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PENNSYLVANIA AMERICAN WATER

Erin K. Fure
Counsel
852 Wesley Drive | Mechanicsburg, PA 17055
Phone: 717-550-1556
erin.fure@amwater.com

May 18, 2026

PUBLIC VERSION

VIA ELECTRONIC FILING

Matthew L. Homsher, Secretary
Pennsylvania Public Utility Commission
Commonwealth Keystone Building
400 North Street
Harrisburg, PA 17105-3265

In re: **Application of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania - Docket No. A-2026-3061164**

Dear Secretary Homsher:

In your response to your Secretarial Letter of April 24, 2026, please find Pennsylvania-American Water Company's Responses to Set I Data Requests. Please note that one attachment is **CONFIDENTIAL** and has been uploaded to the SharePoint System.

Should you have any questions, please feel free to contact me.

Sincerely,

Erin K. Fure

Erin K. Fure

cc: All Parties on the attached Certificate of Service *(via electronic mail)*
Billy Lam, Bureau of Technical Utility Services *(via electronic mail)*
Sean Donnelly, Bureau of Technical Utility Services *(via electronic mail)*

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

Application of Pennsylvania-American Water Company for Approval of the Right to Offer, Render, Furnish or Supply Wastewater Service to the Public in an Additional Portion of East Fallowfield Township, Chester County Pennsylvania (Doe Run Elementary)	: Docket No. A-2026-3061164 :

CERTIFICATE OF SERVICE

I hereby certify that I am on this day serving the above-referenced Pennsylvania-American Water Company's **Responses** in the above-referenced matter upon the persons and in the manner indicated below, which service satisfies the requirements of 52 Pa. Code §1.54 (relating to service by a party).

SERVICE VIA ELECTRONIC MAIL ON MAY 18, 2026

Darryl A. Lawrence, Consumer Advocate
Office of Consumer Advocate
555 Walnut Street
5th Floor, Forum Place
Harrisburg, PA 17101-1923
ra-oca@paoca.org
(via electronic mail)

NazAarah Sabree, Small Business Advocate
Office of Small Business Advocate
555 Walnut Street
1st Floor, Forum Place
Harrisburg, PA 17101
ra-sba@pa.gov
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Alison Kaster, Director
Pennsylvania Public Utility Commission
Bureau of Investigation and Enforcement
400 North Street
PO Box 3265
Harrisburg, PA 17105
akaster@pa.gov
(via electronic mail)

Respectfully submitted,

Dated: May 18, 2026

Erin K. Fure, Esquire (PA ID #312245)
Counsel for Pennsylvania-American Water Company
852 Wesley Drive
Mechanicsburg, PA 17055
Phone: 717-550-1556

Attorney for *Pennsylvania-American Water Company*

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-1. The Application's Exhibit L included a copy of the Department of Environmental Protection (DEP) approved Sewage Facilities Planning Module (Planning Module) for the new Doe Run Elementary School (New Elementary School). The Planning Module included a copy of a map (Planning Module Sewer Map) entitled "Sewer Franchise Area Expansion Plan" prepared by T and M Associates dated September 26, 2025. The extent of the requested territory depicted in the Application's Confidential Exhibit A-1 (Requested Territory) does not match the planned sewerage area depicted in the Planning Module Sewer Map. Please explain why the area extents of the Requested Territory in the Application's Confidential Exhibit A-1 exceeds the planned sewerage area depicted in the Planning Module Sewer Map.

RESPONSE:

Please see updated Applied for Territory Map and Metes and Bounds at **Attachment A-1**.

In re: Application of Pennsylvania-American Water Company for Approval of the Right to Offer, Render, Furnish or Supply Wastewater Service to the Public In an Additional Portion of East Fallowfield Township, Chester County Pennsylvania

Attachment A-1

Updated Applied for Service Territory Map

CONFIDENTIAL

CONFIDENTIAL

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: James P. Kelly - Manager, Operations
Pennsylvania-American Water Company
Date: May 18, 2026

A-2. In the Application's Section 9, Pennsylvania-American Water Company-Wastewater Division (PAWC-WD) indicated that the proposed main extension (Main Extension) and proposed pump station (Pump Station) will serve the New Elementary School as well as six additional parcels (Outside Parcels) located along the route of the Main Extension. However, the Requested Territory Map in the Application's Confidential Exhibit A-1 appears to include over 17 additional parcels. Please provide responses to the following:

a. Describe how all the Outside Parcels currently receive wastewater service; and

b. Provide a copy of all written wastewater service requests received by PAWC-WD from property owners in the Requested Territory.

RESPONSE:

a. Outside parcels currently receive wastewater service by on-lot systems.

b. As of the date of this Response, PAWC-WD has not received any written requests for wastewater service from property owners within the Requested Territory.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-3 The Application's Exhibit L included a copy of a letter from DEP to East Fallowfield Township dated June 17, 2025, that approved the Planning Module (DEP Planning Module Approval Letter) for the New Elementary School project based on the construction and operation of the Pump Station with an average design flow of 5,580 gallons per day (GPD). In the Application's Section 17, PAWC-WD averred that the Coatesville Area School District (CASD) requested PAWC-WD provide wastewater service to the New Elementary School defined as 26 equivalent dwelling units (EDUs) with an estimated average flow demand of 5,775 GPD. In the Planning Module's Component 3, the project narrative is limited to the sewerage requirements for the New Elementary School based on 26 EDUs at 225 GPD/EDU, or 5,850 GPD, and does not contemplate the inclusion of additional wastewater flows from the Outside Parcels. The requested wastewater flow demand from CASD for the New Elementary School matches the planned wastewater flow demand in the Planning Module, and, therefore, CASD has fully reserved the planned wastewater flow capacity. In support of this limitation, DEP conditioned its approval and noted in the DEP Planning Module Approval Letter "Please be advised that additional sewage facilities planning is required prior to any additional connections to the proposed pumping station." The Commission observed that DEP's approval of the Planning Module on June 17, 2025, follows DEP's approval of the Act 537 Sewage Facilities Plan Update on January 23, 2025, (Act 537 Plan Update) as noted in East Fallowfield Township's letter addressed to the Commission dated November 12, 2025, contained in the Application's Exhibit N. Please provide responses to the following:

a. Provide evidence of DEP approval of the additional sewage facilities planning required to extend wastewater service to the Outside Parcels included in the Requested Territory along with copies of any approval letters from DEP and associated conditions; or

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

b. Provide a revised map for the Requested Territory that removes the Outside Parcels and includes a boundary description with bearing angles and distances and a quantification of the revised Requested Territory area in acres.

RESPONSE:

a.-b. Please see response and attachment to A-1.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-4. Please provide a copy of the Act 537 Plan Update along with its DEP approval letter including any associated conditions and enclosures.

RESPONSE:

Please see East Fallowfield Township Act 537 Plan Update and DEP approval letter dated January 23, 2025 attached as **Attachment A-4**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-4

Updated Act 537 Plan and DEP Approval Letter

EAST FALLOWFIELD TOWNSHIP

Act 537 Official Plan Update

May 2022
Rev. Oct. 2023

Prepared by:
Herbert E. MacCombie, Jr., P.E.,
Consulting Engineers and
Surveyors, Inc.

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SENT VIA ELECTRONIC MAIL ONLY

January 23, 2025

Mr. Scott Swichar, Manager
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, PA 19320

Re: Act 537, Sewage Facilities Planning
East Fallowfield Township Act 537 Official Plan Update
East Fallowfield Township
Chester County

Dear Mr. Swichar:

The Department of Environmental Protection ("DEP") has reviewed the above-referenced, proposed Act 537 Official Plan Update ("Plan"), prepared by Herbert E. MacCombie, Jr., P.E. Consulting Engineers and Surveyors, Inc., dated May 2022, revised October 2023, and submitted on January 29, 2024. Additional information was submitted on February 8, 2024, February 16, 2024, May 6, 2024, and September 9, 2024.

The submission is consistent with the planning requirements in Chapter 71 of DEP's regulations.

The Plan provides for the following:

- The sewer service area will be extended to the Stottsville, Mount Carmel, and South Brandywine Middle School Areas within the initial 5-year Plan horizon.

  The Stottsville Area is located in the area of Strasburg Road and Lyons Lane and contains approximately 32 properties. This area is depicted on the plot plan entitled *Stottsville Area Conceptual Public Sewer Extension for Act 537 Plan Update for East Fallowfield Township, Chester* County, prepared by Herbert E. MacCombie, Jr., P.E. Consulting Engineers and Surveyors, Inc., dated August 13, 2019, with no revisions.

  The Mount Carmel Area is located in the area of Strasburg Road and Mount Carmel Road and contains approximately 24 properties. This area is depicted on the plot plan entitled *Mount Carmel Area Conceptual Public Sewer Extension for Act 537 Plan Update for East Fallowfield Township, Chester* County, prepared by Herbert E. MacCombie, Jr., P.E. Consulting Engineers and Surveyors, Inc., dated August 13, 2019, with no revisions.

  The South Brandywine Middle School Area is located in the area of Strasburg Road and Doe Run Road and contains approximately 60 properties. This area is depicted on the plot plan entitled *South Brandywine Middle School Area Conceptual Public Sewer*

Extension for Act 537 Plan Update for East Fallowfield Township, Chester County, prepared by Herbert E. MacCombie, Jr., P.E. Consulting Engineers and Surveyors, Inc., dated August 13, 2019, with no revisions.

Wastewater from the sewer service areas will be conveyed to the Pennsylvania American Water Company – Coatesville Wastewater Treatment Facility.

Please be advised that additional sewage facilities planning must be adopted by East Fallowfield Township and approved by DEP prior to the construction of any facilities to serve these new sewer service areas.

- East Fallowfield Township will enact a Sewage Management Program for properties relying on on-lot sewage disposal.

  The submission includes a draft On-Lot Sewage Management Program Ordinance and a draft Holding Tank Ordinance. **Final, signed copies of the ordinances must be provided to DEP upon enactment.**

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at www.ehb.pa.gov or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

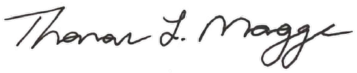
IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A

LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

If you have any questions or concerns, please contact Ms. Kelly A. Sweeney at 484.250.5182.

Sincerely,



Thomas L. Magge
Regional Manager
Clean Water

cc: Chester County Health Department (via email)
Chester County Planning Commission (via email)
Chester County Conservation District (via email)
Pennsylvania American Water Company (via email)
Herbert J. MacCombie, Jr., P.E. Consulting Engineers and Surveyors, Inc. (via email)
Planning Section
Re 30

ACT 537 PLAN UPDATE

FOR

EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY, PA

MAY 2022
REVISED OCTOBER 2023

Prepared by:
HERBERT E. MACCOMBIE, J.R., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P. O. BOX 118
BROOMALL, PA 19008
610-356-9550

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EXECUTIVE SUMMARY

This Act 537 Update was prepared at the request of East Fallowfield Township (Township) in order to address current and future planning needs, as well as concerns raised by the Pennsylvania Department of Environmental Protection (PA DEP) as more recently noted in the Department's letter of January 28, 2014 approving the Plan of Study. The intent of the Study contained herein is to be in substantial compliance with Act 537 entitled *The Pennsylvania Sewage Facilities Act, PA Code Title 25, Chapter 71,* in order to appropriately plan for the current and future needs of the Township, as well as its residents.

The Plan Update contains the requisite Environmental Checklist with the Study addressing the planning requirements necessary in order to provide public sanitary sewer services to meet the immediate needs of the potential development areas as well as to provide continued use of individual on-lot sewage disposal systems under the oversight of a Township-wide Sewage Management Program (SMP) to address the immediate needs of those areas where public sewer service is not practical or desired.

The Plan of Study is comprised of the following components:

I. Previous Wastewater Planning

II. Physical and Demographic Analysis

III. Existing Sewage Facilities in the Planning Area

IV. Future Growth and Development

V. Alternatives to Provide New or Improved Wastewater Disposal Facilities

VI. The Evaluation of Alternatives

VII. Institutional Evaluation

VIII. Selected Wastewater Treatment and Institutional Alternatives

The Act 537 Plan Update identifies and evaluates various aspects of alternatives in a prudent manner in order to solve the problems and adequately satisfy the sewage disposal needs identified in this plan. The alternatives considered and evaluated include the background and means by which public sewer service currently exists as well as the merits of providing future service to both residential and commercial development within the overall planning area considered, as well as considering continued use of individual and community on-lot sewage disposal systems (OLDS) in areas where public sewage disposal is not viable. Implementation of a SMP was evaluated as a method of assuring proper long-term operation and maintenance of individual and community OLDS. As part of the Alternatives Analysis, the practicality, environmental impact, and cost effectiveness of the various methods of sewage disposal were considered in determining the Selected Alternatives for different areas of the Township within this Plan. The alternatives were evaluated with consideration to

potential pollution resulting from failed systems, the cost of providing a public sewer alternative versus the cost of repairing or replacing an OLDS, and the administrative cost to the Township to implement a Township-wide Sewage Management Program. In addition, Environmental Impact Coordination has been conducted, as well as coordination with other outside agencies and municipalities including the Chester County Planning Commission (CCPC), the Chester County Health Department (CCHD), the Pennsylvania Historic and Museum Commission (PHMC), Pennsylvania American Water Company (PAWC) and various adjacent municipalities.

East Fallowfield Township is sensitive to the costs to the individual property owner associated with the requirement to make connection to the public sewer system and has considered these potential costs in comparison to the costs and impacts of other options. The Township is also cognizant that health, safety, and welfare of the citizens of the Township and that they need to be protected. For the majority of the Study Area, including larger tracts of land within the RA – Rural Agricultural Zoning District, the selected alternative for sewage disposal is on-lot disposal systems with implementation of a Township-wide Sewage Management Program. In order to implement the OLDS alternatives, the Township will need to implement a Sewage Management Program. This program will require adoption of a Sewage Management Ordinance, which will require administrative changes to allow for proper record keeping of the properties responsible to operate and maintain OLDS in accordance with the aforementioned ordinance. The Township will need to determine a fee structure to cover the administrative costs, as well as costs of designated representatives for inspections and enforcement of the ordinance.

Portions of the Study Area are situated in close proximity to existing public sewers, which makes this a viable alternative for sewage disposal from a practical, economic, and environmental impact standpoint. Therefore, the selected alternative for these areas is public sewer with treatment and disposal at the PAWC Coatesville WWTP in the Borough of South Coatesville. In order to implement the PAWC conveyance and treatment alternative, a network of gravity mains, pump stations and force mains will need to be in place and are to be constructed as part of the respective developments at the developer's cost and expense. Other areas of existing development would need to be coordinated with PAWC as funding or reimbursement for the cost of the sewer extension projects would come directly from those property owners that benefit from the improvements. PAWC in the past has also contributed a substantial dollar amount per lot serviced for those "bona fide" customers to help offset the cost to individual property owners for connection to the public sewer system.

With the completion of the PAWC Coatesville Treatment Plant upgrades, in conjunction with the approval of the PAWC Tributary Act 537 Plan, expansion of public sewer to areas in need as a selected alternative may require additional capacity agreements with PAWC. At this juncture, available capacity is identified in the current East Fallowfield Township PAWC Agreement, as further outlined in Appendix B. The anticipated flow for Immediate Needs identified in this Plan are to be coordinated with PAWC so that there is consistency between this Plan and the PAWC Connection Management Plan (CMP) (Appendix C and D).

The Implementation Schedule is provided in Section VIII.C of this Plan.

I. PREVIOUS WASTEWATER PLANNING

A. Identify and Discuss Past Wastewater Planning

1. Previous Act 537 Planning

The original Sewage Facilities Plan of East Fallowfield Township was the County Master Sewer Plan (Revised Edition 1970). A sewage facilities plan, dated June of 1982, was approved by the DEP and is the current Act 537 Plan for East Fallowfield Township. A subsequent Feasibility Study was prepared to investigate installation of public sewer systems throughout the Township in 1973 but was not adopted as an Official Sewage Facilities Plan.

Since 1982, a plan was prepared by Grafton Associates dated February 20, 2000 to update the Township's Act 537 Plan. This plan was first revised in October of 2000 to address PADEP comments. Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc. assisted in addressing outstanding comments to complete the Plan on April 30, 2003 for review and approval by the PADEP on January 25, 2005. However, an incorrect version of the Plan was submitted for review. Additional information was submitted to the DEP on December 14, 2005, December 21, 2005, and February 9, 2006. Due to turnover at the Township, DEP comments on the plan were never fully addressed. The DEP issued a letter to the Township dated November 9, 2012 requesting a status update by December 10, 2012 or the 2006 Plan would be considered withdrawn. A meeting was held at the PA DEP Southeast Regional Office on July 30, 2013 to discuss the feasibility of revising the 2006 Plan or to start a new Plan using some components of 2006 Plan. Ultimately, at the direction of the Board of Supervisors, since so much time had elapsed, it was decided to begin with a new plan using any relevant information from the 2006 Plan. A Plan of Study was prepared and submitted to the PA DEP on November 18, 2013 and was approved by the Department on January 28, 2014 allowing the Township to move forward with a new Official Plan Update.

2. Planning Not Done in Accordance with an Approved Implementation Schedule

1972 Plan stipulates implementation of an "On-lot Management Program" in certain areas if on-lot malfunctions should begin to occur on a frequent or area-wide basis.

3. Anticipated or Planned by Applicable Sewer Authorities or Approved Under a Ch 94 Corrective Action Plan

East Fallowfield Township is one of ten tributary municipalities which utilizes the Pennsylvania American Water Company's stream discharge wastewater treatment plant located in the Borough of South Coatesville. East Fallowfield Township is a Non-bulk customer of the Pennsylvania American Water Company. Non-bulk customers are those municipalities where PAWC owns, operates, and maintains the entirety of the sewage collection and conveyance facilities.

An Act 537 Sewage Facilities Plan Update for the Tributary Municipalities of Pennsylvania American Water Company was completed in March of 2009. This Plan Update included the expansion of the existing Coatesville Wastewater Treatment Plant and also planned for the current and future needs of the tributary municipalities. The currently available Act 537 planning data for East Fallowfield Township was incorporated into the Plan Update and an estimate of the future sewage needs of the Township was provided for inclusion in the Plan Update.

The 2009 PAWC Plan identifies East Fallowfield's projected sewage flows based on reasonable estimates at that time. The 2009 PAWC Plan anticipated 153,000 gpd within the first 5 years (through 2012) and another 37,350 gpd beyond 5 years as reflected in the Connection Management Plan (CMP). In addition, 148,750 gpd was anticipated for office/industrial zoned property along Route 82. Flows were extrapolated to project 5–10 year and beyond 10-year flow estimates. Approximately, 522 EDUs have been connected to the PAWC public sewer system since that time representing approximately 117,450 gpd of flow.

4. Planning via Planning Modules, Exemptions, and Addenda

The Township's current Act 537 Plan that was approved in June of 1982 together with existing subdivisions of Stottsville Estates, Valley Crossing, Strasburg Hunt, Willow Rock, Wilmont Circle, Carriage Crest, Brook Crossing, Branford Village, Wellington Hunt, Brinton Station, and also planning module approvals of the Cardinal Drive Area (1-15918-211-3J) consisting of 77 existing single-family residences, the Thompson Homes Subdivision – North (North Woods) (1-15918-207-3I) consisting of 27 single-family residences (built out), the Thompson Homes Subdivision – South (Manchester Farms) (1-15918-196-3H) consisting of 112 single-family residences (built out), the Mendenhall Subdivision (1-15918-208-3I) consisting of 74 single-family residences (9 connected), Robins Cove (Stone Creek) (1-15918-159-3H) (PS WQM Part II Permit No. 1503409) along the

southwesterly corner of Misty Patch Road and Goosetown Road consisting of 53 single-family residences as part of the subdivision as well as 9 existing single-family residences along Misty Patch Road (built out) (regional PS conveys flows to the PAWC gravity system in West Chester Road), the Ridgecrest Subdivision (1-15918-213-3J & 1-15918-213-3J-REV) along West Chester Road and South Caln Road consisting of 72 units at build-out (connected by gravity to the existing gravity sewer within Goosetown Road) form the basis of the Township's current Plan for public sewer as the selected method used for sewage disposal. Harkins Farm (1-15918-194-3J), which was situated along the northeast corner of South Caln Road and Goosetown Road was planned to consist of 21 single-family residences with a proposed pump station to convey Harkins Farm flows to the Robins Cove Regional Pump Station. However, the Harkins Farm has since been sold and subdivided (Chester County Subdivision # 20347) into two (2) large farmstead lots with on-lot sewage disposal systems.

In addition, a Sewage Facilities Planning Module (1-15918-245-2L) was initiated for the Bawa Property Subdivision, which proposes 24 single family detached dwellings to be serviced by individual on-lot sewage disposal systems and on-site wells but has not yet been approved.

The Township Board of Supervisors voted in 2013 to expand the public sewer service area to accommodate the Coatesville Area School District's (CASD) project to relocate the South Brandywine Middle School and provide public water and sewer to the project and some surrounding residential development. However, the CASD put the project on hold when bids came in much higher than anticipated leaving a funding gap. Future plans include demolition of the middle school and construction of a new elementary school on the site. However, this is not expected to occur until after several other new building projects. At this time, it is not expected to occur within the 5 or 10-year horizons within this Plan Update.

II. PHYSICAL AND DEMOGRAPHIC ANALYSIS

A. Identify Planning Area, Municipal Boundaries, and Service Area Boundaries Through Mapping

This Act 537 Plan Update is being prepared to address the sewage facilities needs of existing and proposed development in the northeastern, northwestern, and central portions of the Township. The existing public sanitary sewer service area is depicted on Figures 3 and 8. Refer to the Municipal Plan Map (Figure 4) that shows the boundaries for the planning areas addressed in this Act 537 Plan Update.

The overall municipal boundary can also be seen in the Municipal Plan Map (Figure 4). East Fallowfield Township is bordered by Caln Township at Robin Road, South Coatesville and Modena Boroughs, and Valley and Sadsbury Townships to the North; West Bradford Township at Bailey Road and Newlin Township to the East; West Marlborough Township to the South; and Highland Township at Buck Run to the West.

Existing service areas for East Fallowfield Township can be seen by referring to the Public Sewer Service Area Map (Figure 8). In general, the Northeastern portion or the area located north-east of the West Branch Brandywine Creek are accommodated. Public sewer service exists for the Glen at Providence Hill Subdivision, Manchester Farms Subdivision, Brinton Station Subdivision, Mendenhall, and Stone Creek. In addition to this area, another service area exists that is bordered by South Coatesville Borough to the east, Buck Run Road to the southeast, Strasburg Road to the southwest, and Strode Avenue to the west. This area provides public sewer service for Branford Village, Brook Crossing, and Hilltop Mobile Home Park (MHP). There is also a small service area located to the west of this previously discussed area that is bounded by Mount Carmel Road to the west and Valley Township to the north. Public sewer service exists here for the Strasburg Hunt neighborhood. Finally, in addition to these areas an expanded service area exists to the west of Strode Avenue, south of Horizon Drive, and north of Wilmington Road. This expanded area provides public sewer service for Carriage Crest and Towerville.

B. Identify the Physical Characteristics of the Planning Area

East Fallowfield Township is located in Chester County, southwest of the City of Coatesville. The Township is bounded to the north by Sadsbury, Valley, and Caln Townships and South Coatesville and Modena Boroughs, to the east by West Bradford and Newlin Townships, to the south by West Marlborough Township, and to the west by Highland Township.

The study area contains a low elevation of approximately 246 located along the Buck Run on the border of East Fallowfield Township and Newlin

Township. The highest elevation of approximately 636 can be found just north of Strasburg Road approximately halfway between its intersections with Old Wilmington Road and Mount Carmel Road. The township consists of rolling hills, dense forest areas, and farmland. In addition, the West Branch of Brandywine Creek can be found in the northeastern portion of the township. The southeastern portion contains Buck Run with much of the western portion of the township containing tributaries to the Buck Run. Dennis Run is situated in the central portion of the township.

There are three pending developmental areas that can be seen on the map in Figure 4. These areas include one region bordered to the north and east by Strasburg Road and Doe Run Road and to the south and west by Octagon School Lane and Wilmington Road. The elevation of this area is fairly consistent ranging from 555 to 560. No noted sloping can be found in this area. There are no rivers, streams, lakes, or ponds in this area. This region contains prime farmland.

The next pending developmental area is located in the central portion of the township bordered by Newlinville Road, Strode Avenue, and Hilltop MHP. The topography of this area consists of hill region. The lowest elevation point of 415 is on the border between East Fallowfield Township and South Coatesville Borough just to the west of Newlinville Road. The highest elevation point of 565 is located adjacent to the lowest point to the northwest. There are no rivers, streams, lakes, or ponds in this area. The border of the area can be described by steep to moderate slopes in particular on the eastern and northern portions of the area. The central and southern portions consist of prime farmland and farmland of statewide importance.

The final pending developmental area is located on the eastern portion of the township. This region is bounded by South Caln Road to the west and West Chester Road to the north. The lowest elevation point of 520 can be found at the southeastern portion of this area west of the river. The highest elevation of 595 can be found on the western edge of the region just east of South Caln Road. This elevation is seen again just south of West Chester Road. Steep to moderate sloping can be found along the river that runs through the southeastern portion of the developmental area. The farmland in this region is both prime and of statewide importance.

A Topographic Map is provided in Figure 5 for reference.

The Study Area lies within two major watersheds: the West Branch Brandywine Creek and the East Branch Brandywine Creek. The West Branch Brandywine Creek encompasses the large majority of the township and is comprised of several sub-watersheds: Buck Run, Sucker Run, Dennis Run, Doe Run and the main stem of the West Branch Brandywine Creek. There is only one sub-watershed of the East Branch Brandywine Creek within the

township and that is the Valley Run watershed, which is tributary to Beaver Creek.

