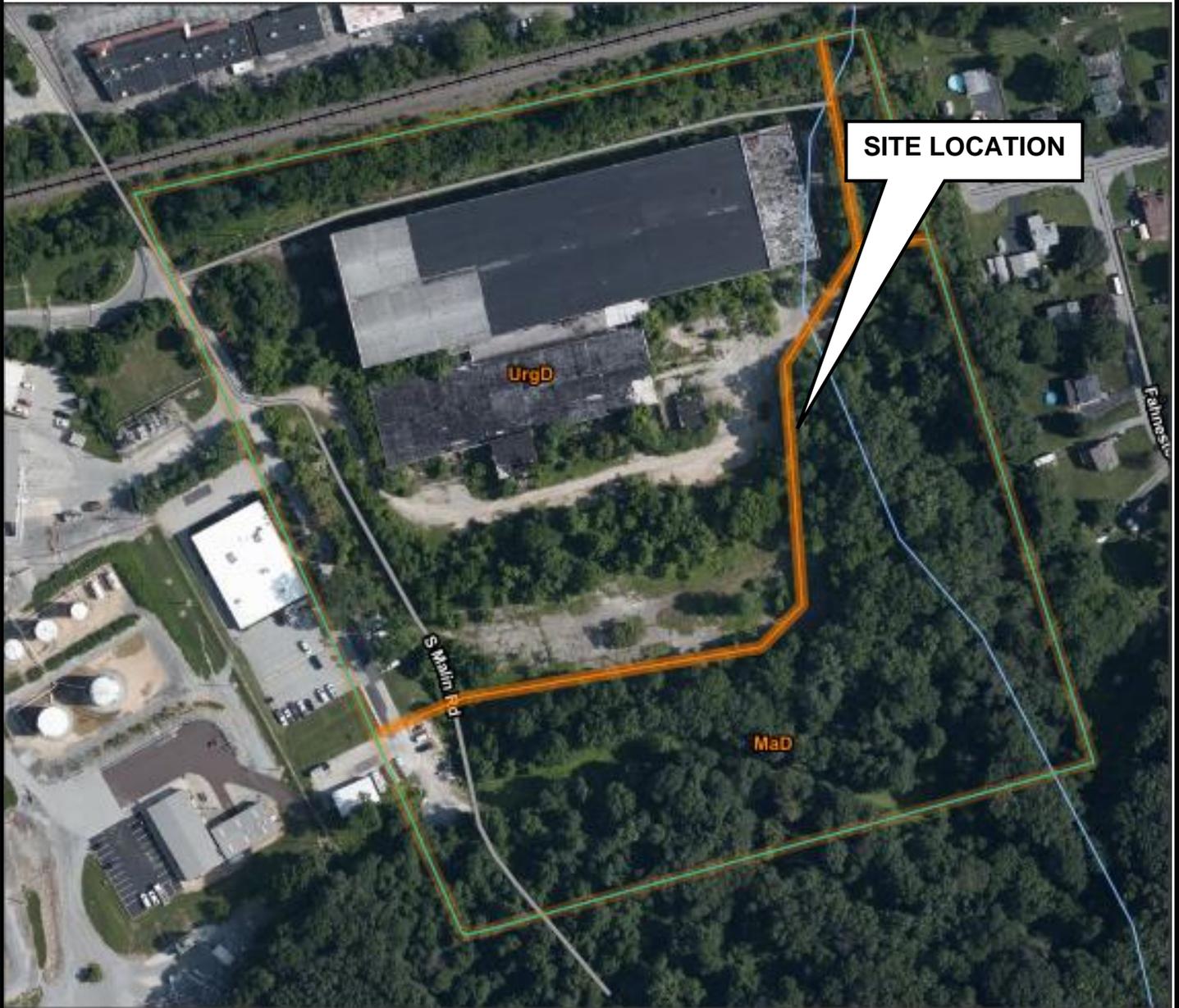
Figure 1

T.M.P. #42-4-321.2

East Whiteland Township

Chester County, Pennsylvania

April 1, 2020



Soil Map

Source: Natural Resource Conservation Service
Web Soil Survey, 04/01/2020

Scale: N/A

Job Number: 06476.1003.00

Figure 3

TMP #42-4-321.2
East Whiteland Township
Chester County, Pennsylvania
April 2020



YEARS WITH TWT: 8

YEARS WITH OTHER FIRMS: 11

REGISTRATIONS

Professional Geologist:
Pennsylvania

EDUCATION

The Pennsylvania State University –
Bachelor of Science Geosciences
West Virginia University –
Master of Science in Hydrogeology

AWARDS

National Ground Water Association Graduate
Student Fellowship, 1994
Edwin L. Drake Memorial Undergraduate
Scholarship, 1992-1993
Student Leadership Award, 1991

PROFESSIONAL PUBLICATIONS

Maier, T.P., Jr., and J.J. Donovan, 1997,
*Double-flow Behavior in Well Tests of an
Extremely-heterogeneous Mine-spoil Aquifer*,
Engineering Geology, Vol 48:pp. 83-93.
Donovan, J.J., K.W. Frysinger, and T.P. Maier,
Jr., 1996, *Geochemical Response of Acid
Groundwater to Neutralization by Alkaline
Recharge*, Aquatic Geochemistry, 2(3):pp.227-
253.
Maier, T.P., Jr., and J.J. Donovan, 1995,
*Hydrogeologic Characterization of Local Scale
Hydraulic Properties in a Weathered Acidic
Minespoil*. Presented at the 1995 National
Meeting of the American Society for Surface
Mining and Reclamation, Gillete, Wyoming,
June 5-8, 1995.
Donovan, J.J., K.W. Frysinger, T.P. Maier, Jr.,
and M. Reese, 1995, *Hydrogeochemical
Transport Behavior within Surface Mine Backfill
Receiving Alkaline Leakage*, Meeting of the
West Virginia Surface Mine Drainage Task
Force Symposium, Morgantown WV, April 4-5,
1995.

Summary of Experience

Mr. Maier is experienced with Pennsylvania and New Jersey environmental technical regulations, including the Pennsylvania Land Recycling Program (ACT 2) and the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program (SRP). His experience includes the completion and management of environmental due diligence, underground storage tanks, preliminary assessment, site and remedial investigations, New Jersey Industrial Site Recovery Act (ISRA) and remediation projects.

Mr. Maier is also experienced in the utilization of groundwater flow and transport models to simulate the fate and transport of environmental contaminants in groundwater. He has completed several modeling projects for site closure under Pennsylvania Act 2, risk assessment studies, and natural attenuation proposals. He is experienced with many computer codes including MODFLOW, MODPATH, MT3D, and RT3D.

Mr. Maier serves as Senior Environmental Manager where he is responsible for the management of environmental investigation and soil/groundwater remediation projects. Other responsibilities include proposal preparation, client contact, on-site field supervision, subcontractor coordination, project administration, staff management and report preparation.

As a consulting hydrogeologist, he has also been extensively involved with data collection, data analysis, and report preparation. Mr. Maier has performed Phase I and Phase II environmental site assessments, aquifer testing programs, treatment system operation and maintenance activities, geophysical investigation and pilot testing for remedial system design. Mr. Maier is also responsible for drilling supervision, soil and groundwater sample collection, UST removal supervision and surveying.

Related Project Experience

Blakeslee Boulevard Drive Roadway Improvements – Lehigh, Pennsylvania

Mr. Maier was part of a project team that prepared a Hazardous Waste Site Evaluation (Phase I) for the Pennsylvania Department of Transportation. Mr. Maier was responsible for the management of the project tasked with identifying hazardous and/or environmentally sensitive wastes, practices or materials along a 2.5-mile corridor of Route 443 in Lehigh, PA.

BP Amoco Station – Hatfield, Pennsylvania

TWT conducted a full environmental site investigation at a BP Amoco Station in Hatfield, PA after a release of approximately 1,200 gallons of gasoline to the subsurface. Mr. Maier managed the project team that conducted soil sampling, installed and sampled monitoring wells, conducted aquifer testing, as well as fate and transport modeling, risk assessment and remedial action reporting. Mr. Maier prepared a Remedial Action Closure Report (RACR) that demonstrated attainment of the Statewide Health Standard for both groundwater and soil. The RACR was approved by the PADEP and the Site was closed out with no environmental restrictions.