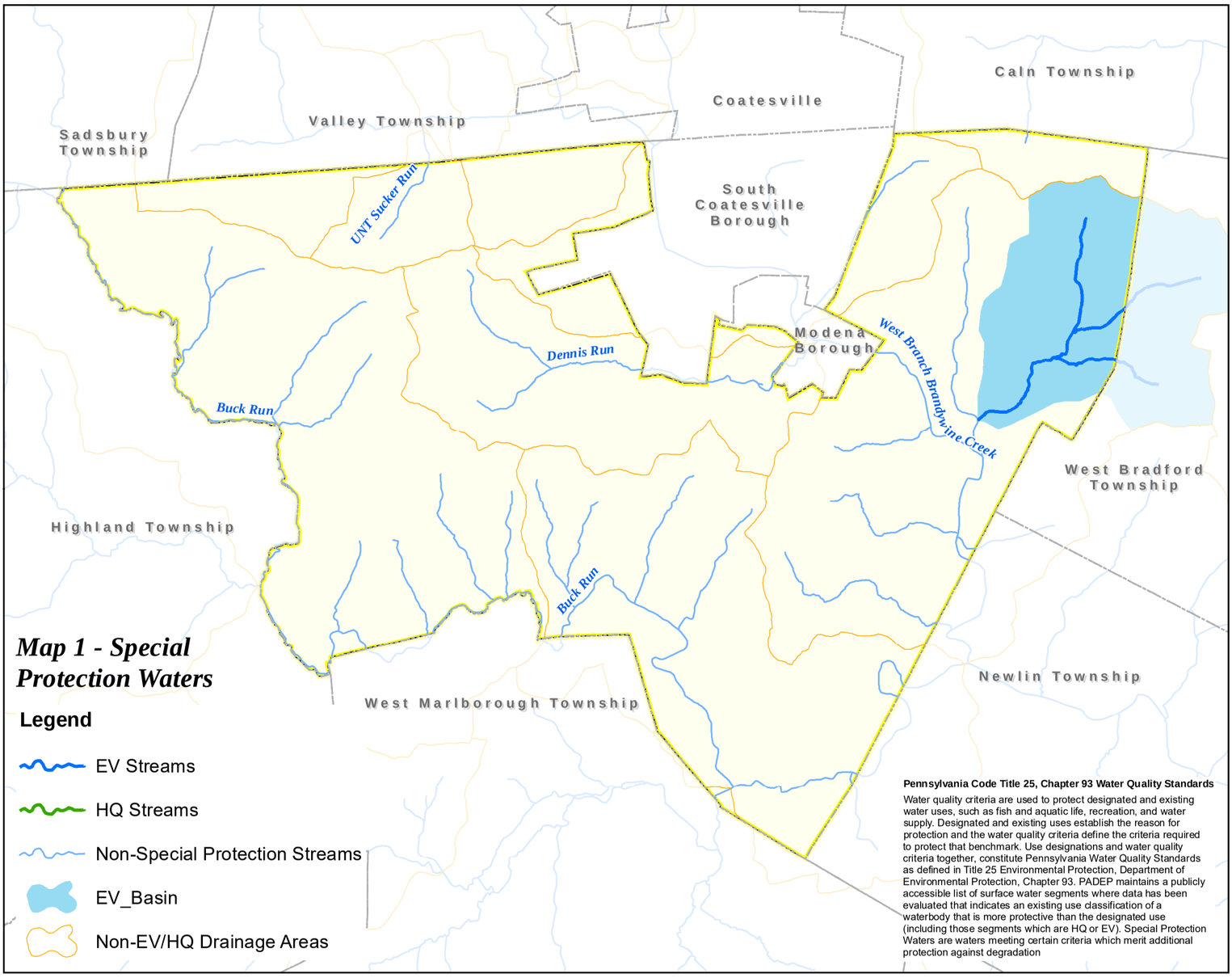
According to National Wetlands Inventory mapping, the majority of the wetlands found within the township are located along the border of the township with Highland and West Marlborough Townships. These wetlands can be found on the banks of current waterways. Additional wetlands can be found on the banks of the West Branch Brandywine Creek located in the northeastern portion of the township and on the banks of the Dennis Run west of Youngsburg Road.

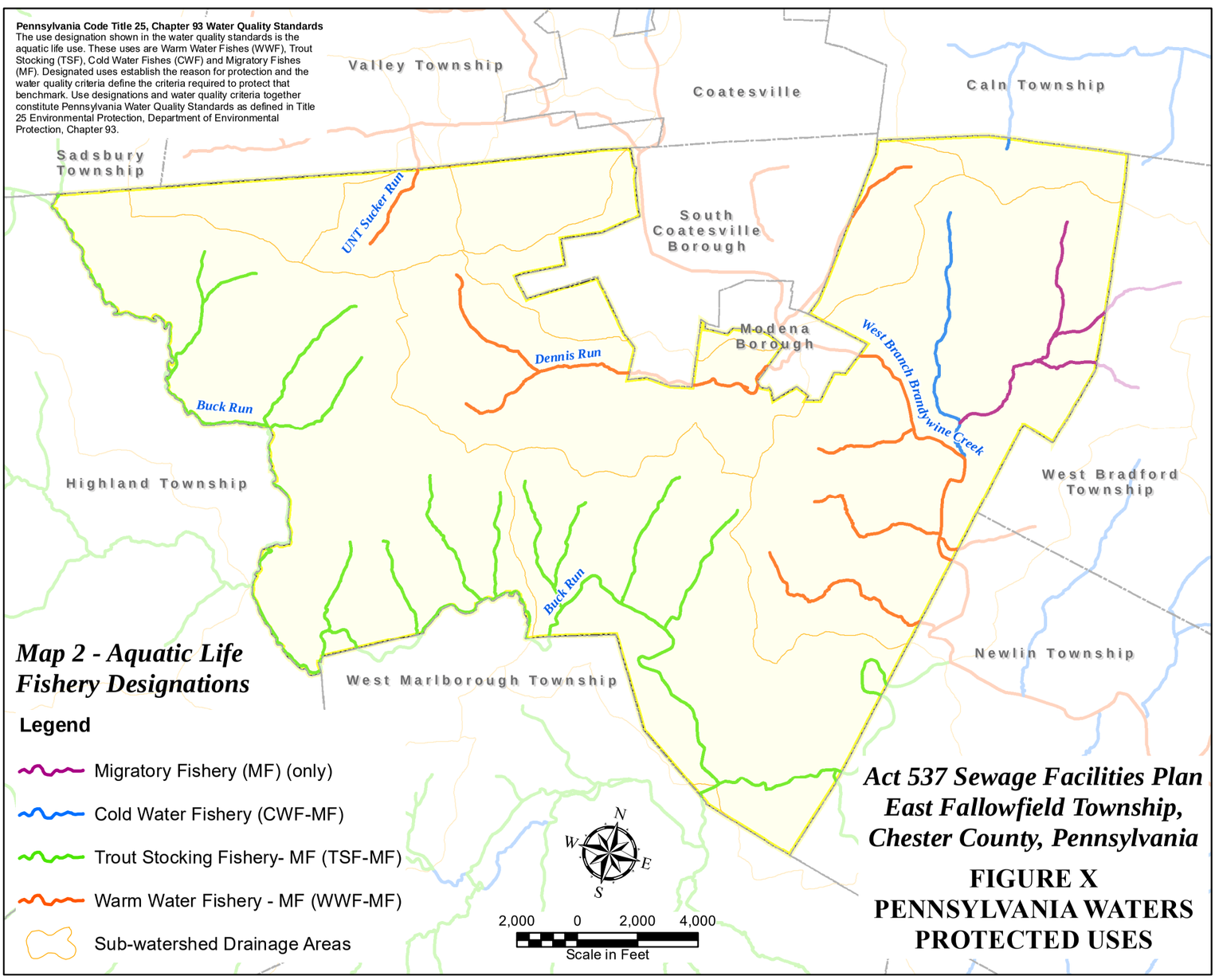
The Buck Run watershed is generally situated in the western, southwestern, and southern portions of the township generally south of Strasburg Road and is the largest watershed within the township. According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes) for the Buck Run. The Sucker Run watershed is generally situated within the northeasterly portion of the township north of Strasburg Road and along Doe Run Road (Route 82). According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The Dennis Run watershed is situated generally in the central and northcentral portions of the township extending from its westerly limit at Park Avenue to approximately Ramsey Road in the east and including areas from Ercildoun in the south to the boundary of the township with the boroughs of South Coatesville and Modena in the north. According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The main stem of West Branch Brandywine Creek watershed encompasses almost the entire eastern portion of the township extending in the north from about West Chester Road to the south just beyond Fairview Road where it meets the Buck Run watershed drainage divide. The western limit of the watershed is the drainage divide between the Dennis Run and Buck Run watersheds and the watershed extends to the municipal boundaries with the Borough of South Coatesville, Borough of Modena, West Bradford Township, and Newlin Township. According to PA Code, Chapter 93, the Water Quality Standard Classification for the West Branch Brandywine Creek in this portion of the township is WWF, MF (Warm Water Fishes, Migratory Fishes) with the exception of two unnamed tributaries. One of the tributaries generally flows from north to south along Misty Patch Road and the other flows from north/northeast to south from east of South Caln Road both joining prior to connecting with the West Branch Brandywine Creek in the vicinity of Mortonville Road and Sawmill Road. The unnamed tributary along Mist Patch Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of CWF, MF (Cold Water Fishes, Migratory Fishes). The unnamed tributary along South Caln Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of EV, MF (Exceptional Value, Migratory Fishes). Only a small portion of the township consists of the Doe Run watershed, which is situated in the southeasterly portion of the township adjacent to the Buck Run.

According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes).

The Valley Run watershed, which is part of the Beaver Creek watershed comprises the northeastern most portion of the township north of West Chester Road and is the only watershed that is not tributary to the West Branch Brandywine Creek in the Township. Valley run is tributary to Beaver Creek, which is tributary to the East Branch Brandywine Creek and according to PA Code, Chapter 93, the Water Quality Standard Classification is CWF, MF (Cold Water Fishes, Migratory Fishes).

Refer to the Protected Uses maps below for a graphic representation of watersheds described above.


Sadsbury Township
Valley Township
Coatesville
Caln Township
South Coatesville Borough
Modena Borough
West Bradford Township
Highland Township
West Marlborough Township
Newlin Township
UNT Sucker Run
Dennis Run
Buck Run
West Branch Brandywine Creek
Map 1 - Special Protection Waters
Legend
EV Streams
HQ Streams
Non-Special Protection Streams
EV_Basin
Non-EV/HQ Drainage Areas
Pennsylvania Code Title 25, Chapter 93 Water Quality Standards
Water quality criteria are used to protect designated and existing water uses, such as fish and aquatic life, recreation, and water supply. Designated and existing uses establish the reason for protection and the water quality criteria define the criteria required to protect that benchmark. Use designations and water quality criteria together, constitute Pennsylvania Water Quality Standards as defined in Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93. PADEP maintains a publicly accessible list of surface water segments where data has been evaluated that indicates an existing use classification of a waterbody that is more protective than the designated use (including those segments which are HQ or EV). Special Protection Waters are waters meeting certain criteria which merit additional protection against degradation


Pennsylvania Code Title 25, Chapter 93 Water Quality Standards
The use designation shown in the water quality standards is the aquatic life use. These uses are Warm Water Fishes (WWF), Trout Stocking (TSF), Cold Water Fishes (CWF) and Migratory Fishes (MF). Designated uses establish the reason for protection and the water quality criteria required to protect that benchmark. Use designations and water quality criteria together constitute Pennsylvania Water Quality Standards as defined in Title 25 Environmental Protection, Department of Environmental Protection, Chapter 93.
Sadsbury Township
Valley Township
Coatesville
Caln Township
South Coatesville Borough
Modena Borough
West Bradford Township
Highland Township
West Marlborough Township
Newlin Township
UNT Sucker Run
Dennis Run
Buck Run
West Branch Brandywine Creek
Map 2 - Aquatic Life Fishery Designations
Legend
Migratory Fishery (MF) (only)
Cold Water Fishery (CWF-MF)
Trout Stocking Fishery- MF (TSF-MF)
Warm Water Fishery - MF (WWF-MF)
Sub-watershed Drainage Areas
N
W
E
S
2,000 0 2,000 4,000
Scale in Feet
Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania
FIGURE X
PENNSYLVANIA WATERS
PROTECTED USES

C. Soils Analysis

Refer to the Soils Map in Figure 9 and Soil Suitability for On-site Sewage Disposal Map in Figures 10a, b, c, & d.

All soils in the Study Area are either very or moderately limited with regards to in ground bed sewage disposal. The exception to this is a small area located southwest of South Forty Lane and north of Chelsey Drive and Wagner Lane, which is slightly limited. The pending developmental areas within the Study Area are not an exception to the above mentioned very to moderately limited soil for in ground bed sewage disposal. In fact, the majority of the areas anticipated for development consist of very limited soil in this regard. Please refer to Figure 10a for a visual depiction of the verbiage above.

Pertaining to the soil suitability for in-ground trench sewage disposal, the Study Area ranges from slightly, to moderately, to very limited. The northeastern portion of the area contains mostly moderately and very limited soil, with small pockets of slightly limited soil. However, this area is currently and will be in the future serviced by public sanitary sewer. The southern and northwestern portions of the Study Area contain mostly slightly-limited soil with regard to suitability for in-ground trench sewage disposal. However, pockets of moderately and very limited soil suitability can be found in these areas as well. Finally, in the central portion of the Study Area south of Modena Borough there is a small pocket of slightly limited soil located north of Dennis Run. The remainder of this central portion of the Study Area contains mostly very-limited soil suitability. Portions of the Study Area anticipated to be developed within areas to remain serviced by OLDS include the Bawa Muhaiyaddeen Fellowship in the west-central area of the Township. The soils in the area of this project consist chiefly of very-limited suitability for in-ground trench sewage disposal systems. A few small bands of moderately-limited and slightly-limited soils are present. These areas can be seen in Figure 10b.

In the matter of the soil suitability for sand mound sewage disposal the Study Area as a whole range from slightly limited to moderately limited to very limited soil suitability. The vast majority of the Study Area is slightly limited; however, areas of moderately and very limited soil suitability can be found dispersed throughout the Study Area. Area 1 of pending development contains slightly limited soil suitability. Area 2 of pending development contains equal portions of slightly, moderately, and very limited soil suitability. The slightly limited soil suitability is located within the central portion of this area surrounded by moderately limited soil and bordered to the northern portion of this area by very limited soil suitability. Area 3 of pending development contains mostly slightly limited soil suitability with a small amount of moderately and very limited soil suitability located on the

eastern-most portion of this developmental area. All areas can be seen in Figure 10c.

With reference to the soil suitability for drip irrigation sewage disposal the Study Areas contains areas of very limited, moderately limited, and slightly limited soil suitability. The vast majority of the area is slightly limited in this regard. Three notable areas of very limited soil suitability can be found bordering the West Branch of Brandywine Creek; bordering Buck Run in the southern portion of the Study Area; and located in the portion of the Study Area just south of the Valley Township line close to the border of South Coatesville Borough. Area 1 of pending development contains only slightly limited soil suitability. Area 2 of pending development contains very, moderately, and slightly limited soil suitability. The vast majority of this region is slightly limited; however, moderately limited soil can be found in the northern portion of this region and very limited soil can be found on the eastern portion of this region. Finally, Area 3 of pending development contains almost exclusively slightly limited soil suitability. A small area of moderately limited soil suitability can be found in the southeastern portion of the area. In addition, a small region of very limited soil suitability can be found in the eastern portion of this area. All areas described above can be seen in Figure 10d.

A number of regions in the Planning Area are Farmland of Statewide Importance and also Prime Farmland. These areas cannot be segregated to regions within the Study Area as these lands are dispersed throughout the Study Area. Please refer to Figure 9.

D. Geological Features of the Planning Area

Refer to Geologic Formations Map (Figure 11).

The following geologic formations[1] are present within the Planning Area:

- Conestoga Limestone
  - Located in the westernmost portion of the Township and Planning Area. Median well yields of 15 gallons per minutes can be expected. Yields of up to 175 gallons per minute may be achieved.

- Octoraro Phyllite
  - Located in the northeastern and northwestern portions of the Township and Planning Area. Median well yields of 7.5 gallons per minute can be expected. Yields of up to 300 gallons per minute may be achieved.

- Peters Creek Schist
  - Located in the central and southeastern portions of the Township and Planning Area. Median well yields of 9 gallons per minute can be expected. Yields of up to 60 gallons per minute may be achieved.

- Wissahickon Schist
  - Located in the southern portion of the Township and Planning Area. Well yield information was not available for this formation.

E. Topography

Refer to Topographic Map depicting steep slopes (Figure 5).

Refer to Section II.B.

F. Potable Water Supply Information

Public water in East Fallowfield Township is supplied by Pennsylvania American Water Company (PAWC). The remaining area is serviced by private on-site wells as permitted by the Chester County Health Department (CCHD).

Within the township some issues have been reported with the well water supply. Some households have needed to have water deliveries throughout the year to make up for the lack of supply generated from onsite water wells. In addition, the water quality in some of the wells is problematic requiring the

[1] U.S. Department of Interior and U.S. Geological Survey. (2002). *Geohydrology of Southeastern Pennsylvania*. New Cumberland, Pennsylvania: Dennis J. Low, Daniel J. Hippe, and Dawna Yannacci.

installation of treatment systems. Additional professional services to investigate well water supply and quality issues is recommended as well as the completion of a Comprehensive Water Resources Management Plan.[1]

The State Water Plan is a management tool to guide in the conservation, development, and administration of the Commonwealth's water and related land resources. A goal of the plan with regard to water supply is adequate quantity and quality to meet short and long-term needs. The objective of that plan that is directly related and impacted by this Act 537 Plan Update is to protect public drinking water supplies from degradation of quality and reduction in yield. Proper operation and maintenance of on-lot disposal systems and enforcement of the municipal requirements of the sewage management ordinance is consistent with this objective. Connection to the public sewer system also serves to prevent degradation of the quality of public drinking water supplies.

G. Wetlands

Refer to National Wetlands Inventory Map (Figure 6).

To the extent possible, wetlands have been identified utilizing the National Wetlands Inventory Maps prepared by the United States Fish and Wildlife Service. While these maps do not provide a complete wetlands delineation, they are satisfactory for planning purposes. In areas where new sewage facilities are being considered, an actual Wetlands Delineation must be performed in field prior to final design.

Wetlands Identification

Symbol	Ecological System	Ecological Subsystem	Class	Subclass	Modifying Terms
PSS1	Palustrine		Scrub-Shrub	Broad-Leaved Deciduous	
PEM5C	Palustrine		Emergent	Phragmites australis	Seasonally Flooded
PUBHh	Palustrine		Unconsolidated Bottom		Permanently Flooded; Diked/Impounded
PUBFh	Palustrine		Unconsolidated Bottom		Semipermanently Flooded; Diked/Impounded
PFO1A	Palustrine		Forested	Broad-Leaved Deciduous	Temporary Flooded
PEM5A	Palustrine		Emergent	Phragmites australis	Temporary Flooded

[1] East Fallowfield Township. (2015). *Comprehensive Plan for East Fallowfield Township*. East Fallowfield, Pennsylvania: Ray Ott & Associates.

Symbol	Ecological System	Ecological Subsystem	Class	Subclass	Modifying Terms
PEM5E	Palustrine		Emergent	Phragmites australis	Seasonally Flooded/Saturated
PFO1C	Palustrine		Forested	Broad-Leaved Deciduous	Seasonally Flooded

III. EXISTING SEWAGE FACILITIES IN THE PLANNING AREA

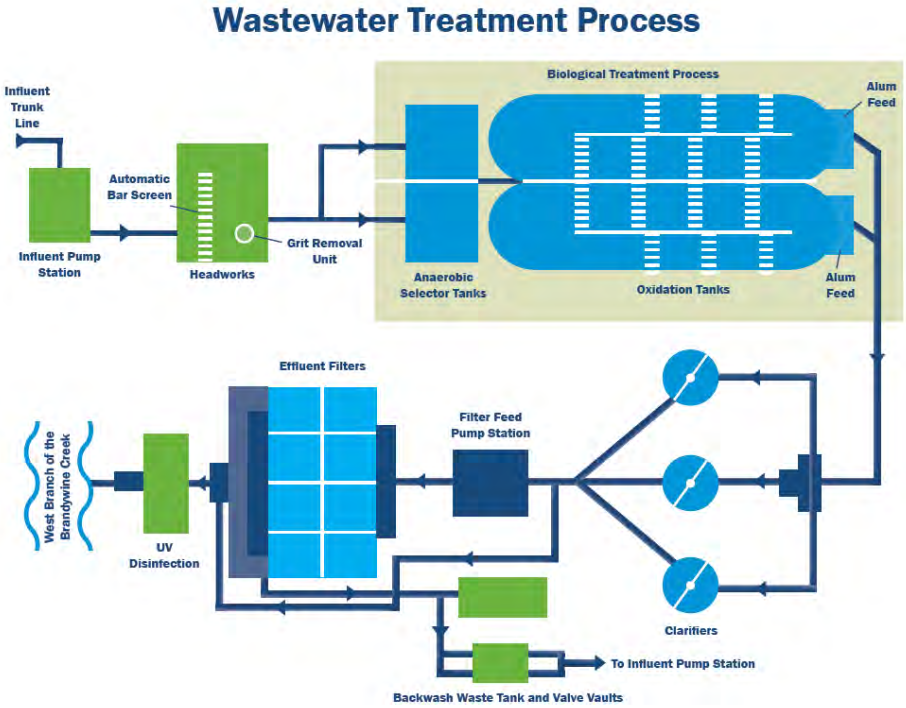
A. Identify and Describe Municipal Sewerage Systems in the Planning Area

1. Location, Size, and Ownership of Facilities

With the exception of On-Lot Sewage Disposal Systems the remainder of East Fallowfield Township is covered by public sanitary sewer. The public sanitary sewer is handled by the Pennsylvania American Water Company (PAWC) in the City of Coatesville and is ultimately conveyed to the Wastewater Treatment Plant owned and operated by PAWC located in the Borough of South Coatesville.

2. Narrative and Schematic Diagram of the Basic Treatment Process

The expanded PAWC Coatesville WWTP uses Oxidation Ditch with Activated Sludge treatment process[1] with discharge regulated under NPDES Permit No. PA0026859.



[1] PAWC Get to Know Us Fact Sheet, https://amwater.com/paaw/water-quality/wastewater-treatment

3. Description of Problems with the Existing Facility

Currently, there are no problems with the existing WWTP. PAWC continues to monitor and report on available capacity in the EETL and WETL. Portions of the sanitary sewer system continue to be repaired or upgraded to accommodate future flows.

4. On-Going Upgrades or Expansion of Facilities

The PAWC City of Coatesville WWTP was expanded to a capacity of 7.0 MGD in 2010 from the previous capacity of 3.85 MGD.

5. Operations and Maintenance Requirements for Small Flow Treatment Facilities and the Status of Past and Present Compliance

All On-Lot Sewage Disposal Systems (OLDS) are permitted by the Chester County Health Department (CCHD) and/or the PADEP. As such, all individual owners must abide by the limitations set forth within their permits. The only other sewage disposal means within East Fallowfield Township is public sewer which is owned and operated by the Pennsylvania American Water Company (PAWC).

The Chester County Health Department (CCHD) not only permits On-Lot Sewage Disposal Systems (OLDS), but also permits On-Lot Potable Water Wells. As such, they also monitor groundwater conditions via said wells.

6. Disposal Areas and Groundwater Limitations

All On-Lot Sewage Disposal Systems (OLDS) are permitted by the Chester County Health Department (CCHD) and/or the PADEP. The CCHD keeps record of nitrate levels in ground water wells. This is cross-referenced as applications for on-lot sewage disposal systems or planning modules are processed through the CCHD. When a well within $^{1}/_{4}$ mile of the property boundary has exceeded 5 mg/1 of nitrate as nitrogen, 50 EDU's or flows in excess of 10,000 gpd are proposed, or known geological conditions may contribute to pollution, a standard Preliminary Hydrogeologic Analysis is required. A sample of water is collected from a source of groundwater within the site boundaries if available and a recharge area is plotted through the area of the proposed septic system(s). A mass balance using the dilution area and nitrate concentration in the groundwater is conducted. The result will be a mixture of the concentration of nitrate in the groundwater and the concentration you are applying via the septic system. The mixed concentration must be less than 10 mg/1 to meet the EPA drinking water standards.

B. Individual and Community On-Lot Disposal Systems

DEP's publication titled *Sewage Disposal Needs Identification* was used to identify, map, and describe areas that utilize individual and community on-lot sewage disposal. The reported results of the sewage needs survey can be found in Appendix Q of this Plan.

C. Wastewater Sludge and Septage Generation

Private haulers are contracted by individual on-lot disposal system owners for sludge/septage removal. Haulers are required to be licensed by the Chester County Health Department and are required to dispose of sludge at an approved facility.

IV. FUTURE GROWTH AND LAND DEVELOPMENT

A. Municipal and County Planning

1. Land Use and Zoning

The Township currently has four (4) documents relating to planning which governs current land use and zoning within East Fallowfield Township.

a. 2015 Comprehensive Plan, East Fallowfield Township, Chester County, PA, 7/27/2015.

b. East Fallowfield Township Zoning Ordinance of 2002 (Chapter 27), as amended through Ordinance 2010-01, 3/23/2010.

c. East Fallowfield Township Subdivision and Land Development Ordinance of 1982 (Chapter 22), as amended through Ordinance 2010-01, 3/23/2010.

d. East Fallowfield Park Master Site Development Plan, 8/23/2004.

e. Newlinville Village Master Plan, East Fallowfield Township, Chester County, PA, 4/27/2021.

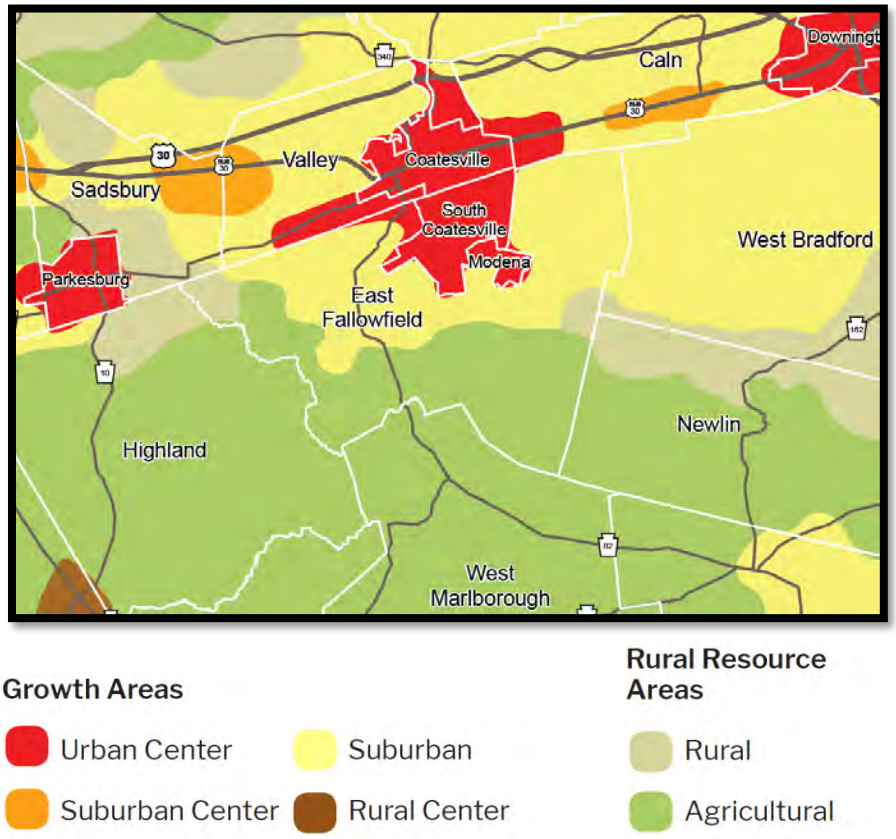
A Zoning Map has been included herein as Figure 2.

"Landscapes3, Chester County Comprehensive Plan" was adopted on November 29, 2018 superseding the previous plan "Landscapes2." "Landscapes3" provides guidance in six (6) goal areas of preserve, protect, appreciate, live, prosper, and connect. Of the six (6) goals the following have direct application to East Fallowfield Township and this Act 537 Plan Update:

a. Protect – Support Municipal On-lot Sewage Management Programs
b. Connect – Integrate Water, Sewer, and Land Use Planning

The above noted "Landscapes3" goals are used as a tool to aid municipalities within Chester County in establishing prudent and responsible growth boundaries consistent with the structure of the Township's Comprehensive Plan being a fluid document in directing future Township growth and growth patterns. In coordinating planning of sewer, "Landscapes3" recommends that "extension of sewer or water service outside of the growth areas should be avoided except where needed to address health or safety concerns."

In addition, "Landscapes3" refined the "Landscapes Map." The updated "Landscapes Map" depicts two (2) Growth Areas within the Township. The northwestern, northeastern, and central portions of the Township are classified as "Suburban" Growth Areas and areas immediately surrounding the Boroughs of South Coatesville and Modena are classified as "Urban" Growth Areas. The remainder of the Township falls within the "Rural Resource Area" of Landscapes3, which is comprised of "Rural" and "Agricultural" Areas. The west central and east central portions of the Township are classified as "Rural" with "Agricultural" making up the remainder of the central and southern portions of the Township. "Landscapes 3" was adopted by the Board of County Commissioners of Chester County on November 29, 2018 replacing "Landscapes 2" as the County's Comprehensive Plan.



Livable Landscapes Map[1]

[1] "Landscapes3, Chester County Comprehensive Plan," prepared by the Chester County Planning Commission and adopted by the Board of County Commissioners on November 29, 2018. "Livable Landscapes Map," page 30.

Planning principles are outlined for all Growth Areas and Rural Resource Areas. Suburban, Rural, and Agricultural landscapes, which comprise most of East Fallowfield Township are of particular importance. Within the Suburban landscape, "planned extension of sewer and water infrastructure for new development that does not leapfrog greenfield sites" is recommended. Within the Rural landscape, "very limited public or community sewer and water service to serve cluster development or concentrations of failing on-lot sewage systems; otherwise, on-lot sewage systems and individual wells" is recommended. Within the Agricultural landscape, "On-lot sewage disposal and individual wells, except where public health requires alternatives" is recommended.

2. Zoning or Subdivision Regulations that Establish Lot Sizes predicated on Sewage Disposal Methods

Zoning District		Minimum Lot Area (Acres)
RA	Rural Agricultural District	20.0 Agricultural Uses 1.0 Residential Uses (2 max.)
R-1*	Low Density Residential District	2.0 Single-family Detached Dwelling 20.0 Golf Courses and Private Recreational Clubs 5.0 All other Public and Private Recreational Uses 2.0 All other Uses Permitted by Right, Special Exception, or Conditional Use
R-2*	Medium Density Residential District	1.0 Single-family Detached Dwelling 20.0 Golf Courses and Private Recreational Clubs 5.0 All other Public and Private Recreational Uses 2.0 All other Permitted Non-Residential Uses
R-3*	High Density Residential District	29,000 s.f. Single-family Detached Dwellings 40,000 s.f. Two-family Dwellings 2.0 DU/Ac. Max. Gross Density Townhouses and Multi-family Units 1.0 Ac. All other Permitted Uses
PF	Public Facilities District	None Individual Establishments **served by <u>Both</u> Public Water and Sewer** 1.0 Individual Establishments not served by <u>Both</u> Public Water and Sewer
MH	Mobile Home Park District	Within a Mobile Home Park: 10.0 Ac. Contiguous Tract Area 9,000 s.f. per Mobile Home Lot 5 Units per Gross Acre **with Public Water and Public Sewer** or where On-lot Sewage Disposal and Water the

Zoning District	Minimum Lot Area (Acres)
	Density provisions of R-2 Medium Density Residential District shall be applicable 5.0 Ac. Contiguous Area for Addition to Existing Mobile Home Park Not within a Mobile Home Park: 30,000 s.f. Individually Owned Mobile Home Lot All other Permitted Residential Uses shall be in accordance with Minimum Required Lot Areas of the R-3 High Density Residential District
VC Village Commercial District	Single Use on a Lot: 40,000 s.f. When Served by Individual On-lot Sewer and Water Systems More than one (1) Use on a Lot: 20,000 s.f. Minimum Additional Area per Additional Use on the Lot when Served by Individual On-lot Sewer and Water Systems 3.0 Establishments per Acre Maximum Density for uses or establishments in the same building **when Served by Either Community or Public Sewage Systems**
O-I Office Industrial District	1.0 Municipal Uses 5.0 Nursing Home, Mini-warehouse, or Recycling Center 10.0 Hospital or Medical Center 25.0 Industrial or Office Park (Tract Size) Avg. Area of Individual Lots w/in Park shall be 3.0 Ac. Min., but no Individual Lot shall be less than 1.0 Ac. 25.0 Junkyard or Salvage Yard 100.0 Sanitary Landfill 3.0 All other Permitted Uses
MU Multi-use District	1.0
Open Space Design Option	
Natural Resources Protection Standards	
Hydric Soils	
Prime Agricultural Soils	
Flood Hazard District	

* **Sewage and Water Requirements**: Development within areas of this District where both community/public water and sewer services are not available shall conform to lot and yard requirements of the R-2 Medium Density Residential District.

** The Open Space Design Option is permitted by Conditional Use and is subject to various density and tract coverage provisions as well as open space requirements. Minimum lot sizes are permitted as follows:

Where individual residential lots are established, no individual lot shall be less than 8,000 square feet in area for single-family detached dwelling units nor less than 5,000 square feet in area for each individual dwelling unit within a two-family structure, nor less than 2,500 square feet for each individual dwelling unit within any multifamily structure.

Within an age-restricted community, where individual residential lots are established, no individual lot shall be less than 5,000 square feet in area for single-family detached dwelling units nor less than 3,000 square feet in area for each individual dwelling unit within a two-family structure, nor less than 2,000 square feet for each single-family attached dwelling unit.

3. Limitation and Plans Related to Floodplain, Stormwater Management, & Special Protection Areas

Natural Resources Protection Standards (Part 14) and a Flood Hazard District (Part 15) are included in the Zoning Ordinance as identified in the preceding section. In addition, Chapter 8 of the East Fallowfield Township Code is the Township's "Floodplain Management" Ordinance. Chapter 23 of the East Fallowfield Township Code of Ordinances is the "East Fallowfield Township Stormwater Management Ordinance."

B. Delineation and Description through Map, Text, and Analysis

1. Areas with Existing Development or Plotted Subdivisions

Figure 4 shows the location of proposed and existing development within the planning area. These subdivisions (and land developments) include:

a. Mendenhall Tract
b. Ridgecrest
c. Coatesville Area School District (South Brandywine Middle School)
d. Scott Farm
e. Etteleson Development
f. Bonsall Farm
g. Bawa Muhaiyaddeen Fellowship
h. Sisk Farm
i. PECO Property

2. Land Use Designations

Land use in East Fallowfield Township is governed by the Township's Subdivision and Land Development Ordinance as well as the Township's Zoning Ordinance. Land use is given the following designations per the Zoning Ordinance:

RA	Rural Agricultural District
R-1	Low Density Residential District
R-2	Medium Density Residential District
R-3	High Density Residential District
PF	Public Facilities District
MH	Mobile Home Park District
VC	Village Commercial District
O-I	Office Industrial District
MU	Multi-Use District

Refer to Section IV.A.2 of this Act 537 Plan for the minimum lot sizes associated with these zoning designations. Since the planning area is Township-wide, all of the zoning designations are included in the study.

3. Future Growth Areas, Population and EDU Projections

Within the planning area identified in this Act 537 Plan, there are areas that have existing development and areas that are planned for growth.

Table 1 lists the proposed development and the Equivalent Dwelling Units (EDUs) associated with the respective developments. Table 2 details the projected population increase based on the EDU projections.

Table 1
Projected Dwelling Unit Connections Per Year
(Based on active proposed subdivisions with current applications or approvals with the Township)

Subdivision	Year					Future
	2023	2024	2025	2026	2027	
Mendenhall Tract (Pelham Place/Fieldstone Village)	5	0	0	0	0	0
Ridgecrest	0	0	0	0	0	0
Coatesville Area School District (South Brandywine Middle School)	0	75	0	0	0	0
Scott Farm	0	0	0	0	0	75
Etteleson Development	0	0	0	0	0	32
Bonsall Farm	0	0	0	0	0	20

Table 2
Population Projections
(Based on active proposed subdivisions with current applications or approvals with the Township)

Subdivision	Year					Future
	2023	2024	2025	2026	2027	
Mendenhall Tract (Pelham Place/Fieldstone Village)	14	0	0	0	0	0
Ridgecrest	0	0	0	0	0	0
Coatesville Area School District (South Brandywine Middle School)	0	206	0	0	0	0
Scott Farm	0	0	0	0	0	206
Etteleson Development	0	0	0	0	0	88
Bonsall Farm	0	0	0	0	0	55

Per 2020 Census Data: 2.74 persons per dwelling

4. Regulations relating to Development, Use, and Protection of Land and Water Resources

East Fallowfield Township has established guidelines for development, use, and protection of land within the Township's boundaries. The guidelines are established in the Township's Comprehensive Plan (Chapter 2 – July 27, 2015) and the Subdivision and Land Development Ordinance.

The purpose set forth in the Ordinance, is as follows:

- To assist in the orderly, efficient, and integrated development of land in accordance with the Comprehensive Plan, East Fallowfield Zoning Ordinance (Chapter 27), and 537 Sewage Facilities Plan;

- To promote thereby the health, safety, and general welfare of the residents of the Township;

- To facilitate the safe and efficient movement of traffic and to assure that streets in and bordering a subdivision or land development shall be coordinated and of such widths and grades and in such locations as deemed necessary to accommodate prospective traffic and facilitate fire protection;

- To ensure coordination and conformance of subdivision and land development plans with the public improvement plans of the Township;

- To ensure equitable handling of all subdivision and land development plans by providing uniform standards and procedures to be followed;

- To ensure that land which is subject to environmental constraints such as floodplains and steep slopes shall be either made safe for the proposed use of land or shall be set aside for uses which shall not endanger life or property or further aggravate, disrupt, or increase the existing condition;

- To ensure sound community growth and the safeguarding of the interests of the homeowners, the subdivider, the investor, and the local government by assuring that streets shall be graded and improved, and walkways, curbs, gutters, streetlights, fire hydrants, water and sewage facilities, and other improvements shall be installed where appropriate, in an acceptable manner; and,

- To provide open spaces through the innovation in design and layout of the land.

5. Required Sewage Planning for 5 and 10-year Planning Periods

The following sections of this Act 537 Plan will examine the technical alternatives necessary to meet the sewage facilities needs of the Township over a 5 and 10-year planning period.

The means for serving the needs of the planning area will be dependent upon the technical alternative that is selected and the capacity of that alternative to satisfy the needs. The PAWC Coatesville WWTP has capacity to serve East Fallowfield Township's public sewer service need in both the 5 and 10-year planning horizons. Details regarding the calculations of the proposed sewage flow for the planning area are summarized in Appendix D.

Implementation of a Sewage Management Program provides a method of assuring proper operation and maintenance of sewage facilities within East Fallowfield Township, which is considered an adequate means of sewage disposal. This method can be implemented effectively over a 5 and 10-year planning timeframe.

In addition, construction and installation of Community Sewage System(s) and implementation of Holding Tanks for Commercial uses are analyzed as part of this Act 537 Plan Update.

V. ALTERNATIVES TO PROVIDE NEW OR IMPROVED WASTEWATER DISPOSAL FACILITIES

A. Conventional Collection, Conveyance, Treatment, and Discharge Alternatives

To provide new or improved wastewater disposal facilities to meet the needs of existing and proposed development, a number of alternatives are considered:

- Installation of a collection and conveyance system to convey wastewater to the PAWC conveyance system for ultimate treatment and disposal at the PAWC facility.

- Installation of a community sewage system with land-based effluent disposal or stream discharge. Community treatment processes include:
  - Nitrification/Denitrification Package Plant with BNR
  - Sequencing Batch Reactor Plant
  - Oxidation Ditch
  - Septic Tanks with Subsurface Disposal

  Effluent disposal methods include:
  - Drip Irrigation
  - Seepage Beds
  - Spray Irrigation
  - Stream Discharge

- Individual On-Lot Disposal Systems with Implementation of a Sewage Management Program

Of the above alternatives considered, the alternative examining discharge to the PAWC system warrants further consideration. Some infrastructure is already in place (refer to Section V.A.2) and the PAWC treatment facility is an established DEP-permitted facility with adequate capacity to serve immediate needs, as evidenced by the PAWC Connection Management Plan revised March 2022. In addition, the collection and conveyance system upgrades by PAWC, to their East End Trunk Line (EETL) and West End Trunk Line (WETL) will provide for adequate capacity as well.

For the installation of a community sewage system and effluent disposal, the nitrification/denitrification package plant with biological nutrient removal, as well as the SBR and oxidation ditch are all proven technologies and warrant consideration for treatment. However, from an effluent disposal perspective (for the community treatment system alternative), spray irrigation, drip irrigation, and seepage beds warrant further study. These types of facilities are in place in other parts of Chester County and are operating satisfactorily.

Previous planning requires land applications to be designed for twice the anticipated flow in addition to 100% replacement area.

1. Potential for Regional Wastewater Treatment

The PAWC owns and operates the former City of Coatesville wastewater treatment plant. Currently, this plant is located in the Borough of South Coatesville adjacent to the West Branch of the Brandywine Creek. In 2021, the average hydraulic loading was 3.294 million gallons per day (MGD). Effluent is discharged to the West Branch of the Brandywine Creek under NPDES Permit Number PA0026859. The WWTP was upgraded to a design flow of 7.0 MGD.

During 2021, East Fallowfield Township discharged an average daily flow of 149,955 gallons per day (GPD). This flow originates from users in the northwest corner and northeast corner of the Township. Wastewater is collected and conveyed by a series of gravity mains, pump stations, and force mains that discharge to other portions of the PAWC public sewer system in Valley Township and the City of Coatesville. One portion of the PAWC public sewer within East Fallowfield Township discharges to the Valley Township sanitary sewer system on Mount Carmel Road. See Figure 8 – East Fallowfield Sewer Map. PAWC allocates 269,107 gpd of flow to East Fallowfield Township at the Coatesville WWTP. East Fallowfield Township is currently using about half of that allocated flow.

2. Extension of Existing Municipal or Non-Municipal Sewage Facilities to Areas in Need

Extension of public sewer to areas in need that are adjacent to or in close proximity to the existing sanitary sewer service area is a viable alternative that is evaluated in this study.

3. Potential for Continued Use of Existing Municipal or Non-Municipal Sewage Facilities

The existing sanitary sewer system within East Fallowfield Township is anticipated to continue to serve the respective service areas currently in place. There is also the possibility to accommodate flow from areas to which sewer is extended from the existing network of sewer currently in place. There are currently no municipally owned and/or operated sewage facilities within the Township.

4. Repair and Replacement of Existing Collection and Conveyance System Components

As stated in Part A.1. of this section, there are wastewater collection and conveyance facilities located in the northwestern and northeastern portions of the Township that collect and convey wastewater to the PAWC system at the City of Coatesville. The overall system is in good condition. There are currently no municipally owned and/or operated sewage facilities within the Township.

5. Need for Construction of New Community Sewage Systems

New Community Sewage Systems warrant consideration due to the rural nature of the Township. There are several areas that, because of the density of development, lot size, topography, and location, will be difficult to service cost effectively by any means other than individual OLDS.

6. Innovative/Alternative Methods of Collection/Conveyance to Serve Needs Areas Using Existing Wastewater Treatment Facilities

The PAWC WWTP, as previously mentioned, has already completed a plant expansion project to provide for more capacity for the surrounding municipalities, including East Fallowfield Township. This discussion is not applicable to municipal or community sewage disposal systems since there are currently none in the Township.

B. Use of Individual Sewage Disposal Systems

With the investigation of the public or community sewerage system options, individual on-lot disposal systems will be considered for this Act 537 Plan Update for areas not located within reasonable proximity to existing or future anticipated public sewer areas. In addition, other factors that were considered in evaluating whether individual OLDS are the selected alternative are soils suitability, topography, and economic viability of community and/or public sewer.

1. Soil and Slope Suitability

Refer to Section II.C, the Soils Map in Figure 9, and Soil Suitability for On-site Sewage Disposal Map in Figures 10a, b, c, & d.

2. Preliminary Hydrogeologic Evaluation

Refer to Section III.A.6.

3. Establishment of a Sewage Management Program (SMP)

Refer to Section F.

4. Repair, Replacement or Upgrading of Existing Malfunctioning Systems in Areas Suitable for OLDS

a. Existing Technology and Sizing Requirements

The Chester County Health Department (CCHD) is the local agency responsible for OLDS permitting for all municipalities in Chester County. The CCHD relies on provisions in 25 Pa. Code Chapter 73, Standards for On-lot Sewage Treatment Facilities with regard to general site location, absorption area requirements, and other sizing requirements.

b. Use of Expanded or Alternating Absorption Areas

Refer to section V.B.4.a above.

c. Use of Water Conservation Devices

Use of water conservation devices may be a condition of a permit for a repair, replacement, or upgrade of an existing malfunctioning OLDS, which would be reviewed and issued by the CCHD as the local agency responsible for OLDS permitting. There is no current regulation in the East Fallowfield Township Code with regard to water conservation devices. Water conservation provisions are to be adopted by the Township as part of a SMP Ordinance in connection with this Plan Update.

C. Small Flow Sewage Treatment Facilities

Refer to the discussion and text in Section V.A.5 above. Small flow treatment facilities require adequate operation and maintenance to prevent the creation of environmental problems or public health hazards associated with improperly treated sewage. This requires the control of small flow treatment facilities through specific restrictions on their use. This section assesses the use of a small flow sewage treatment facility and land treatment to serve as a replacement or repair system to abate an existing nuisance or public health hazards. They may also be used as a system to serve residential dwellings or commercial facilities, which generate domestic wastewater not containing industrial waste.

1. Treatment and Discharge Requirements

Small flow treatment facilities and their appurtenances shall meet applicable design, installation, operation and other standards established for small flow treatment facilities by the Department of Environmental Protection under sections 202 and 207 of The Clean Streams Law (35 P. S. §§ 691.202 and 691.207) and shall obtain a Clean Streams Law permit and if there is a discharge to surface water, a National Pollutant Discharge Elimination System (NPDES) permit, prior to construction and operation.

2. Soil Suitability

Refer to Section II.C, the Soils Map in Figure 9, and Soil Suitability for On-site Sewage Disposal Map in Figures 10a, b, c, & d. This alternative is only permitted when documentation is provided that soils are not suitable for the installation of individual or community on-lot sewage disposal systems or there is insufficient room to meet minimum isolation distances for installation of new or expansion of individual or community on-lot sewage disposal systems.

3. Preliminary Hydrogeologic Evaluation

Refer to Section III.A.6. For small flow treatment facilities this is applicable when the facility will use land disposal or a dry stream channel discharge for final disposal.

4. Municipality, Local Agency, or other controls over O&M Requirements through a SMP

Refer to Section F. O&M provisions related to small flow treatment facilities should be added to the Township's SMP. In addition to any requirements within the Township's SMP the CCHD and/or the PADEP may have additional O&M requirements.

D. Community Land Disposal

Refer to Section V.A.5. With the investigation of the public sewerage system option and the individual on-lot disposal system option, community sewerage systems will be considered for this Act 537 Plan Update for areas not located within reasonable proximity to existing or future anticipated public sewer areas. In addition, other factors that were considered in evaluating whether community systems are the selected alternative are soils suitability, topography, and economic viability.

1. Soil and Site Suitability

Refer to Section II.C, the Soils Map in Figure 9, and Soil Suitability for On-site Sewage Disposal Map in Figures 10a, b, c, & d.

2. Preliminary Hydrogeologic Evaluation

Refer to Section III.A.6.

3. Municipality, Local Agency, or other controls over O&M Requirements through a SMP

Refer to Section F.

4. Rehabilitation or Replacement of Existing Malfunctioning Community Land Disposal Systems

See Section V.B.4.a-c above.

E. Retaining/Holding Tank

Since Retaining/Holding tanks are designed and constructed to facilitate ultimate disposal of sewage at another site, specific restrictions on their use is warranted. Holding tanks require regular service and maintenance to prevent malfunction and overflow.

1. Commercial, Residential, and Industrial Use

Given consideration for implementation of either the PAWC option or the community-based treatment option, a "pump and haul" program would be considered as a temporary means of sewage disposal until the primary means of wastewater disposal is complete and functional. Holding tanks on a permanent basis would be considered for a commercial development using less than 800 gallons per day that is not in close proximity to public sewer and the use of land application is precluded by soil suitability and available land. Holding tanks will also be considered when the use is necessary to abate a nuisance or public health hazard.

2. Designated Conveyance Facilities (Pumper Trucks)

Pumpers must be registered with the CCHD and dispose of sewage at an approved facility.

3. Designated Treatment Facilities or Disposal Site

See V.E.2 above.

4. Implementation of a Retaining Tank Ordinance by the Municipality

East Fallowfield Township currently does not have a Holding Tank Ordinance. A draft Holding Tank Ordinance is included in Appendix I for adoption by the Township.

5. Financial Guarantees when Retaining Tanks are used as an Interim Sewage Disposal Measure

Requirements for O&M Agreements including Financial Guarantees are included within the draft Holding Tank Ordinance.

F. Septage Management Programs (SMPs) to Assure Future Operation and Maintenance (O&M) of Existing and Proposed Sewage Facilities

Currently, Chapter 18A of the Township Code regulates Individual On-lot (Part 1) and Community Sewer Systems (Part 2) but does not include regulations for a Septage Management Program. The 1972 Act 537 Plan contemplated a SMP. However, the Township has not implemented an "On-lot Management Program" or SMP as recommended in the 1972 Plan. Implementation of a SMP shall be addressed as part of implementation of this Plan.

1. Municipal Ownership or Control over O&M

The Township is evaluating using current staff, code enforcement consultant, or seeking third party agency assistance in administrating the SMP. In addition, an application is being developed in cooperation with the Chester County Health Department to streamline the reporting process. The application will be available for pumpers/system inspectors to download to a smartphone or tablet. The app will be linked to Chester County GIS information. When visiting a property, GPS coordinates will allow the app to auto populate the property owner information (owner names, property address, lot size, etc.). The app will also contain questions for the pumper/inspector to answer related to the type and condition of the on-lot system servicing the property. The answers to the questions will create a score, which will categorize the condition of the on-lot system enabling municipalities to quickly and efficiently see which properties are in compliance with the reporting requirements of the SMP as well as which on-lot systems may warrant additional maintenance, investigation, or enforcement action. The application is still under development but if it becomes

available in cooperation with the Chester County Health Department it would be the selected alternative for implementation as part of East Fallowfield Township's SMP.

2. Required Inspection of Sewage Disposal Systems

An initial inspection is required to be completed by a qualified professional (Professional Engineer, Pennsylvania Septage Management Association (PSMA) certified inspector, Sewage Enforcement Officer, etc.) at the onset of the SMP. The standard PSMA inspection form shall be completed for each OLDS to ensure consistency of inspections. Inspections shall also be completed after every other pumping cycle.

3. Required Maintenance of Sewage Disposal Systems

The SMP requires septic tanks to be pumped initially and at least once every three (3) years. Receipts from the licensed pumper/hauler shall be submitted to the Township prior to the end of the respective SMP cycle. Any other system than a standard OLDS, which has specific O&M requirements, shall be completed in accordance with the requirements and schedules related to each respective system. The O&M requirements shall be provided to the Township along with any required maintenance contracts or agreements between the owner of the system and the maintenance contractor.

4. Repair, Replacement, or Upgrading of Malfunctioning On-lot Sewage Systems

a. Aggressive Pro-Active Enforcement

In accordance with the SMP, a written notice of violation (NOV) will be issued to any property owner which is found to be served by a malfunctioning on-lot sewage disposal system or which is discharging sewage without a permit. Within seven (7) days of the NOV, the property owner shall make application for a permit to repair or replace the malfunctioning system. Within 30 days of initial notification by the Township, construction of the permitted repair or replacement shall commence. Within 60 days of the original notification by the Township, the construction shall be completed unless seasonal or unique conditions mandate a longer period, in which case the Township shall set an extended completion date. In addition, if an imminent health hazard exists due to failure of the property owner to respond to the NOV, there are provisions in the SMP giving the Township authority to complete the repair or replacement and charge the property owner for the work performed and, if necessary, file a lien on the property.