Prince Fuel – Philadelphia, Pennsylvania

TWT completed an environmental site characterization in compliance with Pennsylvania's Corrective Action Program (CAP) for the Liberty Gas Station in Philadelphia, PA. Mr. Maier was responsible for project management and supervision of tasks including groundwater characterization, sampling, a monitored natural attenuation evaluation, and



groundwater recovery and fate and transport modeling. Mr. Maher was responsible for the management of a multi-phase extraction soil and groundwater treatment system, cost negotiations with the Pennsylvania Underground Storage Tank Indemnification Fund, and sub-contractor management.

AFL Web Printing – Voorhees, New Jersey

Due to a sale of stock, AFL was required to comply with the New Jersey Industrial Site Reuse Act (ISRA). Mr. Maher managed the project which included preparation of a Preliminary Assessment, Site Investigation, Remedial Investigation, Site Investigation Workplan and a Remedial Investigation Workplan to satisfy the requirements of ISRA. The Site has since been issued a Remedial Action Outcome (RAO).

Quick and Clean Car Wash – Bensalem, Pennsylvania

TWT conducted a full environmental site investigation a former Gulf Station in Bensalem, PA after a release of approximately 1,800 gallons of gasoline to the subsurface. Mr. Maher served as Project Manager to conduct ongoing site characterization and remediation in compliance with Chapter 245 to pursue closure of a former fueling facility and car wash. A multi-media investigation of soil, groundwater, and soil gas was completed and utilized risk assessment and pathway elimination to assess the potential risk to human health. To accelerate the reduction of contaminants and reduce potential exposures, implemented a chemical oxidant injection program in 2010 and 2011. A monitored natural attenuation (MNA) study and ongoing groundwater monitoring was conducted to evaluate the efficacy of the remedial actions conducted. Mr. Maher prepared a Remedial Action Closure Report (RACR) and Environmental Covenant for the property. In 2014, the RACR was approved by the PADEP, bringing closure to the Site.

Act 2 Remedial Investigation / Baseline Risk Assessment, Philadelphia, Pennsylvania.

Served as Project Manager and Technical Lead responsible for site assessments, hydrogeologic studies, and risk assessment for almost 40 acres of former sewage lagoons. Utilized the Pennsylvania Land Recycling (Act 2) law to manage and pursue closure of the sewage sludge lagoons. Project required an extensive site characterization investigation, focusing on the environmental quality of the lagoon sludges, surrounding soil and underlying groundwater. In addition, the project included a comprehensive fate and transport analysis of deep groundwater movement off-site, underneath the Delaware River through the complex Potomac-Raritan-Magothy aquifer system, towards sensitive receptors in New Jersey. Comprehensive planning, flexible work plans, and innovative sampling reduced the overall cost of the site assessment work. Activities were completed using a methodology that satisfied both the United States Environmental Protection Agency (EPA) and Pennsylvania Department of Environmental Protection (PADEP), thus reducing the need for additional data collection and reduced the overall cost of the project. In addition, clear communication with both EPA and PADEP helped to establish a team approach, and satisfied EPA's oversight role, which was relinquished fully to the PADEP allowing pursuit of closure using Act 2.

Site Characterization and Closure, Adamstown, Pennsylvania.

Served as Project Manager responsible for site characterization activities and closure under the Act 2 program. A leaking underground storage tank caused groundwater contamination and was closed under the Act 2 process using natural attenuation as the remedial alternative.

Site Investigation, Remedial Investigation, and Remedial Action – Automotive Dealership, Ewing, New Jersey.

Served as the Project Manager to conduct Site Investigation (SI), Remedial investigation (RI), and Remedial Action (RA) to address former leaky hydraulic lifts and other releases in support of transaction of an automobile dealership. This work is conducted under direction of TWT's Licensed Site Remediation Professional (LSRP) with the intent to issue a Remedial Action Outcome (RAO) for two areas of concern (AOCs) under New Jersey's Site Remediation Reform Act (SRRRA).