There are also provisions for fines and jail time to address extreme cases of negligence.

b. Public Education Programs regarding proper O&M and Repair of Sewage Disposal Systems

"On-lot Sewage Systems, 'An Owner's Manual'" created by the CCHD will be provided by the Township as part of information packets to be included with the notices to property owners that the SMP is being implemented. In addition, information will be posted on the Township website and included in the Township newsletter.

5. Establishment of Joint Municipal SMPs

There appeared to be the possibility to partner with the CCHD through its pumping program since the CCHD is the permitting agency for OLDS for every municipality in Chester County. However, there have been challenges with collection of data from pumpers and dissemination of information to the municipalities. In addition, the need and scope of SMPs vary greatly by municipality making it difficult to create an across-the-board SMP at the County or Joint Municipal level. Therefore, East Fallowfield Township is committed to implementing the SMP that it feels to be appropriate for its property owners.

6. Requirements for Bonding, Escrow Accounts, Management Agencies or Associations to Assure O&M for Non-Municipal Facilities

According to Pa Code, Title 25, Chapter 71.71 "municipalities are required to assure the proper operation and maintenance of sewage facilities within their borders. As part of the Sewage Management Program, East Fallowfield Township is requiring property owners to provide information regarding pumping and maintenance of their on-lot systems. As part of compliance with the SMP property owners are required to pay a fee to offset the cost of administering the program as well as any enforcement actions that are necessary. The Township also has the ability to lien a property for non-compliance as well as to conduct the necessary maintenance and inspections and has the ability to assess the costs of such actions to the property owner.

G. Non-Structural Comprehensive Planning Alternatives

The Township Comprehensive Plan was updated July 27, 2015. From a comprehensive planning perspective, the updated Plan places more emphasis on utilizing groundwater recharge via the most current stormwater management practices. This places less emphasis on implementation of land application of wastewater effluent for ground water recharge. Non-structural comprehensive planning alternatives shall not be addressed as part of this Act 537 Plan Update. Refer to Appendix I for current ordinances related to on-site sewage maintenance.

1. Modifications of Existing Comprehensive Plans

a. Land Use Designations

Strasburg Road generally bisects the Township in an east-west direction. The current 2015 Comprehensive Plan generally designates Future Land Use for lands south of Strasburg Road for Residential Infill (RI), Agricultural Preservation (AP), and Conservation Easement Areas (CA) with some Village Development (V) interspersed. This is consistent with the recommendation in the Comprehensive Plan to keep public water and sanitary sewer facilities to generally areas north of Strasburg Road and the South Brandywine Middle School property unless necessary to protect public health and safety.

b. Densities

In general lands situated north of Strasburg Road are or will be developed at a higher density than lands south. Residential Development (RD), Residential Infill (RI), and Mixed Use (MU) are generally designated north of Strasburg Road. The density of the RD is about 0.5 dwelling units per acre, RI is about 0.75 dwelling units per acre, and MU is designated for non-residential growth areas.

In contrast, the density of the AP is 0.1 dwelling units per acre and CA is “no development.” However, it should be noted that the existing Villages are estimated to have a density of 2 dwelling units per acre. All of one (1) and portions of two (2) other Villages are situated south of Strasburg Road.

c. Municipal Ordinances and Regulations

Refer to Section IV.A of this Act 537 Plan Update for discussion of Municipal Ordinances and Regulations. The Township’s Zoning Map is generally consistent with the Land

Uses identified in its 2015 Comprehensive Plan. Therefore, no changes are anticipated.

d. Improved Enforcement

Implementation of a SMP for properties with OLDS and adoption of an ordinance to effectuate the program, which includes enforcement actions, will improve the Township's ability to get corrected OLDS with problems.

e. Protection of Drinking Water Sources

There are no public drinking water sources within East Fallowfield Township. However, implementation of a SMP will reduce and/or eliminate sources of contamination to groundwater and surface waters from failing OLDS.

2. Local Comprehensive Plan assisting in producing Sound Economic and Consistent Land Development

As previously mentioned, the Township updated its Comprehensive Plan in 2015. See previous section for discussion of the 2015 Comprehensive Plan as it relates to Land Use and sewage facilities.

3. Alternatives for Creating or Changing Municipal Subdivision Regulations to Assure Long-Term Use of On-Site Sewage Disposal

The Township should continue to monitor its ordinance requirements as they relate to sewage disposal and make adjustments as the need arises.

4. Evaluation of Existing Local Agency Programs

The Township should consider partnering with the Chester County Health Department with regard to implementation of its SMP. If the Township moves forward with implementation of the SMP in-house, additional staffing, resources and training will be necessary to properly implement the SMP.

H. No Action Alternative

1. Water Quality and Public Health

If a wastewater collection and conveyance system is not implemented and wastewater treatment and disposal is not available, water quality and public health may be impacted. No public sewer systems would

be constructed and there would be no means of addressing potential future failures or current failures of existing on-lot disposal systems. Not implementing a SMP would not ensure that proper Operation and Maintenance of individual OLDS is being done. In addition, the Township would not have the opportunity to gather information and monitor the condition of OLDS, not only on an individual basis, but evaluating whether there are areas of the Township where OLDS issues are clustered indicating a greater need for adequate sewage disposal.

2. Growth Potential

The potential for growth in the planning area would be impacted by a no action alternative. All proposed subdivisions may not go forward if wastewater collection, conveyance, and treatment are not available.

3. Community and Economic Conditions

With no-action to provide any means for collection, conveyance, and treatment of wastewater, development may not go forward. Consequently, future connections would be limited, thus restricting growth that might otherwise supplement the Township tax base.

4. Recreational Opportunities

A no action alternative would not impact recreational opportunities.

5. Drinking Water Sources

If the proposed collection, conveyance, and treatment system is not constructed, there will be no direct impact on drinking water sources. With the on-lot sewage disposal system alternative as the selected alternative in the majority of the areas in this plan, implementation of a SMP is critical for protection of drinking water sources as many of the properties with on-lot disposal systems also have on-site private wells for water service. If the SMP is not enforced, then drinking water sources have a greater potential to be impacted.

6. Other Environmental Issues

If the proposed collection, conveyance, and treatment system is not constructed, there will be potential for pollution of local streams due to continued malfunctioning of “on-site” disposal systems. Potential pollution may also be tempered somewhat by implementation of an “on-lot” sewage operation and maintenance program.

VI. EVALUATION OF ALTERNATIVES

For the PAWC Alternative and/or the community treatment alternative, consistency was evaluated based on each of the following:

A. Consistency Determination

1. Clean Streams Law

The construction of a sanitary sewer collection, conveyance and treatment system for the Planning area does not conflict with the Clean Stream Law. Flow generated by the planning area will ultimately be treated at the PAWC's wastewater treatment plant, community wastewater treatment plant, and disposed of in accordance with requirements and limits set forth by PADEP.

2. Municipal Wasteload Management – Chapter 94 Report

The PAWC 2021 Chapter 94 Report information will account for the potential development in the planning area over the next five years. The flow projections contained therein will be provided to PAWC for consistency with their Connection Management Plan and Chapter 94 reports. The Connection Management Plan, prepared by PAWC and approved by PA DEP as well as the PAWC 2021 Chapter 94 Report, does indeed reflect adequate capacity to serve immediate and future needs of the planning area.

3. Clean Water Act (Title II)

This Act and the Federal Water Quality Act establish specific planning requirements for wastewater facilities planning. These requirements only apply to municipalities intending to apply for financial assistance from the Federal Government for the construction of sewage facilities. The funding of the construction of the alternatives would be through financial contributions by developers and the Township. Each alternative is therefore consistent with these criteria.

4. Comprehensive Plans

The Chester County Planning Commission (CCPC) Comprehensive Plan, entitled Landscapes 3" was adopted by the Board of County Commissioners of Chester County on November 29, 2018 replacing "Landscapes 2" as the County's Comprehensive Plan. Landscapes 3 encourages municipalities to enforce Act 537 plans and limit public sewer infrastructure outside of designated service and growth areas. The objective of Landscapes 3 with regard to Wastewater and Water Facilities is to promote the integration of local, state, and regional

planning efforts with those of utility providers, water supply, and wastewater facility plans in order to provide a safe, sustainable drinking water supply and protect ground water and other natural resources. The alternatives to provide sanitary sewer service to any proposed development in the planning area is consistent with the implementation strategy, policies and goals of the current Landscapes 3 as shown on the Livable Landscapes Map in Section IV.A.1 of this Act 537 Plan. In addition, implementation of continued individual on-lot sewage disposal with implementation of a Septage Management Program is consistent with the goal of providing a sustainable drinking water supply.

The East Fallowfield Comprehensive Plan, dated 2015, identifies as a goal to "provide community facilities and services to meet current and future residential and business requirements in the Township," among which is "public water and sewer service." Although the implementation of a community sewage system does provide for the opportunity for groundwater recharge, the Township will look favorably upon other waste disposal alternatives given the implementation of recent stormwater management practices, which require infiltration. In addition, implementation of continued individual on-lot sewage disposal with enforcement of a Sewage Management Ordinance is consistent with the goal of meeting the need for adequate sewage disposal, currently and into the future.

5. Anti-degradation Requirements Contained in Chapters 93, 95 and 102 of the Clean Water Act

Implementation of any of the alternatives for this Plan will not impact the anti-degradation requirements contained in Chapters 93, 95, 102 of the Clean Water Act.

6. State Water Plans

For the alternatives considered in this Act 537 Plan Update, there are no anticipated conflicts with the State Water Plan.

7. Pennsylvania's Prime Agricultural Land Policy

East Fallowfield Township is committed to protecting prime agricultural land within the Township's boundaries. The Township's Comprehensive Plan and Zoning Ordinance are written such that Agricultural and Conservation/Recreation Zones are protected. For the planning area in this Act 537 Plan Update, the Township's Zoning Ordinance and Comprehensive Plan give the land area a rural residential, residential, and a rural mixed-use designation. The development of this land is consistent with its land use designation.

The Chester County Department of Open Space Preservation *Chester County Agricultural Easements Completed as of April 16, 2019* map and chart indicate that eleven parcels totaling 306 Acres within East Fallowfield Township are under an Agricultural Conservation Easement.

8. County Stormwater Management Plan

The Chester County Board of Commissioners adopted the water resources element of Landscapes entitled "*Watersheds*" in September 2002. A Watershed Action Plan has been developed for the Brandywine Creek Watershed. East Fallowfield Township has been identified as part of this watershed. Stormwater management planning is a part of the *Watershed's* program. From a consistency perspective, it appears that the plan to provide sewer service to potential development is consistent with a stormwater management plan. Stormwater management does not regulate the development - it simply regulates how the stormwater will be managed.

The Chester County Water Resources Authority (CCWRA) has developed a County-wide PA Act 167 stormwater management plan based on *Watersheds*. CCWRA has collected extensive feedback from municipalities through meetings and municipal questionnaires. The response from municipalities regarding the concept of a county-wide approach to the PA Act 167 was favorable. The Chester County Board of Commissioners, as well as the PADEP approved the draft Model Ordinance and all municipalities in Chester County were required to adopt the plan by January 2, 2014.

A County-wide PA Act 167 Plan Model Ordinance Update is currently proposed. PA DEP approved the Ordinance in November 2022, and all municipalities should have updated their ordinances by May 31, 2023. East Fallowfield Township adopted the “East Fallowfield Township Stormwater Management Ordinance No. 2022-03” consistent with the County-Wide Act 167 Stormwater Management Plan for Chester County, PA on October 11, 2022. The Ordinance Update will help reduce future flooding impacts and improve and protect water quality of the County's streams as well as promote groundwater recharge. It will also assist municipalities in addressing stormwater management needs and certain NPDES MS4 requirements. This Plan is consistent with the County-wide Act 167 Plan.

9. Wetlands Protection

As referenced in Section II.G of this Plan, the only wetlands within the planning area (as identified on the national Wetlands Inventory Map) are relatively limited. It is anticipated that development within the

planning area will not adversely impact these wetlands. As projects develop which involve extension of public sewer infrastructure, more detailed wetlands investigations will be conducted as part of those respective projects. Refer to the Wetlands Mapping found on Figure 6.

10. Protection of Rare, Endangered, or Threatened Plant and Animal Species (PNDI)

As a large project, A Large Project Pennsylvania National Diversity Inventory (PNDI) search was completed for the study area as a whole See Appendix E. A PNDI search will need to be completed for each proposed improvement project to the public sewer collection and conveyance system identified in this Act 537 Plan Update.

11. Historic and Archaeological Resource Protection

The Pennsylvania Historic and Museum Commission (PHMC) has been contacted to determine if there are any potential conflicts with the primary development sites. All potential concerns regarding these sites have been resolved. A PHMC review for the proposed sewerage facilities has been completed. The results of the PHMC's review for the proposed sewerage facilities can be found in Appendix F.

B. Resolution of Inconsistencies

Refer to Items 1 through 11 of the preceding section and the referenced Appendices for evidence of resolutions of inconsistencies.

C. Alternative Evaluation with Respect to Applicable Water Quality Standards and Effluent Limitations

For the areas in which the selected alternative is to provide a public sanitary sewer collection and conveyance system, that alternative will not impact water quality standards or effluent limitation. Wastewater will be discharged to either the existing public collection and conveyance system or the proposed community collection, conveyance, and treatment system that is consistent with applicable requirements. Ultimately, wastewater will be treated at the PAWC WWTP.

For the areas where the selected alternative is On-lot Sewage Disposal System (OLDS) with enforcement of the Township’s SMP the effects on water quality through disposal of effluent is predominantly addressed through permitting of an OLDS or replacement OLDS through the Chester County Health Department (CCHD). The CCHD keeps record of nitrate levels in ground

water wells. This is cross-referenced as applications for on-lot sewage disposal systems or planning modules are processed through the CCHD. When a well within 1/4 mile of the property boundary has exceeded 5 mg/1 of nitrate as nitrogen, 50 EDU's or flows in excess of 10,000 gpd are proposed, or known geological conditions may contribute to pollution, a standard Preliminary Hydrogeologic Analysis is required. A sample of water is collected from a source of groundwater within your site boundaries if available and a recharge area is plotted through the area of the proposed septic system(s). A mass balance using the dilution area and nitrate concentration in the groundwater is conducted. The result will be a mixture of the concentration of nitrate in the groundwater and the concentration you are applying via the septic system. The mixed concentration must be less than 10 mg/1 to meet the EPA drinking water standards.

D. Preliminary Cost Opinions

Preliminary cost opinions were developed for the public sewer and community on-lot disposal alternatives discussed in Section V. These cost opinions are summarized in Appendix H along with supporting concept plans.

In evaluating the estimated costs for alternative community on-lot systems, there were two types of systems that had been considered for comparison to the PAWC Alternative. As a result of soil limitations, one alternative system considered was a Drip Dispersion System, more commonly identified as “Drip Irrigation.” This option, if chosen, would be far more expensive than the PAWC Alternative. Not only would it require more land area to fully operate, but it would utilize many more materials and resources for the construction and operation of the wastewater treatment facility needed to treat and dispose of the expected volume of effluent. In addition, the second alternative option considered was an In-Ground Trench System. This option, if chosen, would also be more expensive than the PAWC Alternative due to the land requirements and resource components that contribute to constructing and operating the facilities. The cost per EDU is significantly higher in each case where the alternative community on-lot option would be used (both Drip Dispersion and In-Ground Trench). It is more economical to choose the PAWC Alternative in each case. There is clear indication that the two alternative systems would be unnecessary to implement in the township due to their excessive cost.

1. PAWC Alternative

Construction of a wastewater collection and conveyance system network to serve new and existing developments would convey wastewater to the PA-American Water Company's wastewater treatment plant in the Borough of South Coatesville. Costs for such a

system will be paid for by private funding as the need arises for future development or on a case-by-case basis as funding is available.

2. Community Treatment System with Sewage Management Plan Alternative

New community wastewater collection, conveyance, treatment, and disposal system. Costs for such a system will be paid for by private funding as the need arises for future development. If the Township were to implement this alternative, it would incur greater cost than the public sewer alternative and would also be burdened with land acquisition suitable for this type of system. Two alternatives for community on-lot systems were compared to the PAWC Alternative in three separate areas in East Fallowfield Township. The first area where they were evaluated was the Stottsville Area (Northwest corner of township along the Strasburg Road Corridor). This section is planned to service 32 units at a total of 12,800 gpd. In this area, both Drip Dispersion and In-Ground Trench would require an area of land to be purchased where there exists a densely wooded area. The wooded area is where the facilities for both systems would have to be located due to the surrounding areas' soil limitations, thus creating an expenditure for tree excavation. As more components are included in planning and designing, it becomes apparent that the selection for community on-lot alternatives in this area (Stottsville) is not the most cost effective. The second area where they were evaluated was the Mount Carmel Area (Northwest corner of township, 1 mile Eastbound from the Stottsville Area along the Strasburg Road Corridor). This section is planned to service 25 units at a total of 10,000 gpd. In this area, both systems would require land to be purchased in order to build the treatment facilities. The area to be purchased is an existing crop field, where there are no soil limitations for either alternative community on-lot system. It becomes apparent that the cost effectiveness is minimal when circumventing the PAWC Alternative and implementing the community on-lot systems in this instance. The third area in East Fallowfield Township where the two community on-lot systems were evaluated was the South Brandywine Middle School Area (1.25 miles Eastbound on the Strasburg Road Corridor from the Mount Carmel Area). This section is planned to service 96 units at a total of 31,950 gpd. In this area, both systems would require land acquisition, and tree excavation due to soil limitations in surrounding areas. The land to be purchased would be a densely wooded area, and an open field. The community on-lot system alternatives are not only exorbitant for this area, but also for the vast majority of East Fallowfield Township's areas of interest for future sanitary sewage proposals. For a more in depth understanding of pricing, please view the cost opinions in Appendix H.

3. On-lot Sewage Disposal System with Sewage Management Plan Alternative

This alternative consists of continued use or implementation of on-lot sewage disposal systems with enforcement of the Township's Sewage Management Ordinance. This alternative should be self-sustaining when considering the cost to the Township since a fee structure should be implemented to cover the costs of administration of the ordinance. Costs to the individual property owner with an OLDS will be affected by the costs of providing pumping and maintenance in accordance with the ordinance and possibly by the requirement to repair or replace their system. However, the long-term savings of extending the service life of the OLDS far outweighs the annual O&M costs.

E. Analysis of Available Funding Methods

Since no specific project is proposed regarding this update funding discussions are more general in nature. This section of the Plan addresses methods available for financing alternatives. Four (4) financing alternatives appear to be reasonable for future projects as the need arises.

1. Municipal Bond Issue

a. General

There are several types of bonds; some are taxable, and some are tax-exempt. However, the general classification of municipal bonds usually refers to tax-exempt bonds. There are three types of municipal bonds generally used in financing public works.

- *General Obligation Bonds* are tax-free bonds that are secured by the pledge of the full faith, credit, and taxing owner of the issuing agency. This means that this type of bond is backed by all of the taxes on real estates and personal property within the jurisdiction of the issuing agency. It involves minimum risk to the investor and therefore requires a lower rate of interest than other types of bonds.

- *Dedicated Tax Bonds* are payable only from the proceeds from a special tax and are not guaranteed by the full faith, credit, and taxing power of the issuing agency. Examples of special dedicated taxes are the special assessments against property, which is adjacent to, and the principal beneficiary of the improvement used to finance the project.

- *Revenue Bonds* are payable from revenues derived from the use of the improvement, sewer bills, or rents paid by the users of the improvement and do not otherwise represent an obligation of the issuing agency. Revenue bonds are typically self-liquidating and are not ordinarily subject to statutory or constitutional debt limitations. They are often issued by commissions, authorities, and other public agencies created for the specific purpose of financing, constructing, and operating essential public projects.

Typically, municipal bonds are sold to an investment-banking firm, which then resells the bonds to individual investors. The advantage of municipal bonds to the investor is their tax-free status. A bond discount (a percentage of the total bond issue) serves as the investment banker's commission. Before bonds are sold, they must be rated on the basis of risk to the investor by a rating agency such as Moody's. The higher the rating, the lower the risk to the investor and, consequently, the lower the interest rate paid on the bond.

The legal instrument, which sets the rules that must be observed by the issuing agency, is the Trust Indenture. The Trust Indenture is prepared by the Bond Counsel and must be printed along with the bonds. Due to specific requirements as to the denominations of the bonds and methods and materials for printing, printing costs can be substantial. A Trustee is required to administer the bond issue and ensure the terms of the Trust Indenture are observed. This results in an Annual Trustee Fee. Investment bankers indicate that it does not pay to extend the term beyond 25 years because the interest rate increases dramatically.

b. Advantages of Municipal Bond Issue Funding

- This program affords long-term fixed rate financing.
- Tax-exempt municipal bonds are in high demand.
- There is local investment opportunity.
- Municipal credit is established.
- It retains flexibility for future borrowing.

c. Disadvantages of Municipal Bond Issue Funding

- A Debt Service Reserve Fund is generally required.
- There are trustee fees and costs of preparing a Trust Indenture.

d. Funding of Choice

For projects in excess of $1.0 million a municipal bond issuance is typically the most cost effective. Given the fact that East Fallowfield Township does not have an operating authority, the use of general obligation bonds appears to be the most appropriate.

2. Bank Loan

Another financing option for the implementation of future projects is the bank loan. There are four basic categories of bank loans:

- Real Estate Loans (Mortgage)
- Participation and Interbank Loans
- Installment Loans (Personal)
- Commercial and Industrial Loans

Of the four types, a commercial and industrial loan would be the most applicable. Commercial and industrial loans may be made on a demand or time basis. A demand basis loan allows the bank to call for repayment at any time, or the borrower can repay when convenient. A time basis loan provides for a specific loan maturity date. Most commercial and industrial loans are unsecured. The credit is extended on the basis of an analysis of all available information pertaining to the customer and the bank's confidence in that customer's ability and willingness to repay.

<u>Advantages of the Bank Loan or Other Loan Financing</u>

- Ability to shop around for a loan structure that best fits the customer's needs.
- Flexibility in establishing repayment schedules.
- Working with and through a local financial institution or Authority.
- Municipal credit is established.
- Ability to obtain fixed rate financing.

<u>Disadvantages of Bank Loan Financing</u>

- Interest rates are charged for loan repayment.
- Processing fees may be required.
- Processing and issuances fees may be expensive.
- Less flexible payment schedule.
- The amount of funding may be limited.

3. Direct Funding by Developers

A third financing option for the implementation of any anticipated project is direct funding by those who are developing the property in the planning area. This would involve capital expenditures by the developer from their own capital funds.

Advantages of Direct Funding by Developer

- Avoid any third-party involvement. Payment for services can be made directly to the contractor by the Developer.
- Bank processing and issuance fees are avoided.
- Removes the financial burden from the Township.

Disadvantages of Direct Funding

- There are no municipal disadvantages to this method of financing.

4. Funding by PAWC

This option would involve coordination with PAWC for design, bid, and construction of sewer extension projects with funding by PAWC.

Advantages of Funding by PAWC

- Avoid payment of prevailing wage, which inflates cost of construction.
- Removes the financial burden from the Township.

Disadvantages of Direct Funding

- PAWC would seek individual agreements with property owners to connect to the proposed system. This could take time and may prove to not be financially viable for PAWC or for private property owners.
- Could be costly to the individual property owner if the entire number of properties in a given area do not sign the agreement to connect which will raise the proportionate share to the other participants.
- There are no municipal disadvantages to this method of financing.

F. Immediate or Phased Implementation

Construction of the facilities infrastructure will be completed by private developers to service their respective proposed development. A pump and haul program can be put in place at each of the developments, as a temporary wastewater collection measure, until the infrastructure is complete and in place. A Township-wide SMP will be implemented immediately pursuant to a rotating schedule for each area of the Township.

G. Administrative Organizations and Legal Authority Necessary for Plan Implementation

The Township is well established and has the ability to implement future alternatives as the need arises.

VII. INSTITUTIONAL EVALUATION

A. Analysis of the Township, Past Actions, and Present Performance

1. Financial and Debt Status

The Township is a well-established entity that has the ability to oversee the implementation of the proposed technical alternatives. Financially, developers will be funding the construction of private developments as the PAWC will most likely take dedication of future facilities and will be required to operate and maintain them.

2. Available Staff and Administrative Resources

The Township is governed by five (5) Supervisors. This Board consists of a Chairman, Vice Chairman, and three (3) member supervisors. Others associated with the Township are:

- Township Secretary
- Township Solicitor
- Township Engineer
- Sewage/Sewer Consulting Engineer
- Code Enforcement Officer

The Township has the necessary staff and administrative resources already in place. The Township will need to evaluate the need for hiring additional staff or contracting with an outside agency for implementation of the SMP.

3. Existing Legal Authority

As provided for under Pennsylvania Law the Township has the legal authority to oversee the implementation of the technical alternatives presented in this Plan Update.

B. Institutional Alternatives Necessary to Implement the Technical Alternative

1. Need for a New Authority

With regard to public sewer, East Fallowfield Township is a non-bulk customer of the PAWC. Therefore, PAWC owns, operates, and maintains collection and conveyance system within the Township. There is no need for a new Authority.

2. Functions of Existing and Proposed Organizations

East Fallowfield Township does not have an Authority and does not intend to create an Authority.

3. Cost of Administration and Implementability

The PAWC will be given charge of operating and maintaining any new infrastructure components such as gravity sewer interceptors, pump stations, force mains, and treatment facilities. In addition, the Township is responsible for enforcing the proposed SMP, which may require changes administratively. The Township shall adopt a SMP ordinance and fee schedule for the administration of the ordinance.

C. Administrative and Legal Activities to be Completed and Adopted to Ensure the Implementation of the Selected Alternative

1. Incorporation of Authorities or Agencies

No new wastewater Authorities of Incorporation are necessary and there will be no changes to the current Township procedures to implement any projects. However, the Township should implement an administrative procedure for tracking information received as required by the SMP, inspections of on-lot and/or community sewage disposal systems, and enforcement of violations.

2. Required Ordinances, Standards, Regulations, and Inter-municipal Agreements

Currently, the Township has an inter-municipal agreement with the PA American Water Company for discharge of wastewater to the PAWC's City of Coatesville Wastewater Treatment Plant. If the PAWC alternative would be selected for the entire Study Area, this inter-municipal agreement may require revision. However, as only some areas within the overall Study Area have been designated for the PAWC alternative as the selected alternative, East Fallowfield Township will remain within the flows allocated through the aforementioned agreement for the foreseeable future. Flow is available to East Fallowfield Township at the PAWC WWTP on a first come first served basis. There is adequate capacity at the WWTP to accommodate the Township’s immediate and future needs.

3. Provisions of Rights-of-Way, Easements, and Land Transfers

The wastewater collection and conveyance system that will serve potential development will extend along Township or State Roads and

within easements where necessary. Any proposed future pump stations may require the acquisition of rights-of-way and easements at their respective locations.

4. Adoption of Other Sewage Facilities Plan

It is anticipated that Sewage Facilities Planning Modules will be needed to be adopted as part of future projects within the planning area.

5. Legal Documents

It is not anticipated at this time that any further legal documentation will be necessary, other than what has been previously mentioned, for the implementation of the selected alternatives.

6. Dates and Timeframes of 1 Through 5 Above

The dates and timeframes for the items in this section are found in the Implementation Schedule in VIII.C of this Plan.

D. Institutional Alternatives for Implementing Chosen Technical Wastewater Disposal Alternatives

No new wastewater Authorities of Incorporation are necessary. There may be some changes to the current Township procedures in order to administer the SMP.

VIII. SELECTED WASTEWATER TREATMENT AND INSTITUTIONAL ALTERNATIVE

A. Identify the Chosen Technical Alternative

The alternatives selected above are recommended based on the following:

1. Existing Wastewater Disposal Needs

Within the planning area, wastewater disposal needs are met through the use of individual on-lot disposal systems, which are exhibiting signs of malfunction and/or failure in pockets within the Study Area. The PAWC alternative is a viable alternative for areas adjacent to or in close proximity to the existing sanitary sewer system within East Fallowfield Township because it is an established and permitted system and capacity is available at the PAWC facility, as evidenced by the recently-approved Connection Management Plan. This Plan recommends connection of the Stottsville, Mount Carmel, and South Brandywine Middle School Areas to the PAWC Public Sewer in the initial 5-year Plan horizon. In addition, for more remote areas or areas where lot sizes area adequate to support replacement OLDS, the SMP alternative is a viable alternative to ensure proper operation and maintenance of OLDS.

2. Future Wastewater Disposal Needs

At this juncture it does not appear prudent to extend public sewer to the south-central portions of the Township or to construct one or several small community systems from an economic and staffing perspective. A properly implemented SMP can serve to provide for future needs in this area.

3. Operations and Maintenance Considerations

Any public sanitary sewer extension projects would be undertaken by PAWC, which will ultimately own, operate, and maintain the infrastructure. O&M requirements for OLDS will be communicated to individual property owners as part of implementation of a SMP with reporting and enforcement provisions to ensure proper O&M is conducted.

4. Cost Effectiveness

Based on the Alternatives Analysis, it is apparent that connection to the PAWC Public Sanitary Sewer System is more cost effective than construction, operation, and maintenance of community on-lot sewage disposal systems. Refer to Appendix H for detailed cost estimates.

5. Available Management and Administrative Systems

PAWC has the available staff to administer and manage customers within its public sanitary sewer system.

6. Available Financing Methods

With regard to public sanitary sewer extensions, PAWC contributes money per bona fide or existing residential customer. Any cost above and beyond the total of all bona fide contributions will be the responsibility of the individual property owners by agreement with PAWC prior to the sewer extension project(s). If there are any property owners that fail to pay their portion, there will be a "true up" where the unpaid balance will be distributed among the remainder of the properties that completed connection to the system.

Implementation of a SMP will be supported by fees collected for administration and enforcement of the program. Any other infrastructure costs will be the responsibility of the individual property owner.

7. Environmental Soundness

Environmentally, PAWC's Coatesville WWTP can adequately treat the average and peak flows within the permitted concentration limits. Future proposed upgrades to the PAWC facility include tertiary treatment to further reduce the level of nitrogen and phosphorus in the effluent and a sludge dryer to produce Class A biosolids. The fact that the PAWC facility is in place and permitted by the DEP makes this alternative a viable option.

In addition, there was initial concern about the potential for lost groundwater recharge if the PAWC alternative is implemented. Given recent stormwater management regulations and practices that require stormwater retention and also given that proposed development will be using a public water system that draws primarily from sources outside the Township, the groundwater will not be affected by the implementation of the PAWC alternative. There is the potential for groundwater being affected by implementation of the on-lot sewage disposal system alternative if proper operation and maintenance is not practiced by the individual property owner and the Sewage Management Program is not properly implemented and enforced by the Township.

B. Selected Capital Financing Plan

Refer to Section VIII.A.6 above.

C. Implementation Schedule and Justification for Selected Technical and Institutional Alternatives

IMPLEMENTATION SCHEDULE		
	Schedule Item	**Months from PA DEP Planning Approval**
1.	Receipt of PA DEP Approval of Act 537 Plan.	
2.	Begin implementation of Sewage Management Program including adoption of an Individual Disposal System Sewage Management Ordinance for East Fallowfield Township, determining administrative staff necessary, development of standard forms, public education/information, preparing a schedule/phasing for administering the program, and development of a fee schedule.	12 to 18 months from PADEP Approval.
3.	Administer Sewage Management Program in accordance with adopted Individual Disposal System Sewage Management Ordinance for East Fallowfield Township	On-going following initiation of the Sewage Management Program.
4.	Design of proposed collection and conveyance Systems.	On-going as Projects Evolve.
5.	Submit Plan for Erosion and Sediment Control NPDES Permit to Chester County Conservation District.	On-going as part of the Subdivision and Land Development Process.
6.	Receipt of NPDES Erosion and Sedimentation Control Permits, appropriate approval after each submission.	6 Months.
7.	Submission of Part II WQM Permit application to PA DEP will need to be evaluated on an individual basis depending on the scope of the project. Projects requiring a Pump Station and/or connection of future project services to 250 or more EDU's or equivalent in the future will mandate such a submission.	To be submitted as required for lines serving 250 or more EDU's and /or requiring a pump station.
8.	Receipt of Part II Application Approval.	As Required.
9.	Begin Sanitary Sewer extension based upon permit approval, funding, and demand.	Upon Issuance of Permits and funding secured.
10.	Apply for Pump and Haul Permit(s).	As Applicable for each subdivision and individual basis.
11.	Receive Pump and Haul Permits	As Applicable.
12.	Completion of Collection and Conveyance Systems.	As required on an individual basis.

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SEWER SERVICE AREAS

- Existing Service Area
- South Brandywine Middle School Project Sanitary Sewer Expansion Area

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012.
Topography Map from ESRI ArcGIS Map Service,
Copyright:© 2013 National Geographic Society, i-cubed.
http://goto.arcgisonline.com/maps/USA_Topo_Maps

N W E S

2,000 0 2,000 4,000

Scale in Feet

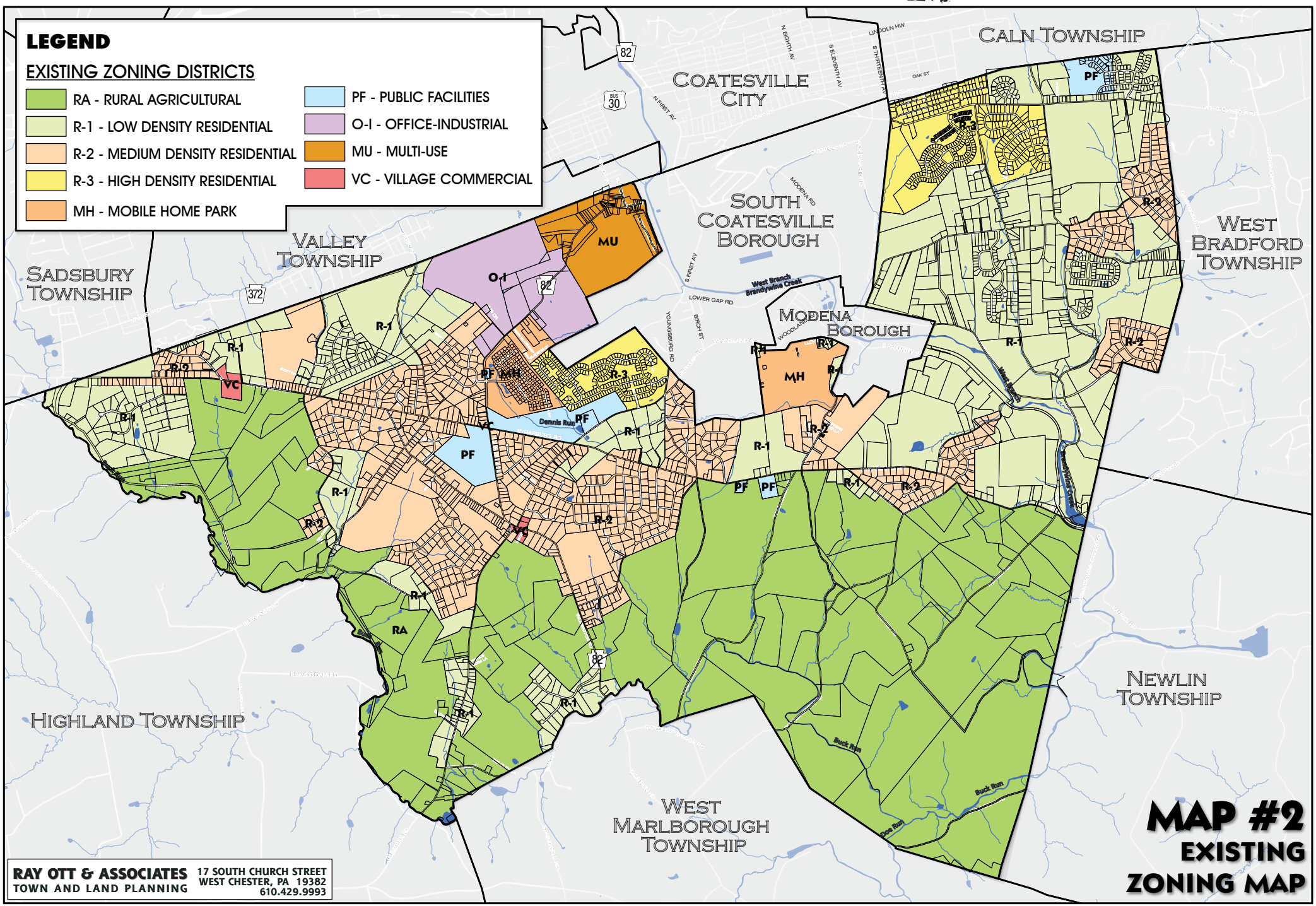
Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 1
USGS TOPOGRAPHIC BASE MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

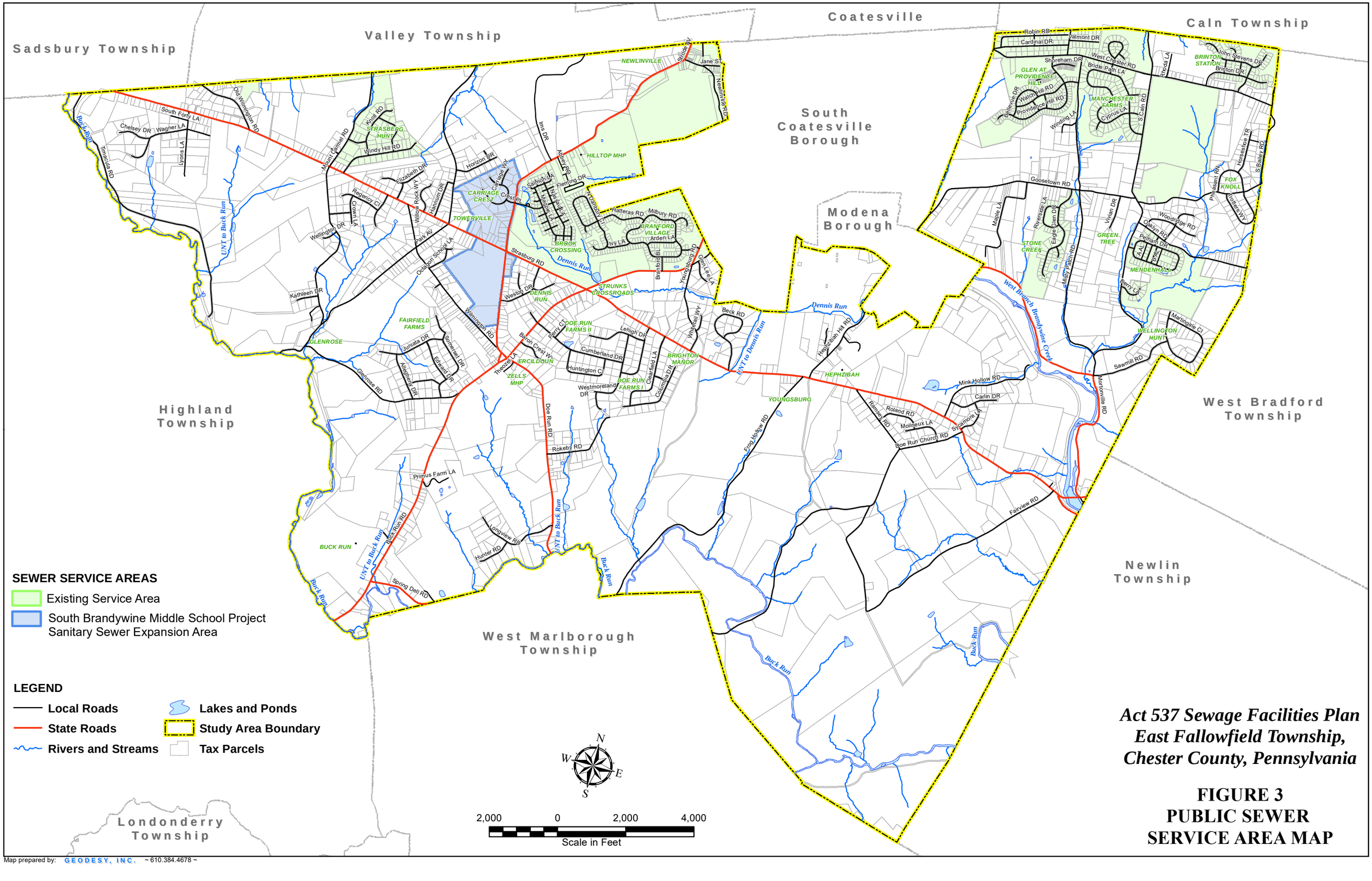
EAST FALLOWFIELD TOWNSHIP
COMPREHENSIVE PLAN
CHESTER COUNTY PENNSYLVANIA

0 0.25 0.5 1 1.5 2 Miles NORTH



MAP #2
EXISTING ZONING MAP

RAY OTT & ASSOCIATES
TOWN AND LAND PLANNING
17 SOUTH CHURCH STREET
WEST CHESTER, PA 19382
610.429.9993



Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 3
PUBLIC SEWER
SERVICE AREA MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

Highland Township

West Bradford Township

Modena Borough

South Coatesville Borough

West Marlborough Township

Newlin Township

Londonderry Township

SCOTT FARM

PECO PROPERTY

SISK FARM

RIDGECREST

BAWA MUHAIYADDEEN FELLOWSHIP

SOUTH BRANDYWINE MIDDLE SCHOOL (COATESVILLE AREA SCHOOL DISTRICT)

Buck Run

UNT to Buck Run

Dennis Run

West Branch Brandywine Creek

UNT to Dennis Run

Beck Run

Doe Run

Old Wilmington RD

South Forty LA

Chelsey DR

Wagner LA

Lyons LA

Timacula RD

Mount Carmel RD

Knoll RD

STRASBERG HUNT

Windy Hill RD

Elizabeth DR

Horizon DR

Cottage WY

Regency Ct

Church LA

Wellington DR

Willow Rock WY

Hammon DR

Park AV

Octagon School LA

Kathleen DR

Strasburg RD

CARRIAGE CREST

TOWERVILLE

Ins DR

Robert Fleming DR

Fleming DR

Sandhill LA

Whitetail LA

Hidden Ct

Whitetail Ct

HILLTOP MHP

NEWLINVILLE

Strode Ave

Jane St

Newlinville RD

Newbridge Ct

Hatteras RD

Milbury RD

BRANFORD VILLAGE

Arden LA

Ivy LA

BROOK CROSSROADS

Brantford Rd

Youngsburg RD

Glen Lee LA

STRUNKS CROSSROADS

Weston DR

DENNIS RUN

Whitetail WY

FAIRFIELD FARMS

Wilmington RD

Somerset DR

Edward DR

Allegheny DR

GLENROSE

Gleahouse RD

Berry Ct

DOE RUN FARMS II

Lehigh DR

Cumberland DR

Huntington Ct

Brian Crest WY

Theozola LA

ERCILDOUN

ZELLS MHP

DOE RUN FARMS I

Westmoreland DR

Clearfield LA

Columbia DR

BRIGHTON MANOR

Doe Run RD

Rokeby RD

Primus Farm LA

Buck Run RD

Longview Rd

Hunter RD

Spring Dell RD

BUCK RUN

Hepzibah Hill RD

HEPHZIBAH

YOUNGSBURG

Frog Hollow RD

Ramsey RD

Roland RD

Molineux LA

Doe Run Church RD

Sycamore LA

Mink Hollow RD

Carlin DR

Fairview RD

Mortonville RD

Sawmill RD

WELLINGTON HUNT

Martingale Ct

Berry Ln

MENDENHALL

Pelham DR

Oakwyn RD

Woodridge RD

Vivian DR

GREEN TREE

Maple LA

Riversedge LA

Eagle Glen DR

Misty Garden RD

STONE CREEK

Gooseltown RD

FOX KNOLL

Thomas WY

Pheasant Run

Hobbs Ln

St Malley RD

Horseshoe TR

BRINTON STATION

John Stevens DR

Brinton DR

Rhode LA

West Chester RD

Bridle Path LA

NORTH WOODS

Cardinal DR

Robin RD

Valmont DR

Shoreham DR

GLEN AT PROVIDENCE HILL

Providence Hill RD

Bellevue DR

Watch Hill RD

Winding LA

MANCHESTER FARMS

Cyprus LA

S Caln RD

MUNICIPAL PLAN

Pending Development

Note:
PECO Property was previously considered for the site of an Emergency Management Training Center.

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

N W E S

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Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 4
MUNICIPAL PLAN MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Topography

Contours (5-ft.)

Steep Slopes

Moderate (15-25%)

Steep (>25%)

LEGEND

Local Roads

State Roads

Rivers and Streams

Lakes and Ponds

Study Area Boundary

Tax Parcels

Source: Topographic contours, steep slopes, road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012.

N

W E

S

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Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 5
TOPOGRAPHIC MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

NEWLINVILLE

HILLTOP MHP

STRASBERG HUNT

CARRIAGE CREST

TOWERVILLE

BROOK CROSSROADS

BRANFORD VILLAGE

STRUNKS CROSSROADS

DENNIS RUN

FAIRFIELD FARMS

GLENROSE

DOE RUN FARMS II

DOE RUN FARMS I

ERCILDOUN

ZELLS MHP

BRIGHTON MANOR

HEPHZIBAH

YOUNGSBURG

BUCK RUN

GLEN AT PROVIDENCE HILL

MANCHESTER FARMS

BRINTON STATION

FOX KNOLL

STONE CREEK

GREEN TREE

MENDENHALL

WELLINGTON HUNT

UNT to Buck Run

Dennis Run

West Branch Brandywine Creek

Buck Run

UNT to Dennis Run

WETLAND FEATURES

- NWI Wetlands

Hydric Soil Ratng

- Partially Hydric
- All Hydric

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Hydric soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania. Wetlands are from USFWS, National Wetlands Inventory (NWI).

N W E S

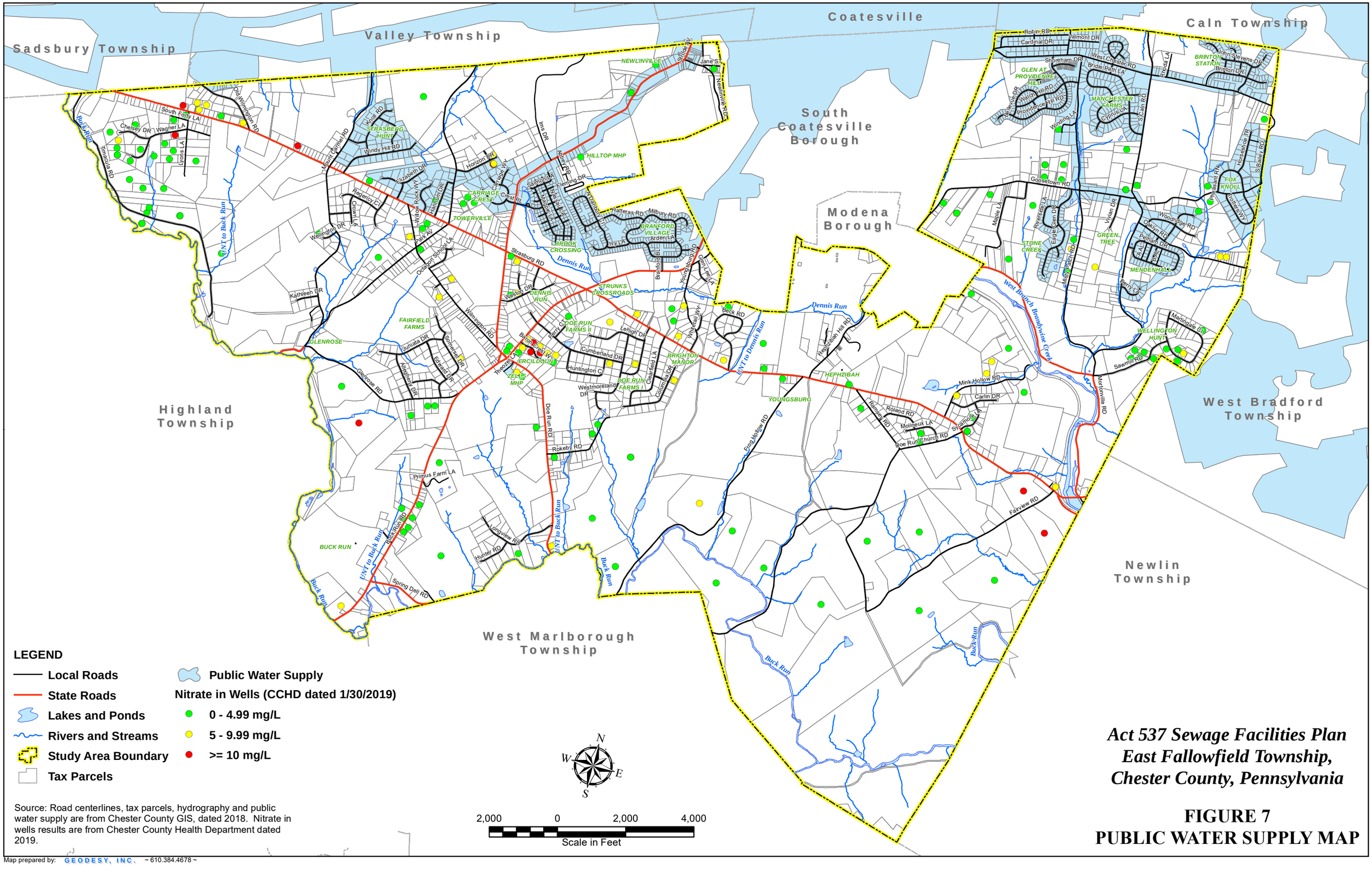
2,000 0 2,000 4,000

Scale in Feet

Act 537 Sewage Facilities Plan East Fallowfield Township, Chester County, Pennsylvania

FIGURE 6 WETLANDS MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~



LEGEND

- Local Roads
- State Roads
- Lakes and Ponds
- Rivers and Streams
- Study Area Boundary
- Tax Parcels
- Public Water Supply

Nitrate in Wells (CCHD dated 1/30/2019)

- 0 - 4.99 mg/L
- 5 - 9.99 mg/L
- >= 10 mg/L

N W E S

2,000 0 2,000 4,000

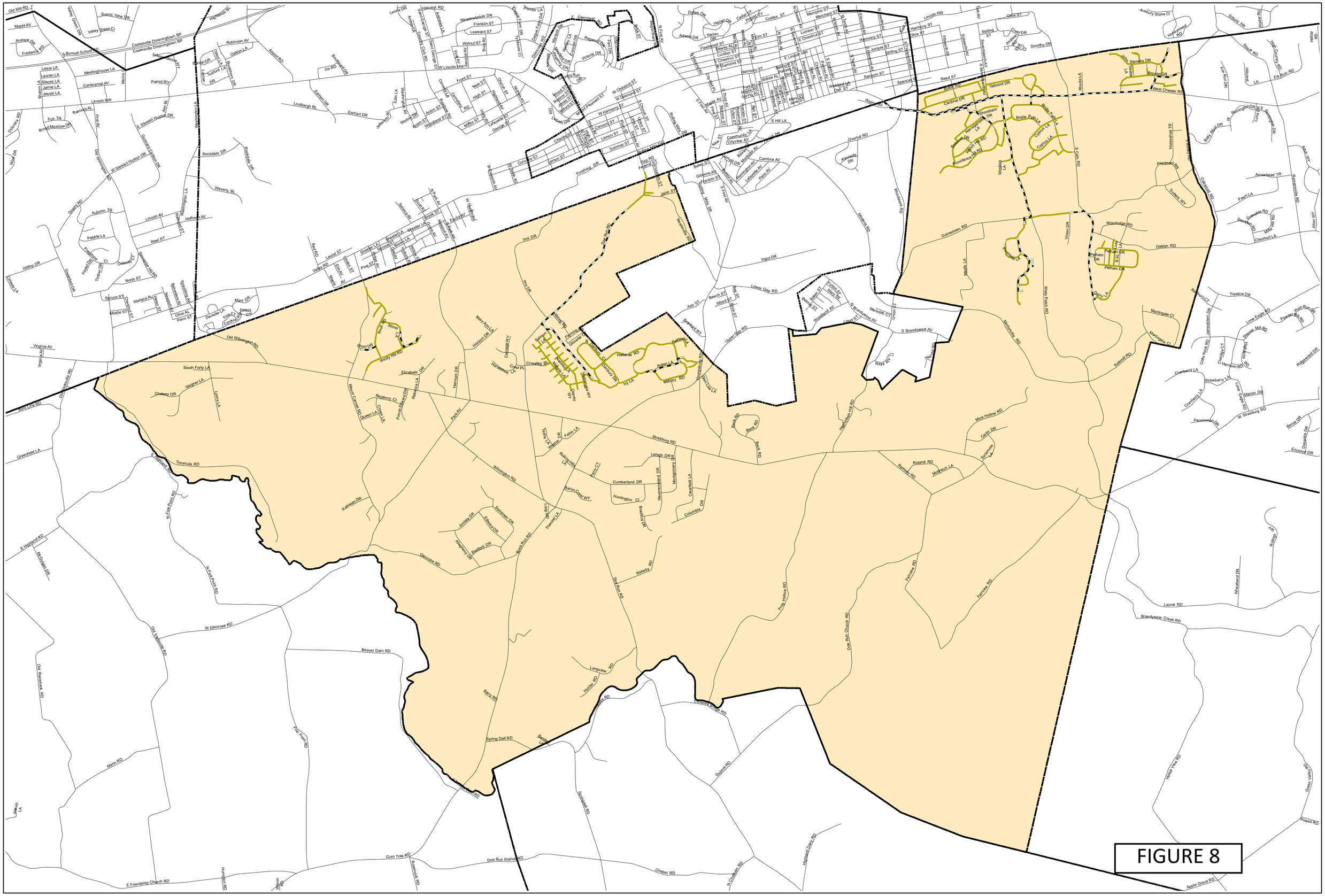
Scale in Feet

Source: Road centerlines, tax parcels, hydrography and public water supply are from Chester County GIS, dated 2018. Nitrate in wells results are from Chester County Health Department dated 2019.