Environmental Services as Petroleum Distribution Centers, PA.

Served as Project Manager for environmental services at Gulf Oil retail and bulk petroleum distribution facilities. Responsibilities include oversight of environmental activities for compliance with PADEP UST and Act 2 regulations. Management activities also include oversight of field programs, data analysis, and reporting.

**Environmental Remediation – Retail gasoline station, Brooklawn, NJ**

Provided project management, coordination, and supervision of multi-phase extraction remediation system installation to treat contaminated soil and ground water. Prepared all New Jersey compliant reports regarding the system installation and an off-site groundwater quality investigation.

Environmental Remediation Pilot Studies– Retail gasoline station, Levittown, PA.

Performed variable rate and constant rate aquifer pumping tests as part of a pilot study. Pumping tests were performed to aid in the design of a system to implement hydraulic control in order to prevent the migration of MTBE in ground water. The project also included data evaluation and preparation of all compliant reports including a remedial action plan.

New Jersey Site Remediation Program Activities – Former Golf Course, Northern New Jersey.

Mr. Maher served as project manager and technical lead for a leading residential developer to address Areas of Concern associated with pesticide application at a former golf course. Preliminary assessment, site investigation, and remedial investigations were conducted to delineate golf course applied pesticides, debris and other releases. Proposed remedies included excavation and disposal, soil blending, compliance averaging, and development of a site specific impact to groundwater soil remediation standards.

Environmental Due Diligence and Background Arsenic Study– Lehigh County, PA.

Mr. Maher served as project manager and technical lead for a leading residential developer to conduct environmental due diligence. During Phase II ESA soil sampling, arsenic was discovered above the residential standards. Further sampling and evaluation indicated that arsenic was naturally occurring and efforts were provided to pursue the Pennsylvania Land Recycling Program (Act 2) Background Standard.

Petroleum Release Closure – York, PA.

Mr. Maher served as project manager and Professional Geologist for York Railway (a subsidiary of Genesee and Wyoming Railroad) to close a historical petroleum release case with the Pennsylvania Department of Environmental Protection. The case remained open because the release was never fully characterized and free-phase product was present in monitor wells. Mr. Maher conducted and oversaw site characterization activities including monitor well installation, direct push soil borings, soil vapor sampling, LNAPL thickness gauging, groundwater sampling, receptor evaluations and fate and transport analysis. Mr. Maher was responsible for successfully negotiating with the Southcentral Regional PADEP office regarding removal of free product to the maximum extent practicable, allowing free product to remain at the site saving tens of thousands of dollars in product recovery costs. Mr. Maher prepared a Remedial Action Closure Report (RACR) and Environmental Covenant for the property. In 2014, the RACR was approved by the PADEP thus bringing the former petroleum release case to closure with the PADEP using the Site Specific Standard.

Site Characterization and Remediation, East Petersburg, Pennsylvania.

Served as Project Manager and Technical Lead responsible for the characterization, cleanup, and closure of a former retail fueling station impacted with gasoline and No. 2 fuel oil contamination. The former service station experienced several releases from underground storage tanks. The releases severely impacted underlying soil and groundwater, resulting in contamination several thousand times the regulated levels. Completed a proactive characterization and remediation design based on bio-augmentation. The cleanup was implemented in July of 2000 and was ceased in July of 2001 following a concentration reduction in both soil and groundwater by several orders of magnitude, meeting the stringent cleanup levels. A Pennsylvania Act 2 release of liability was granted in 2003.

Environmental Due Diligence - Pennsylvania, New Jersey, and Delaware.

Provided project management and field supervision of Phase I and Phase II Environmental Site Assessments involving lending institutions and land development companies.



Phase I & II Environmental Site Assessments.

Conducted numerous Phase I & II Environmental Site Assessments of residential, commercial, industrial, pristine, and agricultural properties throughout Pennsylvania. All site assessments were conducted in accordance with applicable ASTM standards.

Remedial Investigation – Retail Petroleum Station, Somerset, NJ.

Provided project management, coordination, and supervision of a Phase II environmental site assessment to investigate ground water contamination in fractured bedrock. The project also included data evaluation and report preparation.