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 7
PUBLIC WATER SUPPLY MAP


Old Mill RD
Maple AV
Andrew DR
Frederick RD
Valley Green DR
Valley Green Ct
Scenic View DR
Coatesville Downingtown BP
S Bonsall School RD
Highlands BL
Robinson AV
Oakton LA
Lissie LA
Lauren LA
Stacey LA
Jamie LA
Jessie LA
Meetinghouse LA
Continental AV
Patriot Wy
Lincoln HW
Ramsey AL
Fox TR
Broad Meadow DR
Ford AV
Jim Bl
E Stewart Huston DR
Gunnard Gretson DR
Old Wilmington RD
Washington LA
Rockdale DR
Waverly Bl
Quarry RD
Autumn TR
Pebble LA
Lincoln AV
Reel ST
Hoffman AV
Hilltop DR
Greenfield LA
Fieldstone Dr
Timber Dr
Colonial Ct
North ST
Spruce ST
Middle ST
Wallace AV
Chestnut ST
Hillside AV
Stapleton AV
Olive AV
Penn ST
Marc DR
Peters Ct
Danielle LA
Cynthia Ln
Virginia AV
Virginia Ln
Old Wilmington RD
South Forty LA
Wagner LA
Chelsea DR
Ivorys LA
Boro Line RD
Greenfield LA
E Highland RD
McGillan DR
Timacula RD
N Five Point RD
W Glenrose RD
Old Racetrack RD
Mertz RD
Allison LA
E Friendship Church RD
Humpton RD
Wilson RD
Gum Tree RD
Ridgelea Dr
Iris DR
Laurel ST
Valley RD
Maple AV
Elm ST
Pine ST
Rose AV
Locust AV
Sussex AV
Beech AV
Brook ST
Sheaffer LA
Shenkel LA
Spencer LA
Brubaker LA
Shenkel AV
Gilbert AV
Hillcrest AV
Shenkel Ln
Hunter Dr
Shenkel Ct
Sheaffer Ct
Brubaker Ct
Gilbert Ct
Hillcrest Ct
Hillcrest RD
Leora DR
Amos Ct
Country Club RD
Saint George ST
Andrews LA
Meadowbrook DR
Franklin ST
Leeward ST
Third AV
Second AV
First AV
W Lincoln HW
Princeton LA
Dogwood Farm DR
Tyler Run Dr
Tyler Grove Dr
Glencoe RD
Iris RD
Boulevard DR
Lindbergh Bl
Earhart DR
Jefferson AV
Eden LA
Wanamaker AV
Skyline DR
Acorn ST
Front ST
New ST
High ST
Hartshead Dr
Lafayette ST
George ST
Cornell LA
Cornell RD
Pilgrim DR
Chestnut ST
Diamond ST
Harmony ST
Passaic ST
Wood St
Bishop St
Jones St
Mitchell St
Old Wilmington RD
Charles ST
Lemon ST
Summer ST
Concord ST
Union ST
Church ST
Main ST
Mill ST
Wagontown Rd
Finishing DR
Rampart Mills DR
Eagle RD
Federal ST
Janis ST
Sawmill RD
Iris DR
Dove Run RD
Mary Ann Ln
Horton DR
Cedarbrook Wy
Horseshoe LA
Crest PL
Crossfield Wy
Salem Ln
Fleming Ln
Gloucester Ct
Hollow Ct
Hollow DR
Hollow Wy
Hanover Wy
Hatteras RD
Rebecca LA
Angel LA
Mobley RD
Queen Ivy LA
Wyndstone RD
Short DR
Knoll RD
Stone Ln
Windy Hill RD
Elizabeth DR
Hannum DR
Mount Carmel RD
Queen LA
Regency Ct
Prince Edward Dr
Rebecca LA Dr
Park AV
Strasburg RD
Travis Ln
Fallon LA
Rolling Hill LA
Baron CT
Baron Crest WY
Cumberland DR
Huntington Ct
Lehigh DR
Montgomery Ct
Westmoreland DR
Bamford DR
Clearfield LA
Columbia DR
Wilmington RD
Kathleen DR
Glenrose RD
Annapolis DR
Allegheny DR
Bedford DR
Somerset DR
Oakland DR
Black Run RD
Thwood LA
Doe Run RD
Rokeby RD
Longview RD
Hunter RD
Barry RD
Spring Dell RD
Shadow Ln
Cleveland Grove RD
Dupont RD
Squirrelwood RD
Chapel RD
Doe Run Station RD
N Chatham RD
Highland Dairy RD
Fog Hollow RD
Doe Run Church RD
Fairview RD
Roland RD
Ramsey RD
Montieux LA
Stanhope LA
Griffin DR
Miner Hollow RD
Carter DR
Beck RD
Back RD
Hatchadoor Hill RD
Ash ST
Beach ST
Wood ST
Lower Gap RD
Upper Gap RD
Slate ST
Baker ST
Tudor ST
Mary ST
Brinton ST
Woodland AV
Lloyd ST
Union ST
Meredith CT
Brandywine AV
S Brandywine AV
Rays Wy
Wawa Dr
Ingot DR
Meadow RD
Woodmont RD
Overhill RD
Kenneth DR
Cambria AV
Lafayette AV
Penn AV
Kensington AV
Bennett Rd
Baker ST
Gallows Alley
Franklin ST
Rolling Mills DR
S Fifth AV
Bennett Ct
Penrose AV
Penrose Ct
Penrose Pl
Penrose Ln
Penrose Dr
Penrose Cir
Penrose Ter
Penrose Rd
Penrose Av
Penrose Sq
Penrose Wy
Penrose Ct

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Farmland Classification

- Soil Map Units
- Prime Farmland
- Farmland of Statewide Importance

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

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Scale in Feet

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania.

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 9
SOILS MAP

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SOIL SUITABILITY

In-Ground Bed

- Very limited
- Moderately limited
- Slightly limited
- Not limited
- not rated or not available

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania.

N W E S

2,000 0 2,000 4,000

Scale in Feet

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 10a
SOIL SUITABILITY FOR
IN-GROUND BED SEWAGE DISPOSAL

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SOIL SUITABILITY

In-Ground Trench

- Very limited
- Moderately limited
- Slightly limited
- Not limited
- not rated or not available

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania.

N W E S

2,000 0 2,000 4,000

Scale in Feet

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 10b
SOIL SUITABILITY FOR
IN-GROUND TRENCH SEWAGE DISPOSAL

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SOIL SUITABILITY

Sand Mound

- Very limited
- Moderately limited
- Slightly limited
- Not limited
- not rated or not available

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania.

N W E S

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Scale in Feet

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 10c
SOIL SUITABILITY FOR
SAND MOUND SEWAGE DISPOSAL

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SOIL SUITABILITY

Sand Mound

- Very limited
- Moderately limited
- Slightly limited
- Not limited
- not rated or not available

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania.

N W E S

2,000 0 2,000 4,000

Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 10d
SOIL SUITABILITY FOR
DRIP IRRIGATION SEWAGE DISPOSAL

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Conestoga Limestone

Octoraro Phyllite

Peters Creek Schist

Wissahickon Schist

NEWLINVILLE

HILLTOP MHP

STRASBERG HUNT

CARRIAGE CREST

TOWERVILLE

BROOK CROSSING

BRANFORD VILLAGE

STRUNKS CROSSROADS

DENNIS RUN

DOE RUN FARMS II

DOE RUN FARMS I

BRIGHTON MANOR

ERCILDOUN

ZELLS MHP

FAIRFIELD FARMS

GLENROSE

HEPHZIBAH

YOUNGSBURG

GLEN AT PROVIDENCE HILL

MANCHESTER FARMS

BRINTON STATION

STONE CREEK

GREEN TREE

MENDENHALL

FOX KNOLL

WELLINGTON HUNT

Dennis Run

West Branch Brandywine Creek

Buck Run

Rock Run

UNT to Buck Run

UNT to Dennis Run

BUCK RUN

Strasburg Rd

Wellington Dr

Kathleen Dr

Wilmington Rd

Beck Rd

Lehigh Dr

Cumberland Dr

Huntington Ct

Westmoreland Dr

Rokeby Rd

Doe Run Rd

Primus Farm LA

Hunter Rd

Longview Rd

Spring Bell Rd

Hickory Rd

Hepzibah Hill Rd

Mink Hollow Rd

Carlin Dr

Roland Rd

Molineux LA

Doe Run Church RD

Fairview RD

Sawmill RD

Morrisville RD

Ramsey Rd

Frog Hollow Rd

Gosselown RD

Valmont DR

Cardinal DR

Shoreham DR

West Chester RD

Bridle Path LA

Providence Hill RD

Watch Hill RD

Winding LA

Cyprus LA

S Caln RD

Rhode LA

John Stevens DR

Brinton DR

Maple LA

Riverside LA

Eagle Glen DR

Misty Garden RD

Vivian DR

Woodridge RD

Pelham DR

Berry LA

Marigold Ct

Hoseshoe TR

S Bailey RD

Pheasant Run

Fichter Way

Milbury RD

Hatteras RD

Ivy LA

Arden LA

Branford Rd

Youngsburg Rd

Glen Lee LA

Whitetail Way

Lamplighter Ct

Salmon LA

Trout Run

Flemming DR

Ivins DR

Robin RD

Newlinville RD

Strodes Mill

Jane St

Cottage Way

Horizon DR

Hamlin DR

Willow Rock Wy

Elizabeth DR

Regency Ct

Mount Carmel RD

Knoll RD

Windy Hill RD

Old Wilmington Rd

South Forty LA

Wagner LA

Lyons LA

Chelsey DR

Timacula RD

Park Av

Octoraro School LA

Kathleen Dr

Glenrose Rd

Alexander Dr

Somerset Dr

Edward Dr

Thresher LA

Barton Crest Wy

Park Ct

Columbia Dr

Clearfield LA

Rokeby Rd

Primus Farm LA

Hickory Rd

Longview Rd

Hunter Rd

Spring Bell Rd

Rock Run

Buck Run

Ramsey Rd

Roland Rd

Molineux LA

Doe Run Church RD

Sycamore LA

Carlin Dr

Mink Hollow Rd

Hepzibah Hill Rd

Fairview RD

Sawmill RD

Morrisville RD

Beck Rd

Whitetail Way

Lamplighter Ct

Youngsburg Rd

Glen Lee LA

Branford Rd

Arden LA

Ivy LA

Milbury RD

Hatteras RD

Flemming DR

Salmon LA

Trout Run

Ivins DR

Robin RD

Newlinville RD

Strodes Mill

Jane St

Cottage Way

Horizon DR

Hamlin DR

Willow Rock Wy

Elizabeth DR

Regency Ct

Mount Carmel RD

Knoll RD

Windy Hill RD

Old Wilmington Rd

South Forty LA

Wagner LA

Lyons LA

Chelsey DR

Timacula RD

Park Av

Octoraro School LA

Kathleen Dr

Wellington Dr

Strasburg Rd

Wilmington Rd

Weston Dr

Park Ct

Columbia Dr

Clearfield LA

Rokeby Rd

Doe Run

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Sucker Run

Buck Run

Dennis Run

West Branch Brandywine Creek

Valley Run

Doe Run

Source: Road centerlines, tax parcels, watersheds, and hydrography are from Chester County GIS, dated 2012. Hydric soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania. Wetlands are from USFWS, National Wetlands Inventory (NWI).

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

WATER RESOURCE FEATURES

- Buck Run
- Dennis Run
- Doe Run
- Sucker Run
- Valley Run
- West Branch Brandywine Creek
- NWI Wetlands
- 100-Year Flood Zone

Hydric Soil Ratng

- Partially Hydric
- All Hydric

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Scale in Feet

Act 537 Sewage Facilities Plan East Fallowfield Township, Chester County, Pennsylvania

FIGURE 12
WATER RESOURCES MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

East Fallowfield Township Historic Resources

August 10, 2009

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Presented by: Chester County Department of Computing and Information Services--Geographic Information Systems Division (DCIS-GIS);
Chester County Historic Preservation Network;
Chester County Department of Parks & Recreation; Municipal Historic Commissions; East Fallowfield Township Historical Commission

FIGURE 13a

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
001	47-1Q-1			1301	Cardinal	Dr	2.5	3	brickface	Neo-Col Reviv	c. 1950	single				3	1		
002	47-1Q-11.3			1404	West Chester	Rd	3.0	3	stucco	International	c. 1955	single				3	1		
003	47-1Q-3			1341	Robin	Rd	2.0	3	stucco	Neo-Col Reviv	c. 1940	single				3	1		
004	47-1Q-5			1407	Robin	Rd	1.0	4	stucco	Mod Ranch	c. 1955	single				3	1		
005	47-1R-21			1415	Cardinal	Dr	1.0	3	alum/stone	Wrightian	c. 1955	single				2	1		
006	47-1R-29			1510	Robin	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
007	47-1R-31			296	Cardinal	Dr	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		
008	47-1R-58			299	West Chester	Rd	2.0	2	brickface	Neo-Col Reviv	c. 1955	single				3	1		
009	47-1R-8			1601	Robin	Rd	2.5	3	stucco	Col Revive	c. 1930	single				3	1		
010	47-2-11			2085	West Chester	Rd	1.5	3	stoneface	Wrightian	c. 1940	single				2	1		
011	47-2-15			2201	West Chester	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
012	47-2-19			2235	West Chester	Rd	1.5	3	brickface	SplitLevel	c. 1955	single				3	1		
013	47-2-24.1			2365	West Chester	Rd	2.0	4	stucco	International	c. 1955	single				2	1		
014a, -b	47-2-26			715	South Caln	Rd	2.5	3	stone	Col Revival	c. 1930	single	R. Brognard Okie, architect		garage	1	1		
015	47-2-28			2310	West Chester	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
016	47-2-29			2320	West Chester	Rd	1.5	4	stone/alum	Col Revival	c. 1930	single	R. Brognard Okie, architect			1	1		
017a, -b, -c, -d, -e	47-2-3		Jeremiah Eldridge	512	South Caln	Rd	2.5	3	stucco	vernacular	1798	single	Robert Kennedy House		shd, sprghse, grg, pond	2	1		I-23/NR?
018	47-2-5		Barry Lepori	2007	West Chester	Rd	2.5	2	stone	4 Square	c. 1910	twin				2	1		
019	47-2-5.1		Mammarella	2015	West Chester	Rd	2.5	2	stone	4 Square	c. 1910	twin				2	1		
020	47-3-22		McGrail	14	Timucula	Rd			wood	trestle	1868	ruin	Pa RR Trestle Bridge			2	1		I-1/NR?
021	47-3-27		Stella Hammond	40	Timicula	Rd	2.5	3	asphalt/stucco	vernacular	c. 1830	single				2	1		
022	47-3-3			3305	Strasburg	Rd	1.5	2	stucco	Cape Cod	c. 1940	single				2	1		Towerville?
023a, -b, -c	47-3-30		Ronald Parrott	25	Wagners	Ln	2.5	4	aluminum	vernacular	c. 1830	single			garage, shed	2	1		
024	47-3-37			3280	Strasburg	Rd	1.5	4	stucco	ranch	c. 1950	single				3	1		
025	47-3-4			3275	Strasburg	Rd	1.5	2	brick	ranch	c. 1940	single				2	1		Towerville?
026a, -b	47-3-40			3257	Strasburg	Rd	1.5	3	brick	Cape Cod	c. 1940	single			garage	3	1		
027a, -b	47-3-46.2B		Greg Cunningham	78	Timicula	Rd	2.5	3	weatherboard	vernacular	1832	single	Jacob Taylor Farm		barn	2	1		I-2/NR?
028	47-3-7			3245	Strasburg	Rd	1.5	4	brick	Cape Cod	c. 1940	single				2	1		Towerville?
029	47-4-1		Morey Young	3205	Strasburg	Rd	2.5	2	aluminum	4 Square	1915	single				2	1		SRTH-1/NR?
030	47-4-100			2860	Strasburg	Rd	2.5	4	permastone	Gothic Revival	c. 1850	single				2	1		NR?
031	47-4-102		Crook, Siti M	2842	Strasburg	Rd	1.5	3	aluminum	Tudor Revival	c. 1930	single				2	1		Towerville?
032a, -b, -c	47-4-103		Robert Beggs	2834	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	c. 1870	twin			barn, crgshd	2	1		Towerville?
033	47-4-103		Robert Beggs	2828	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	c. 1870	twin				2	1		Towerville?
034	47-4-104			2820	Strasburg	Rd	1.5	3	aluminum	Bungalow	c. 1930	single				2	1		Towerville?
035	47-4-105			2806	Strasburg	Rd	2.5	3	aluminum	Gothic Revival	c. 1870	single				2	1		Towerville?
036a, -b	47-4-107.1		Raymond Fryberger	98	Park	Ave	2.5	3	aluminum	Gothic Revival	c. 1870	single			garage	2	1		
037	47-4-108			47	Park	Ave	2.0	3	aluminum	Col Revive	c. 1930	single	Sears Roebuck?			2	1		
038	47-4-109			51	Park	Ave	1.5	3	aluminum	Cape Cod	c. 1940	single				3	1		
039	47-4-112			63	Park	Ave	1.5	3	stoneface	Cape Cod	c. 1930	single				3	1		
040	47-4-114			71	Park	Ave	1.5	3	brickface	Tudor Revival	c. 1930	single				3	1		
041	47-4-115			75	Park	Ave	2.5	3	aluminum	Late 19th C	c. 1900	single				3	1		
042	47-4-115.1			41	Park	Ave	1.0	1	cementblck	vernacular	c. 1930	outbldg				3	1		post-1960 house
043a, -b	47-4-118		Mary LaMar	120	Wilmington	Rd	3.0	3	frame	vernacular	post1960	barn	Octagonal House Barn Ruin		barn ruins	3	1		
044	47-4-119			81	Park	Ave	1.0	2	permabrick	ranch	c. 1955	single				3	1		
045	47-4-120			80	Park	Ave	1.5	3	stucco	Neo-Cape Cod	c. 1955	single				3	1		
046a, -b	47-4-122		Larrine Holbrooke	95	Park	Ave	2.5	2	aluminum	Col Revival	c. 1930	single			garage	3	1		
047	47-4-123			97	Park	Ave	1.5	3	aluminum	Cape Cod	c. 1950	single				3	1		
048	47-4-124			99	Park	Ave	2.5	3	aluminum	Neo-Col Rev	c. 1950	single				3	1		
049a, -b, -c	47-4-125		Ronald Taggart	2722	Strasburg	Rd	3.5	5	stucco	Queen Anne	1890	single?	Harry deHaven House	yes	crghse,outbldg	1	1		SRTH-9
050	47-4-126			2700	Strasburg	Rd	2.0	3	stone	Col Revive	c. 1935	single				2	1		
051	47-4-128			2690	Strasburg	Rd	1.5	3	stoneface	Cape Cod	c. 1940	single				3	1		
052	47-4-129		Allen & Dolores Cook	2680	Strasburg	Rd	1.5	3	aluminum	Cape Cod	c. 1950	single				3	1		
053	47-4-130			2670	Strasburg	Rd	2.5	3	aluminum	Neo-Col Rev	c. 1940	single				3	1		
054	47-4-131			2660	Strasburg	Rd	1.5	3	stucco	Cape Cod	c. 1940	single				3	1		
055a, -b	47-4-138.1		David Padlock	115	Wilmington	Rd	2.0	8	stucco	Octagonal	1850	single	Lukens Pierce Octagonal House	yes	garage	1	1		I-7
056	47-4-14			3035	Strasburg	Rd	1.5	3	stnfac/stucco	ranch	c. 1940	single				3	1		
057	47-4-141			615	Doe Run	Rd	1.0	3	brickface	ranch	c. 1950	single				3	1		
058	47-4-142			625	Doe Run	Rd	1.0	3	stoneface	ranch	c. 1950	single				3	1		
059	47-4-143			635	Doe Run	Rd	1.0	3	stnfac/stco	ranch	c. 1950	single				2	1		
060	47-4-144			645	Doe Run	Rd	1.0	3	stucco	ranch	c. 1950	single				3	1		
061	47-4-15			3025	Strasburg	Rd	1.5	3	stone face	ranch	c. 1950	single				3	1		
062	47-4-151			695	Doe Run	Rd	2.5	3	aluminum	Gothic Revival	c. 1870	single				2	1		
063	47-4-153.1		David Zanis	2550	Strasburg	Rd	2.5	6	stucco	vernacular	1820	single	Drover's Inn	yes		1	1		SRTH-11; blt by/for Jesse Bentley
064	47-4-16			3015	Strasburg	Rd	1.5	4	stucco	Cape Cod	c. 1940	single				3	1		
065	47-4-17			215	Mt. Carmel	Rd	1.5	3	stnfac/stucco	Cape Cod	c. 1940	single				3	1		

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
066a, -b, -c, -d, -e, -f	47-4-171		Chester Ramsey	2464	Strasburg	Rd	2.5	5	stucco	vernacular	1823	single	Robert Wilson House	yes	barn remains, blcksmth ruin, tannry ruin, sprnghse,shed	1	1		Was 2460 Strasburg Rd?/SRTH-12
067	47-4-172		Merle Gerhart	2450	Strasburg	Rd	2.5	5?	stucco	vernacular	1810	single	David Wilson House			2	1		SRTH-13/NR?
068	47-4-172.1		Roy Zander	2440	Strasburg	Rd	1.0	2	log	vernacular	1810	single	David Wilson Cobbler Shop			2	1		SRTH-14/NR?
069a, -b	47-4-21.2A		David Brotman	2885	Strasburg	Rd	2.5	4	stucco/alum	vernacular	1826	single	McCorkle House		crghs, barn	2	1		SRTH-6/NR?
070a, -b, -c, -d, -e, -f	47-4-28.2		Donald Ficca	190	Mt. Carmel	Rd	2.5	2	stone	vernacular	1805	single	David Scott House	yes	privy, milkshed, sprghse, barn ruin, ruin	1	1		addition, moved c. 1980 from Cochranville; was 180 Mt Carmel Rd/I-4
071a, -b	47-4-3			3155	Strasburg	Rd			weatherboard			barn			new house	2	1		NR?
072a, -b,-c, -d, -e, -f	47-4-3.4		Arnold Hertzog	3195	Strasburg	Rd	2.5	6	stucco	vernacular	1778	single	Philip Dougherty Tavern	yes	privy, ruin, barn ruin, milk house, spring house	1	1		was 3165 Strasburg Rd/SRTH-3
073a, -b, -c, -d	47-4-30		Genterra Corp	158	Park	Ave	2.5	3	stucco/stone	vernacular	1740	single	Thomas Scott House	yes	privy, 2sheds (springhouse across road)	1	1		I-5
074	47-4-38		Archie Shearer	2715	Strasburg	Rd	2.5	4	shgle/alum	Queen Anne	1890	single	Isaac Pawling House	yes		1	1		SRTH-8
075	47-4-39		Herman David	2705	Strasburg	Rd	1.5	3	weatherboard	Gothic Revival	c. 1900	crghse	Isaac Pawling House CrgHse			2	1		NR?
076a, -b	47-4-40		Jack Levengood	2685	Strasburg	Rd	2.5	3	aluminum	vernacular	c.1840	single	Jesse Bentley House		garage	1	1		SRTH-10/NR?
077	47-4-41		James Hook	2675	Strasburg	Rd	2.0	3	aluminum	Col Revive	c. 1930	single				2	1		Towerville?
078	47-4-42			2665	Strasburg	Rd	2.5	3	aluminum	Col Revive	c. 1930	single				2	1		Towerville?
079	47-4-43			2655	Strasburg	Rd	1.5	3	aluminum	A&C Shotgun	c. 1920	single	Sears Roebuck?			2	1		Towerville?
080	47-4-44			2645	Strasburg	Rd	2.0	3	alum/stnfce	Neo-Col Revive	c. 1945	single				2	1		Towerville?
081a, -b	47-4-48			590	Doe Run	Rd	1.5	2	brick/alum	A&C Bungalow	c. 1930	single			garage	3	1		
082	47-4-49			580	Doe Run	Rd	2.0	3	stucco	Early 20th C	c. 1920	store				2	1		Towerville?
083	47-4-50			570	Doe Run	Rd	1.5	3	stucco	Cape Cod	c. 1955	single				3	1		
084	47-4-52			560	Doe Run	Rd	2.5	3	stucco	Neo-Col Revive	c. 1950	single				3	1		
085	47-4-56			490	Doe Run	Rd	2.5	2	stucco	Late 19th C	c. 1890	single				3	1		
086	47-4-57			500	Doe Run	Rd	1.5	4	stucco/alum	Cape Cod	c. 1950	single				3	1		
087	47-4-58			480	Doe Run	Rd	2.5	3	stucco	vernacular	c. 1870	aptments				3	1		was a twin
088a, -b. -c. -d	47-4-6		Ruth Doutrich Corp	2	Mt. Carmel	Rd	2.5	5	stone	PA Farmhouse	1796	single	Edward Dougherty House	yes	barn w/conical pillars, wagon shed, springhouse	1	1		was 155 Mt Carmel Rd/I-3
089a, -b	47-4-62.5			204	Doe Run	Rd				Neo-Col Reviv	c. 1970	single			old silo, new house	2	1		
090	47-4-64			155	Park	Rd	1.0	1	stone			sprghse	Thomas Scott Spring House			2	1		goes w/47-4-30/NR?
091	47-4-7			3105	Strasburg	Rd	2.0	3	permstn/alum	Col Revive	c. 1930	single				3	1		
092	47-4-70			380	Doe Run	Rd	1.5	3	clapboard	bungalow	c. 1930	single				3	1		
093	47-4-8			3095	Strasburg	Rd	1.5	3	permstn/alum	Cape Cod	c. 1930	single				3	1		
094a, -b, -c, -d	47-4-80		Annette Pratte	170	Doe Run	Rd	2.5	5	stone	PA farmhouse	1770	single	Young Farm		springhouse, 2 tenant houses	2	1		Newlin?/was 220 Doe Run Rd/I-11
095a, -b, -c	47-4-81		Peter Salitrynski	162	Doe Run	Rd	2.0	3	stucco	mid-19th C	1850	single			2 sheds	2	1		Newlin?/modern add to front
096	47-4-85		James Sisk/Piersol	385	Doe Run	Rd	2.5	3	brick	Gothic Revival	c. 1860	single				2	1		
097a, -b, -c	47-4-85.2		James Sisk	325	Doe Run	Rd	2.5	3	stucco	vernacular	c. 1820	single			silo, barn	2	1		
098	47-4-86			387	Doe Run	Rd	1.5	4	brick	bungalow	c. 1940	single				2	1		
099a, -b	47-4-86.1		James Sisk	375	Doe Run	Rd	1.5	3	brick	bungalow	c. 1940	single			garage	3	1		Slated for Demolition, 2008
100	47-4-87			395	Doe Run	Rd	1.2	3	brick	Cape Cod	c. 1940	single				2	1		
101	47-4-9			3085	Strasburg	Rd	1.5	3	stnfac/stucco	ranch	c. 1940	single				3	1		
102a, -b	47-4-93		Weavers	3186	Strasburg	Rd	2.5	4	stucco	vernacular	1774	single	Philip Dougherty House	yes	barn	1	1		was 3100 Strasburg Rd/SRTH-2
103a, -b, -c, -d, -e	47-4-94		Dolores Daller	355	Mt. Carmel	Rd	2.0	3	fieldstone	vernacular	1740	single	Daniel McPeak House	yes	barn, corn crib, wagon shed, garage	2	1		SRTH-4
104	47-4-96-E		Faith Miss Bapt.Church	2960	Strasburg	Rd	1.0	3	vinyl	vernacular	c. 1860	religious	Mt. Carmel School			2	1		SRTH-5/NR?
105a, -b	47-4-99.11		Richard Johnson	20	Wilmington	Rd	3.0	5	stucco	Queen Anne	c. 1910	single	Asa Walton House	yes	barn	1	1		SRTH-7
106a, -b	47-4D-1			320	Doe Run	Rd	2.5	2	brick/wood	Queen Anne	c. 1900	single			carriage house	2	1		Newlin?
107	47-4D-13		Terry McDougal	135	Doe Run	Rd	2.0	2	brick	Queen Anne	c. 1900	twin				2	1		Newlin?
108	47-4D-14			125	Doe Run	Rd	2.0	2	brick	Queen Anne	c. 1900	twin				2	1		Newlin?
109	47-4D-3			140	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		also listed as 47-5A-7/Newlin?
110	47-4D-4			130	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
111	47-4D-5			120	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
112	47-4D-6			110	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
113a, -b	47-4D-7		Gordon Egolf	100	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row			crg hse	2	1		Newlin?
114	47-4D-8			360	Doe Run	Rd	2.5	2	asphalt shngl	Late 19th C	c. 1890	single				2	1		Newlin?
115a, -b	47-4D-9			350	Doe Run	Rd	1.5	3	stucco	Early 20th C	c. 1930	single			crg hse	2	1		Newlin?
116	47-4H-1			160	Doe Run	Rd	1.5	2	wood	vernacular	c. 1840	single				3	1		Newlin?/Modern add to front

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117	47-4H-3			156	Doe Run	Rd	1.0	3	brick	Early 20th C	c. 1920	com garage				2	1		Newlinville Potential Hist Dist?
118	47-4H-4			154	Doe Run	Rd	1.0	2	stucco	ranch	c. 1940	single				3	1		Newlin?
119	47-4H-5			152	Doe Run	Rd	1.5	3	stuc/wood	ranch	c. 1940	single				3	1		Newlin?
120	47-4H-6-E		Mennonites	145	Doe Run	Rd	1.5	3	aluminum			religious	Mennonite Church			3	1		Newlin?
121	47-4P-4		Thomas Phipps	2900	Strasburg	Rd	2.5	3	aluminum	Mid 19th C	c. 1860	single				2	1		was 2910 Strasburg/NR?
122	47-5-10			2415	Strasburg	Rd	1.5	3	brick/frame	Bungalow	c. 1920	single				2	1		
123	47-5-103		Michael Hillworth	1765	Goosetown	Rd	3.0	3	vinyl	vernacular	c. 1830	single				3	1		
124	47-5-109			1645	Goosetown	Rd	3.5	3	frame	vernacular	c. 1820	single				2	1		bankhouse
125a, -b, -c	47-5-112		Martin Farm	1500	West Chester	Rd	2.0	2	stone		c. 1800	ruin	Joseph Gladden House Ruin	yes	barn, silo ruins	1	1		I-24
126a, -b	47-5-117.1A			260	Misty Patch	Rd	2.5	3	stucco	vernacular	c. 1850	single			outbldg	2	1		
127a, -b	47-5-118			285	Misty Patch	Rd	2.5	4	weatherboard	vernacular	c. 1870	single			shed	2	1		
128a, -b, -c	47-5-12		Judy Johnston	2395	Strasburg	Rd	2.5	5	alum/stucco	Pa farmhouse	1796	single	Anthony Burton House		barn, privy	2	1		SRTH-15/NR?
129	47-5-125			100	Montgomery	Dr	2.5	4	frame	vernacular	c. 1880	single	Was barn to 47-5-12			2	1		Strasburg?
130a, -b, -c	47-5-13.2		Susan Thorington	2345	Strasburg	Rd	2.5	3	brick	Federal	1855	single	Robert Young House	yes	crghse, stable	1	1		SRTH-16
131	47-5-16			2370	Strasburg	Rd	2.5	5	stucco	Col Revival	c. 1930	single				2	1		
132	47-5-17			2360	Strasburg	Rd	2.0	3	stc/alum	Dtch Col Revive	c. 1925	single	Sears Roebuck?			2	1		
133	47-5-18			2350	Strasburg	Rd	1.5	3	aluminum	Cape Cod	c. 1930	single				2	1		
134a, -b, -c	47-5-23		Jack Alverez	2335	Strasburg	Rd	2.5	5	stucco/stone	Pa farmhouse	1816	single	White Horse Tavern	yes	crghse,garage	1	1		SRTH-17
135a, -b	47-5-24		Chris Rechenberg	2325	Strasburg	Rd	2.0	2	stucco/frame	vernacular	c. 1820	single	White Horse Tavern outbldg		garage	1	1		SRTH-18
136a, -b, -c	47-5-25		Edward Daniels	2315	Strasburg	Rd	2.5	4	stone/alum	vernacular	c. 1820	store	Robert Young Store	yes	2 outbldgs	1	1		SRTH-19
137a, -b	47-5-27		Albert Holbrook	2305	Strasburg	Rd	2.5	3	stucco	vernacular	c. 1820	single			stable	2	1		NR?
138a, -b, -c, -d	47-5-28		James Cochran	2275	Strasburg	Rd	2.5	3	stone	vernacular	1796	single	Rev. Joshua Vaughan House	yes	barn ruin, garage? Sprghse?	1	1		SRTH-22
139	47-5-28.19			32	Beck	Rd	2.0	3	alum	Gearyesque	c. 1960	single				3	1		
140	47-5-29			2265	Strasburg	Rd			stone			marker	Strasburg Rd Mile Stone			1	1		Strasburg?
141	47-5-30			2255	Strasburg	Rd	1.0	4	brickface	Calif Ranch	c. 1955	single				3	1		
142a, -b	47-5-31			2245	Strasburg	Rd	1.5	3	aluminum	Bungalow	c. 1930	single			garage	2	1		
143		Same parcel as #144a - b	Hepzibah Baptist Church	2237	Strasburg	Rd	2.5	5	aluminum	Greek Revive	c.1870	single	Hephzibah Church Parish Hse			1	1		SRTH-23/NR?
144a -b	47-5-32-E		Hepzibah Baptist Church	2237	Strasburg	Rd	2.5	3	stone	Gothic Revival	1900	religious	Hephzibah Baptist Church		cemetery	1	1		SRTH-23/NR?
145		Same parcel as #144a - b	Hepzibah Baptist Church	2237	Strasburg	Rd	1.0	8	stone	Octagonal	c.1860	vacant	Hephzibah Church School			1	1		SRTH-23/NR?
146	47-5-43			40	Hephzibah Hill	Rd			stone	ruin		vacant				3	1		
147	47-5-44		Arnold Young	360	Hephzibah Hill	Rd	3.0	2	stucco	vernacular	c. 1830	single				2	1		NR?
148a, -b, -c	47-5-5.1		Durand O'Meara	915	Buck Run	Rd	2.5	4	stucco/stone	vernacular	c. 1830	single	tavern		barn, silo	2	1		
149a, -b, -c, -d	47-5-5.5		Garth Monaghan	945	Buck Run	Rd	2.5	3	stone/stucco	PA farmhouse	1820	single	tannery		barn, tile silo, horse shed	2	1		NR? PHOTOS
150	47-5-54			2225	Strasburg	Rd	2.5	4	aluminum	Pa farmhouse	c. 1820	single				2	1		
151	47-5-54.1			305	Hephzibah Hill	Rd	2.0	3	aluminum	vernacular		garage	crghse/stable to 47-5-54			2	1		
152	47-5-56			2213	Strasburg	Rd	2.0	2	stucco	vernacular	c. 1850	single				2	1		
153a, -b, -c	47-5-58		David Vaughan	2209	Strasburg	Rd	2.5	3?	stucco	4 Square	1929	single	Beulah School		outbldg, shed	2	1		SRTH-24/NR?
154	47-5-62		Darlene Markel	355	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
155	47-5-63		John Matelyan	365	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
156	47-5-64		John Matelyan	375	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
157	47-5-65		Glenmil Alicea	385	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
158	47-5-66		John Matelyan	405	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
159	47-5-66.1			395	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
160a, -b	47-5-67		Lawrence Hilton	425	Hephzibah Hill	Rd	2.5	2	stucco	4 Square	c. 1910	twin			garage	2	1		
161	47-5-67.1		Lawrence Hilton	435	Hephzibah Hill	Rd	2.5	2	stucco	4 Square	c. 1910	twin				2	1		
162	47-5-68		Donald Botkin	445	Hephzibah Hill	Rd	3.0	4	aluminum	Italianate	c. 1870	single				3	1		
163	47-5-69			455	Hephzibah Hill	Rd	2.0	2	aluminum	vernacular	c. 1900	single				3	1		
164a, -b, -c	47-5-70		Scott & Laurel Wybranski	101	Morning Star	Ln	2.5	3	stucco/stone	vernacular	1820	single			shop, new hse	2	1		2nd Empire 4 yrs old
165a, -b, -c, -d, -e	47-5-71		Dandear Farm	2177	Strasburg	Rd	2.5	3	stucco/stone	Gothic Revival	1820	single	John Mills Farm		barn, privy, wgnshd, sprnghse	2	1		was 2181 Strasburg Rd/SRTH-25/NR?
166	47-5-71.5			10	Mink Hollow	Rd	2.5	3	aluminum	Gothic Revival	c. 1860	single				2	1		
167	47-5-77			2167	Strasburg	Rd	2.5	2	alum/block	vernacular	c. 1900	garage				2	1		no hse
168	47-5-79		Alan Sinton	105	Mink Hollow	Rd	3.5	3	stucco	Greek Revival	c. 1840	single				2	1		
169a, -b	47-5-8		John Downing	2435	Strasburg	Rd	2.5	2	brick	4 Square	1915	single			garage	2	1		
170	47-5-80.1			205	Mink Hollow	Rd	2.5	3	stone/alum	vernacular	c. 1960	single				2	1		house
171	47-5-81		Lila Blatt	175	Mink Hollow	Rd			stone	ruin		single				3	1		
172	47-5-83			170	Mink Hollow	Rd	2.0	3	stucco	Col Revival	c. 1920	single				2	1		
173	47-5-84		Curt Stork	190	Mink Hollow	Rd	3.0	4	stucco/alum	vernacular	c. 1830	single				2	1		
174	47-5-84		Curt Stork	190	Mink Hollow	Rd	2.0	1	stucco/stone	vernacular	c. 1830	sprhse				2	1		
175a, -b	47-5-9		Kimberly Kiszely	2425	Strasburg	Rd	2.5	2	brick	4 Square	1915	single			garage	2	1		
176	47-5-94			1644	Goosetown	Rd	2.5	3	aluminum	vernacular	c. 1850	single				3	1		

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
177	47-5-98			1700	Goosetown	Rd	2.5	2	aluminum	vernacular	c. 1840	single				2	1		
178	47-5A-1			317	Doe Run	Ave	1.5	3	stucco	vernacular	c. 1860	single	Schoolhouse			2	1		aka 215 Strode Ave/Newlin?
179	47-5A-10			9	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
180	47-5A-11			11	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
181	47-5A-12			13	Newlinville	Rd	2.0	2	permastone	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
182	47-5A-13			15	Newlinville	Rd	2.0	2	aluminum	Late 19th C	1900	single	was part of Newlinvl Rd Row			2	1		Newlin?
183	47-5A-17			23	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	twin	was part of Newlinvl Rd Row			2	1		1 of row of 6/3 gone/Newlin?
184	47-5A-18			25	Newlinville	Rd	2.0	2	aluminum	Late 19th C	1900	twin	was part of Newlinvl Rd Row			2	1		1 of row of 6/3 gone/Newlin?
185	47-5A-19			27	Newlinville	Rd	1.5	3	asbestos shng	Bungalow	c. 1920	single				2	1		Newlin?
186	47-5A-2			325	Doe Run	Rd	2.0	2	alum	Dutch Col Rev	c. 1930	single				2	1		Newlin?
187	47-5A-25			5	Jane	St	1.5	3	asphalt brick	Bungalow	c. 1920	single				3	1		Newlin?
188	47-5A-26			3	Jane	St	2.5	3	synthetic	Late 19th C	1900	single				2	1		Newlin?
189	47-5A-28			115	Doe Run	Rd	2.5	2	brick	Gothic Revival	c. 1860	single				2	1		Newlin?
190	47-5A-3			335	Doe Run	Rd	2.0	3	alum	Col Revive	c. 1930	single				2	1		Newlin?
191	47-5A-31			34	Newlinville	Rd	2.5	3	brick	Gothic Revival	c. 1860	single				2	1		Newlin?
192	47-5A-32			36	Newlinville	Rd	2.5	3	aluminum	Gothic Revival	c. 1880	single				2	1		Newlin?
193	47-5A-33			38	Newlinville	Rd	1.5	2	aluminum	vernacular	c. 1900	single				3	1		Newlin?
194	47-5A-34			40	Newlinville	Rd	2.0	2	aluminum	Dtch Col Reviv	c. 1930	single				2	1		Newlin?
195	47-5A-35			35	Newlinville	Rd	2.0	3	stc/aluminum	vernacular	c. 1860	single				2	1		Newlin?
196	47-5A-37			8	Jane	St	1.5	2	aluminum	bungalow	c. 1910	single				2	1		Newlin?
197a, -b	47-5A-38			6	Jane	St	1.5	2	alum/wood	bungalow	c. 1910	single			outbldg	3	1		Newlin?
198	47-5A-4			345	Doe Run	Rd	1.5	2	stucco	Cape Cod	c. 1950	single				3	1		Newlin?
199	47-5A-40			4	Jane	St	1.5	3	asbestos shng	vernacular	c. 1860	single				2	1		Newlin?
200	47-5A-41			2	Jane	St	2.5	2	aluminum	Late 19th C	c. 1890	single				2	1		Newlin?
201	47-5A-5		Ann Ruczhak	355	Strode	Ave	2.5	3	brick	4 Square	c. 1910	single				2	1		Newlin?
202a, -b	47-5A-6			365	Doe Run	Rd	2.5	3	stucco	Late 19th C	c. 1880	single			stable	2	1		Newlin?
203	47-5A-8			3	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
204	47-5A-9			5	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
205	47-5A-10			7	Newlinville	Rd	2.0	2	stucco	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
206a, -b, -c, -d	47-6-10		Ted Moser Developer	2140	West Chester	Rd	2.5	3	brickface	Gothic Revival	c. 1870	single			corncrib, sprghse, brn ruin	2	1		
207a, -b		Same parcel as #206a - d	Martin House	720	South Caln	Rd	2.0	6	stone/frame	Colonial Reviv	c. 1930	single	R. Brognard Okie, architect		guest hse	1	1		
208a, -b	47-6-11		Michael Thompson	1505	South Bailey	Rd	3.5	3	stucco	vernacular	c. 1840	single			outbldg	2	1		
209a, -b	47-6-12.34A		Robert West	1435	South Bailey	Rd	2.0	3	brick/stucco	Late 19th C	1911	single			cottage	3	1		remuddled, c. 1950
210	47-6-14			470	Mortonville	Rd			stone			vacant	ruins			3	1		
211	47-6-16		Dennis Falon	105	Mortonville	Rd	2.5	3	aluminum	vernacular	1863	single				2	1		I-25/NR?
212	47-6-17			540	Misty Patch	Rd	2.0	3	stucco	Mod Ranch	c. 1955	single				3	1		
213a, -b, -c	47-6-19			465	Misty Patch	Rd	2.5	5	stucco/alum	vernacular	c. 1820	single			barn, root cellar	2	1		
214a, -b, -c, -d	47-6-20		Wm. Malaney	435	Misty Patch	Rd	2.5	3	weatherboard	vernacular	c. 1840	single			barn,sprnghse, shed	2	1		was 345 Misty Patch Rd
215	47-6-21.1			1820	Goosetown	Rd	2.5	2	aluminum	vernacular	c. 1820	single				2	1		
216a, -b	47-6-24		Dona Sensenig	1850	Goosetown	Rd	1.5	3	stucco	vernacular	c. 1836	single	Little Washington School		outbldg	2	1		
217a, -b, -c	47-6-25.1			945	South Caln	Rd	2.5	3	brick	Late 19th C	c. 1880	single			barn, garage	2	1		
218a, -b, -c, -d	47-6-34		Charles Gilgore	1215	South Caln	Rd	1.5	3	stucco	Cape Cod	c. 1940	single			barn, silo, corn crib	2	1		
219a, -b	47-6-35			910	South Caln	Rd	2.5	3	stucco	vernacular	c. 1840	single			garage	2	1		
220a, -b	47-6-4		Frank Miller	1825	Goosetown	Rd	2.5	3	stucco	vernacular	c. 1850	single			garage	2	1		
221a, -b	47-6-48			250	Oaklyn	Rd	1.5	3	stucco	vernacular	c. 1910	shop			sprghse	3	1		post 1956 house
222a, -b, -c	47-6-49			200	Oaklyn	Rd	2.5	5	aluminum	PA farmhouse	c. 1800	single	Oaklyn Hollow Farm		barn, pond	2	1		
223	47-6-50		Jonathan Nutt	1065	South Caln	Rd			stone			cemetary	Black Civ Wr Vets Cem			1	1		NR?
224a, -b, -c	47-6-51		Thomas Maris	1060	South Caln	Rd	2.5	3	aluminum	Neo-Col Revive	c. 2000	single			ruins, garage	3	1		New Hse/old Foundation
225	47-6-52			1080	South Caln	Rd	2.5	2	stone/alum	vernacular	c. 1820	single				2	1		
226	47-6-53			1100	South Caln	Rd	2.5	3	aluminum	vernacular	c. 1900	single				2	1		
227	47-6-6		Donald Taylor	1875	Goosetown	Rd			stone		1842	ruin				2	1		Washngtn Meth Chrch ruin/was 1855 Goosetown Rd/I-26/NR?
228	47-6-61.3			97	Saw Mill	Rd	1.0	1	stone	vernacular	c. 1820	sprghse				2	1		NR?
229	47-6-62		Sandra Stowell	85	Saw Mill	Rd	2.5	4	stc/stn/log	vernacular	1800	single	Joshua Pusey House	yes		1	1		I-22
230a, -b, -c, -d	47-6-65		T. S. Wilson	109	Strasburg	Rd	3.5	2	stone	vernacular	1800	single	Joseph Filson House		barn, sprghse, rootcllr	2	1		log wing oldest sect.?/was 2119 Strasburg Rd/SRTH-31/NR?
231	47-6-67			80	Mortonville	Rd	2.5	1	stucco	vernacular	c. 1800	single				2	1		NR?

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
232a, -b, -c, -d, -e	47-6-9		Harkins Farm	1375	South Bailey	Rd	3.5	2	stucco	vernacular	c. 1800	single			barn, sprghse, privy, sheds	2	1		was 1365 South Bailey Rd
233		Same parcel as #235a - b	Balmer Management	140	Buck Run	Rd			stone		c. 1810	sprghse?	Benjamin Fredd Farm			2	1		Was 220 Buck Run Rd/BR-8/NR?
234a, -b		Same parcel as #235a - b	Balmer Management	140	Buck Run	Rd	2.5	4	stone	vernacular	1811	single	Benjamin Fredd Farm		barn	2	1		Was 220 Buck Run Rd/BR-9/NR?
235a, -b	47-7-102			150	Buck Run	Rd	2.5	5	stucco	PA farmhouse	c. 1820	single				2	1		Was 220 Buck Run Rd/NR?
236	47-7-102.1		Richard Quillman	206	Buck Run	Rd	1.5	3	aluminum	Bungalow	c. 1935	single	Benjamin Fredd Farm		garage	2	1		BR-10/NR?
237		Same parcel as #236	Richard Quillman	200	Buck Run	Rd	1.5	3	aluminum	Bungalow	c. 1935	single	Benjamin Fredd Farm			2	1		Was Tx P #47-7-103/BR-10/NR?
238	47-7-104		Balmer Management	128	Buck Run	Rd	2.0	6	stucco	Italianate	1890	twin				2	1		twn hse under 1 ownr/BR-7/NR?
239	47-7-106			104	Buck Run	Rd	2.0	2	stucco	Italianate	1884	twin				2	1		
240	47-7-106.1		Peter Blauner	120	Buck Run	Rd	2.0	2	stucco	Italianate	1884	twin	David S. Young House			2	1		BR-4/NR?
241	47-7-107		Leon Wolfe	100	Buck Run	Rd	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		BR-1/NR?
242a, -b	47-7-114		George Bentley	115	Buck Run	Rd			steel/iron		1868	vacant	RR bridge		dam	2	1		BR-15/NR?
243	47-7-116		Ercildoun Farm corp	135	Buck Run	Rd	2.5	3	stucco/stone	vernacular	c. 1798	vacant	Caleb Phipps House?			2	1		BR-13/NR?
244a, -b	47-7-119		Dana Horner	205	Buck Run	Rd	2.5	3	stone/frame	vernacular	1852	single	Sunnyside Seminary		barn	2	1		BR-11/NR?
245a, -b, -c, -d	47-7-121		Greg & Caroline Bentley	50	Spring Dell	Rd	2.5	4	stone	vernacular	1810	single	John Bailey Farm	yes	barn, carriage house, springhouse	1	1		I-10
246a, -b	47-7-122		Brenda Nixon	265	Buck Run	Rd	2.5	2	aluminum	4 Square	c. 1910	single			garage	2	1		
247	47-7-126		Anderson	335	Buck Run	Rd	2.0	6	stucco		1890							1	BR-2/NR? Where is it?
248a, -b	47-7-13		Robert Beck	26	Park	Ave	2.5	3	aluminum	Gothic Revival	c. 1850	single			barn	2	1		listed as 47-4-113
249	47-7-131		Ercildoun Farm Corp	415	Buck Run	Rd	2.5	2	alumunium	vernacular	c. 1880	single				2	1		
250a	47-7-132			425	Buck Run	Rd	2.5	2	stone	vernacular	c. 1800?	ruin				2	1		
250b		Same parcel as #250a		425	Buck Run	Rd	2.0	5	stone/log	PA farmhouse	1833		Levi Walton House				1		I-9/NR? Damaged or destroyed by fire Nov, 2007
251a, -b, -c, -d	47-7-133		Robert Primus	475	Buck Run	Rd	2.5	3	alum/stone	vernacular	c.1850	single			sprghs, outbldg, barn fndatn	2	1		bankhouse
252	47-7-135		Anna Nixon	485	Buck Run	Rd	2.0	2	log/stucco		1835	single	Eli Hampton House	yes		1	1		E-1
253	47-7-136		Joshua Thompson	645	Buck Run	Rd	2.5	3	aluminum	Late 19th C	c. 1880	single	Jos. S. Walton Tenant House	yes		1	1		E-10
254a, -b, -c	47-7-137-E		Fallowfield Meeting	800	Doe Run	Rd	1.5	4	stucco	vernacular	1801	religious	Fallowfield Friends Meeting	yes	grge, crgshds	1	1		E-24
255a, -b		Same parcel as #254a - c	Fallowfield Meeting	800	Doe Run	Rd					1801	cemetery	Fallowfield Meeting Cemetery	yes	stuc/stn wall	1	1		E-24
256	47-7-138-E		Fallowfield Hist. Soc.	810	Doe Run	Rd	1.0	2	stucco	vernacular	1845	social	People's Hall	yes		1	1		E-25
257	47-7-140		Alvin Horning	814	Doe Run	Rd	2.5	9	stucco	Greek Revival	c. 1855	row	Joshua & George Lee Houses	yes		1	1		row w/1 owner; was a twin/E-26 & E-27
258	47-7-141		John Russell	840	Doe Run	Rd	2.5	2	stucco	vernacular	1830	single	John Butler House	yes		1	1		E-28
259	47-7-143		Daniel Washington	880	Doe Run	Rd	2.0	3	stucco	vernacular	1880		Jacob Carter House	yes		1	1		E-31
260a, -b, -c, -d	47-7-147		Jacelyn Colyer	942	Buck Run	Rd	2.5	7	stone	vernacular	1803	single	Thomas Welch House	yes	barn, wagn shed, sprghse	1	1		was 605 Buck Run Rd/E-9
261	47-7-147.1			940	Doe Run	Rd	2.5	2	weatherboard	DtchCol Reviv	c. 1925	twin	Labiack's Tavern			2	1		
262	47-7-149.1		Sean Coldren	1110	Doe Run	Rd	2.5	5	stone	Pa Farmhouse	1825	single	Martha Pennock House	yes		1	1		I-14
263a, -b, -c	47-7-149.1A			1100	Doe Run	Rd	3.0	4	stucco/stone	Federal	c. 1830	single			shed, barn ruin	2	1		
264a, -b, -c, -d, -e, -f	47-7-15		Dan/Erma Colyer	29	Park	Ave	3.5	4	stucco	vernacular	c. 1810	vacant			barn, wagonhouse, chicken house, small shed, springhouse	2	1		
265	47-7-157			1035	Doe Run	Rd	1.0	3	stucco	ranch	c. 1940	single				3	1		
266	47-7-158			1045	Doe Run	Rd	2.5	2	aluminum	4 Square	c. 1900	single				2	1		
267	47-7-161		Clarence Smith	26	Rokeby	Rd	2.5	2	aluminum	vernacular	c. 1810	single				2	1		
268	47-7-166			38	Rokeby	Rd	2.0	3	aluminum	Late 19th C	c. 1890	single				3	1		was a twin?
269	47-7-17.2			11	Park	Ave	1.0	3	weatherboard	cottage	c. 1920	single	Chapel	yes		1	1		GR-8
270	47-7-17.3		Ralph Showalter	7	Park	Ave	2.5	5	stucco/stone	vernacular	1825	single	George Passmore Cider Mill	yes		1	1		GR-7
271a, -b	47-7-19.1			209	Glenrose	Rd	3.5	3	stucco	Neo-Victorian	c. 1950	single			garage	2	1		Or remodl'd GthcRvive
272a, -b	47-7-20		William Lamond?	8	Edward	Dr	2.5	5	stucco	PA farmhouse	c. 1820	single			cemetery	2	1		
273	47-7-208		William Lamond	7	Edward	Dr	3.0	4	wood shingle	vernacular	c. 1920	single	Barn for 47-7-20			2	1		
274	47-7-22		Renate DiMarco	600	Buck Run	Rd	1.0	3	alum	ranch	1950	single		yes		2	1		E-5 [N/C]
275	47-7-22.1		St Joseph's House	630	Buck Run	Rd	1.5	3	stucco	ranch	1950	single		yes		2	1		E-8 [N/C]
276	47-7-22.2		St Joseph's House	620	Buck Run	Rd	1.5	3	stucco	ranch	1950	single		yes		2	1		E-7 [N/C]
277	47-7-22.3		James Cocca	610	Buck Run	Rd	1.0	3	alum	ranch	1950	single		yes		2	1		E-6 [N/C]; large post-1960 addition to front
278a, -b, -c	47-7-23		St Joseph's House	640	Buck Run	Rd	2.5	7	stucco	vernacular	1851	school	Ercildoun Academy	yes	2 outbldgs	1	1		E-11
279a, -b	47-7-24		V. Russell Young	660	Buck Run	Rd	2.0	3	aluminum	Mid 19th C	1855	single	Caleb Pierce House	yes	garage	1	1		E-12
280	47-7-25		Keith Newitt	670	Buck Run	Rd	2.5	5	aluminum	vernacular	1854	row	Lee, Pierce, Thompson Foundary	yes		1	1		E-13

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
281	47-7-26		Kevin Busza	680	Buck Run	Rd	2.5	3	aluminum	vernacular	1854	row	Lee, Pierce, Thompson Foundary	yes		1	1		E-14
282	47-7-27		Patricia Scott	690	Buck Run	Rd	2.5	3	stucco	vernacular	1835	single	James Fulton Tenant House	yes		1	1		E-15
283a, -b	47-7-29		George Gossert	30	Loop	Rd	2.5	3	stucco	vernacular	1840	single	James Fulton Tenant House	yes	crghse	1	1		E-18
284	47-7-32			360	Wilmington	Rd	1.5	3	aluminum	Prairie	c. 1920	single				3	1		
285	47-7-34			310	Wilmington	Rd	2.0	2	stucco	Col Revive	c. 1940	single				2	1		
286	47-7-35			300	Wilmington	Rd	2.0	2	stucco	Col Revive	c. 1940	single				2	1		
287	47-7-36			290	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1940	single				2	1		
288	47-7-37			280	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1940	single				2	1		
289	47-7-38.2		David McClimans	40	Loop	Rd	2.5	7	stucco	vernacular	c. 1806	single	James Fulton House	yes		1	1		E-16; aka Thomas Heslip House?
290a, -b	47-7-41			236	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1930	single			garage	3	1		
291a, -b	47-7-46		Bruce Wrigley	215	Wilmington	Rd	2.5	5	brick	Gothic Revival	c. 1860	single			new crghse	2	1		
292	47-7-47		Church of Christ	700	Doe Run	Rd					1894	religious	cemetery	yes		1	1		E-19-B
293	47-7-48-E		Christ Disciple Church	750	Doe Run	Rd	2.0	4	aluminum	vernacular	1894	religious	Christ Disciple Church	yes		1	1		E-19-A
294	47-7-51			727	Doe Run	Rd	1.5	3	brickface	CpCd/Tdr Rev	c. 1930	single				3	1		
295	47-7-51.1			725	Doe Run	Rd	1.5	2	stucco	Cape Cod	c. 1950	single				3	1		
296	47-7-52		Walter Pluck	735	Doe Run	Rd			stucco	Cape Cod	c. 1930	single				3	1		
297a, -b, -c	47-7-53.4-E		House of His Creation	720	Buck Run	Rd	2.5	5	vinyl	Italianate	1865	religious	James Cooper House	yes	barn, garage	1	1		E-20
298	47-7-55.2		John Callahan	715	Buck Run	Rd	2.5	4	stucco	vernacular	1798	single	George Welsh House	yes		1	1		E-21
299	47-7-56		James Petro	805	Doe Run	Rd	2.5	7	stucco/alum	vernacular	1818	store	Gideon Pierce House & Store	yes		1	1		was 803 Doe Run Rd/E-23
300	47-7-56.1		Ann O'Donnell	705	Buck Run	Rd	?	?	??	ranch	1956	single		yes		1	1		E-22 [N/C] NEED PHOTO!!!
301a, -b	47-7-57		Edward Tracey	849	Doe Run	Rd	2.5	3	aluminum	Greek Revival	1855	single	Gideon Pierce House	yes	barn	1	1		E-29
302a, -b, -c, -d	47-7-58		Thomas Quinn	855	Doe Run	Rd	2.5	4	stone	vernacular	1793	single	John Wentz House	yes	barn, sprhse, wgnshd	1	1		La Mancha/I-12
303a, -b, -c, -d, -e, -f	47-7-6.3D			447	Mt. Carmel	Rd	2.5	5	aluminum	Pa farmhouse	c. 1810	single			tenant hse, ruin w/2 silos, barn, corncrib, garage	2	1		NR?
304	47-7-6.9		Pam Bastings	2	Park	Ave			stone			retain wall	wall associated w/dam?			2			Glen Rose?
305a, -b, -c	47-7-62		Floyd Thompson	19	Rokeby	Rd	2.5	2	weatherboard	vernacular	c. 1830	single	Ida Jones House		privy, sprnghs	2	1		NR?
306	47-7-66			39	Rokeby	Rd	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		
307	47-7-67		Joseph Stonelake	300	Glenrose	Rd	2.5	3	aluminum	vernacular	1840	single	James Newlin tenant house	yes		1	1		GR-1
308	47-7-67.1		George Anthony	306	Glenrose	Rd	2.0	4	stucco	vernacular	1883	single	Joseph Brinton	yes		1	1		GR-2
309a, -b, -c	47-7-67.2		Arthur Johnson	310	Glenrose	Rd	2.5	4	stucco/stone	vernacular	1810	single	George Passmore House	yes	barn, corncrib	1	1		GR-3
310	47-7-73.1		Edmund Thayer	222	Glenrose	Rd	2.5	4	stucco/stone	vernacular	1830	single	Mansel Passmore House	yes		1	1		I-8
311	47-7-74			220	Glenrose	Rd	2.5	3	brick	Tudor Revival	c. 1920	single				2	1		
312	47-7-75			212	Glenrose	Rd	2.5	2	asphalt brick	early 20th C	c. 1900	vacant				3	1		
313	47-7-6.9		Pam Bastings	2	Park	Ave			stone			ruin	Thomas Truman Grist Mill Dam			2	1		Glen Rose?
314	47-7-81		David Hindman	40	Glenrose	Rd	2.5	5	stucco	vernacular	1841	single	Joseph Walton House	yes		1	1		E-4
315a, -b	47-7-82		Martha Pennington	520	Buck Run	Rd	1.5	4	brick/shingle	vernacular	1899	single	Ercildoun School	yes	outbldg	1	1		E-3
316a, -b	47-7-83		Joseph Kovalovich	510	Buck Run	Rd	2.5	3	aluminum	Gothic Revival	1852	single	Rachel Walton House	yes	barn	1	1		E-2
317	47-7-84.1		Arthur Polk	470	Buck Run	Rd	2.5	6	aluminum	Greek Revival	c. 1840	single				2	1		
318	47-7-9		Kristen Voigtsberger	16	Park	Ave	3.5	3	log/stone	vernacular	1805	single	George Passmore Cobbler Shop	yes		1	1		GR-6
319		Same parcel as #318	Kristen Voigtsberger	16	Park	Ave	1.0	1	log	vernacular	1805	single	Smoke house			1	1		Glen Rose?
320	47-7-9.1		Jill Beech	6	Park	Ave	2.5	3	alum/stucco	vernacular	1775	single	Thomas Truman Grist Mill	yes		1	1		GR-4
321a, -b, -c	47-7-9.2		Jill Beech	8	Park	Ave	2.5	5	stucco/stone	PA farmhouse	1836	single	James Newlin House	yes	crghse,sprnghse	1	1		GR-5
322a, -b, -c	47-7-96		Balmer Management	710	Buck Run	Rd	2.5	5	stone/alum	Pa farmhouse	c. 1840	single			sprnghs & barn ruins	2	1		
323	47-7-98		Balmer Management		Buck Run	Rd			stone/earth		1868		Embankment			2	1		BR-3/NR?
324	47-8-10.2		Richard & Char-Ann Ireland	110	Frog Hollow	Rd			stone			wall	retaining wall along Strasburg Rd.			2	1		
325	47-8-11-E		Coatesville Area SD	2254	Strasburg	Rd	1.5	24	stone	Col Revival	c. 1935	school	E. Fallowfield Elem Sch/WPA			2	1		NR?
326a, -b	47-8-12			20	Frog Hollow	Rd	1.5	3	alum	vernacular	c. 1950	single			garage	3	1		
327	47-8-13			14	Frog Hollow	Rd	1.0	2	alum	vernacular	c. 1950	single				3	1		
328	47-8-14		Albert Sardella	135	Frog Hollow	Rd	2.5	4	stucco	vernacular	1857	single				2	1		deed search done
329a, -b	47-8-15.1			3600	Doe Run Church	Rd	2.5	4	stone/stucco	vernacular	c. 1800	single	maybe associated w/Powell Family		crghse	2	1		
330a, -b	47-8-15.3		Daniel Snyder	175	Frog Hollow	Rd	2.5	5	stucco/stone	PA farmhouse	1796	single	John Powell House	yes	new barn	1	1		was Hephzibah Hill Rd/1-16
331a, -b, -c, -d	47-8-15.4		Arthur DeLeo	3480	Doe Run Church	Rd	2.5	5	stone	vernacular	1794	single	I. Powell Farm	yes	sprghse, shed, chckn hse	1	1		was Dupont Rd/1-17
332	47-8-15.4A			165	Frog Hollow	Rd	2.5	3	aluminum	vernacular	c. 1850	single				2	1		
333	47-8-17			3440	Doe Run Church	Rd	2.5	3	stucco	vernacular	c. 1830	single				2	1		

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
334a, -b, -c, -d, -e	47-8-18		Anne Thornington	3350	Doe Run Church	Rd	2.5	4	stone	vernacular	1820	single	John Jordan Jr. House		barn, hrsbrn, ofc, sprnghse	2	1		
335a, -b	47-8-19.33		Clarence Rhoades	2176	Strasburg	Rd	2.0	3	stucco/stone	Bungalow	c. 1920	single			barn	2	1		
336		Same parcel as #337	Doe Run Pres. Church	3104	Doe Run Church	Rd	2.5	3	aluminum	Gothic Revival	c. 1850	single	Doe Run Prsby Parsonage			2	1		was 3100 Doe Run Church Rd/Strasburg?
337	47-8-20-E		Doe Run Pres. Church	3104	Doe Run Church	Rd	1.5	3	stone	vernacular	1821	religious	Doe Run Presbyterian Church			2	1		SRTH-26/NR?
338a, -b, -c, -d	47-8-21		Real Estate Finders LLC	2133	Strasburg	Rd	2.5	3	stc/aluminum	Greek Revival	1840	single	James Wilson House		barn, garage, sprnghse	2	1		was 2135 Strasburg Rd/SRTH-29/NR?
339a, -b	47-8-21.1		Warren Steinacker	2145	Strasburg	Rd	2.5	2	stucco/alum	vernacular	1840	single	James Wilson Tenant House		garage	2	1		SRTH-27/NR?
340a, -b	47-8-22			3470	Doe Run Church	Rd	2.5	6	stc/alum	vernacular	c. 1850	single			sprghse	2	1		"Murder House"/Gothic Revivalized
341a, -b	47-8-23.3		Elkins/BR Land&CattleCo	3575	Doe Run Church	Rd	2.5	5	frame/stone	vernacular	c. 1980	single	associated with 47-8-15.1		barn, sheds	2	1		New garage/residence w/old stone
342	47-8-23.4			3580	Doe Run Church	Rd	2.5	3	stucco	vernacular	c. 1800	single				2	1		
343	47-8-23.7			775	Doe Run Church	Rd			stone			ruin				2	1		
344a, -b, -c	47-8-29		Debra Rush	400	Fairview	Rd	2.5	5	stone	PA farmhouse	1819	single	John Hanna Farm	yes	barn, sheds	1	1		I-21
345	47-8-29.1		Debra Rush	600	Fairview	Rd	1.5	2	stucco	vernacular	1840	single	Fairview Schoolhouse			2	1		was 400 Fairview Rd
346a, -b	47-8-30		Anthony Jenks	3355	Doe Run Church	Rd	2.5	4	stucco	vernacular	c. 1820	single			barn	2	1		
347a, -b, -c, -d, -e, -f	47-8-31.3		Charles Coyne	3111	Doe Run Church	Rd	2.5	4	stucco	vernacular	1750	single	John Filson House		sprghse, barn, silo, wagonshed,chickenhse	2	1		SRTH-28/NR?
348a, -b, -c	47-8-32		Harry Rowe	2132	Strasburg	Rd	2.5	3	aluminum	Gothic Revival	c. 1860	single			barn,shed	2	1		Mortonville?
349	47-8-33.1		Bissinger	230	Fairview	Rd	3.0	3	stucco	vernacular	1800	single	Thomas Worth House		attached mill	2	1		I-19/NR?
350	47-8-34		Roger Mustalish	255	Fairview	Rd	1.5	2	stone	vernacular	1845	single	Robert Steen House	yes		1	1		was 2255 Fairview Rd/I-20
351	47-8-35		Edward Fitts	355	Fairview	Rd			stone			ruin	Pyle Farm Barn Ruins			2	1		
352	47-8-36.1		Thomas Rehill	1115	Doe Run	Rd	3.5	2	stone	vernacular	1798		Isaac Pennock House			2	1		I-28/NR?
353a, -b	47-8-4		Chembry LLC	59	Rokeby	Rd	2.5	3	aluminum	vernacular	c. 1890	single			crghse	2	1		
354	47-8-6		David Jones	2340	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	1840	single	Ephraim Lilly House			2	1		SRTH-21/NR?
355a, -b, -c	47-8-8		Jeffrey Seder	1055	Doe Run	Rd	2.5	4	stucco/stone	vernacular	1820	single	Daniel Lukens House		sprghse, barn	2	1		I-13/NR?
356	47-9-1		Russell Schaible	2131	Strasburg	Rd	2.5	6	log/stucco	vernacular	1810	single	Henry Marsh House			2	1		SRTH-30/NR?
357a, -b	47-9-13		Brandywine Outfitters	2100	Strasburg	Rd	2.0	5	stone	vernacular	1767	vacant	Thomas Hayes Mill Ruin		ftbrdge	2	1		SRTH-34/NR?
358	47-9-14		George Shaver	110	Fairview	Rd	2.5	2	brick	Queen Anne	1920	single	Hugh Moore House			2	1		SRTH-32/NR?
359	47-9-17		Edward Fitts	118	Brandywine Creek	Rd	2.5	3	aluminum	4Square	c. 1920	single	Elvin House			2	1		
360	47-9-2.1			2125	Strasburg	Rd	2.0	3	stucco	International	c. 1920	commercial				2	1		Mortonville?
361	47-9-3		James Rodgers	2121	Strasburg	Rd	1.5	4	asbestos	vernacular	c. 1900	single				2	1		Mortonville?
362a, -b	47-9-4		Theodore Wilson	2117	Strasburg	Rd	2.5	4	aluminum	mid 19th C	c. 1870	twin			garage	2	1		twin hse w/1 owner/was 2119 Strasburg Rd/Mortonville?
363	47-9-5		James McBride	2115	Strasburg	Rd	2.5	2	vinyl	mid 19th C	c. 1860	single				2	1		Mortonville?
364	47-9-8			505	Mortonville	Rd	2.0	4	stucco	vernacular	c. 1800	commercial				2	1		Mortonville?
365	47-9-9		John Harper	2097	Strasburg	Rd	3.0	4	stucco	vernacular	1849	residential	Thomas Worth Hse/Mortonville Htl	yes		1	1		Apts/SRTH-35
366					Doe Run Church	Rd			stone	arched		bridge	Doe Run Church Rd Bridge			2	1		No Tax # on Map
367					Frog Hollow	Rd			wood	covered		bridge	Speakman Bridge #1	yes		1	1		No Tax # on Map
368					Mortonville	Rd			stone	arched		bridge	Mortonville Road Bridge at Goosetown			2	1		No Tax # on Map
369			PennDot		Strasburg	Rd		4	stone	arched	1826	bridge	Mortonville Bridge	yes		1	1		No Tax # on Map/SRTH 33
370			PennDot		Strasburg	Rd		1	stone	arched	c.1800	bridge	Mortonville Mill Race Bridge	yes		1	1		No Tax # on Map
371					The Laurels				wood	covered		bridge	Mary Ann Pyle Bridge	yes		1			No Tax # on Map/AKA Speakman Bridge #2
372					Timicula	Rd			steel/iron	RR Bridge		bridge				2	1		In Township?
373			Efallowfield&Newlin		Strasburg	Rd			stone			boundary marker	Marker between Nelwin & E. Fallowfield Townships			2			Strasburg?

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

West Marlborough Township

Newlin Township

Londonderry Township

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Doe Run RD

Strasburg RD

Glenrose

Strasburg Hunt

Brook Crossing

Hillcrest MHP

Carriage Crest

Towerville

Stinks Crossroads

Doe Run Farms

Falkenhelm Farms

Brandywine Manor

Branford Village

Fieldstone Village

Stone Creek

Green Tree

Manchester Farms

Providence Hill

North Woods

Brinton Station

Goosetown

Fox Knoll

Hephzibah

Youngsburg

Rokeby RD

Primus Farm LA

Hunter RD

Longview RD

Spring Dell RD

Frog Hollow RD

Fairview RD

Doe Run Church RD

Mink Hollow RD

Sawmill RD

Montgomeryville RD

Wellington Hunt

Scale in Feet: 1,500 0 1,500 3,000

N W E S

LEGEND

- Septic System Failures
- Septic Certification Failures
- Needs Survey Parcels
- Visual Survey Conducted

Needs Classification

- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

- Lakes and Ponds
- Rivers and Streams
- Local Roads
- State Roads
- Muni_Bound_Lines
- Tax Parcels
- Existing Service Area
- Study Area Boundary

East Fallowfield Township, Chester County, Pennsylvania

FIGURE 14a
ACT 537 PLAN
SURVEY RETURNS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Londonderry Township

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Strasburg Hunt

Carriage Crest

Brook Crossing

Branford Village

Stinks Crossroads

Glenrose

Falsworth Farms

Doe Run Farms

Hephzibah

Youngsburg

Stone Creek

Green Tree

Fieldstone Village

Wellington Hunt

Manchester Farms

Providence Hill

Brinton Station

Fox Knoll

Goosetown

Hillrop MHP

Ercildoun

Ellis MHP

Strasburg RD

Doe Run RD

Glenrose RD

Wilmington RD

Mount Carmel RD

Beck RD

Mink Hollow RD

Sawmill RD

Goosetown RD

Fairview RD

Doe Run Church RD

Frog Hollow RD

Rokeby RD

Hunter RD

Longview RD

Spring Dell RD

Primus Farm LA

Scale in Feet

1,500 0 1,500 3,000

N W E S

LEGEND

- Septic System Failures
- Septic Certification Failures
- Needs Survey Parcels
- Visual Survey Conducted

Needs Classification

- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

- Lakes and Ponds
- Rivers and Streams
- Local Roads
- State Roads
- Muni_Bound_Lines
- Tax Parcels
- Existing Service Area
- Study Area Boundary

East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 14b
ACT 537 PLAN
SURVEY RETURNS - SMALL LOTS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township
Valley Township
Coatesville
Caln Township
South Coatesville Borough
Modena Borough
Highland Township
West Bradford Township
Newlin Township
West Marlborough Township

Stottsville Area
Mount Carmel Area
Victoria Hills/ Fox Chase Area
SBMS Area
Ercildoun Area
Park Ave Area
Fallowfield Farms Area
Doe Run Area
Rokeby Road Area
Spring Dell Area
Hephzibah Hill Area
High Meadows Area

Buck Run
UNT to Buck Run
Dennis Run
West Branch Brandywine Creek
Glenrose
Strasburg Rd
Doe Run Rd
Wilmington Rd
Gheseke Rd
Buck Run Rd
Rokeby Rd
Hunter Rd
Spring Dell Rd
Lochview Rd
Frog Hollow Rd
Fairview Rd
Doe Run Church Rd
Hephzibah Hill Rd
Mink Hollow Rd
Sawmill Rd
Goosetown Rd
Gosetown
Brinton Station
Providence Hill
Manchester Farms
Fieldstone Village
Stone Creek
Green Tree
Wellington Hunt
Hillcrest Manor
Brookside Farms
Fallowfield Farms
Ercildoun
Doe Run Farms
Brookside Manor
Brandywine Manor
Brook Crossing
Branford Village
Strunks Crossroads
Youngsburg
Hillcrest Mnr
Ercildoun MHP

Lakes and Ponds
Rivers and Streams
Local Roads
State Roads
Tax Parcels
Existing Service Area
Study Area Boundary
Survey Sub-Areas

LEGEND

Nitrate in Wells (CCHD dated 1/30/2019)
- 0 - 4.99 mg/L
- 5 - 9.99 mg/L
- >= 10 mg/L
- ¼ Mile Buffer on Wells > 5mg/L NO3
- Septic System Failures
- Septic Certification Failures

Needs Survey Parcels
Visual Survey Conducted

Needs Classification
- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

N
W E
S

1,500 0 1,500 3,000
Scale in Feet

East Fallowfield Township, Chester County, Pennsylvania

FIGURE 15a
ACT 537 PLAN
SURVEY RETURNS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Stottsville Area

Mount Carmel Area

Victoria Hills/ Fox Chase Area

SBMS Area

Ercildoun Area

Park Ave Area

Fallowfield Farms Area

Doe Run Area

Rokeby Road Area

Spring Dell Area

Hephzibah Hill Area

High Meadows Area

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Glenrose

Strasburg Rd

Doe Run Rd

Goosetown

Fairview RD

Doe Run Church RD

Spring Dell RD

Longview RD

Hunter RD

Frog Hollow RD

Mink Hollow RD

Sawmill RD

Morgantown RD

Youngsburg

Strunks Crossroads

Brook Crossing

Hillrop MHP

Ercildoun MHP

Brandywine Manor

Branford Village

Fox Knoll

Fieldstone Village

Stone Creek

Green Tree

Manchester Farms

Providence Hill

Brinton Station

North Woods

Wellington Hunt

Strasburg Hunt

Carriage Forest

Fallowfield Farms

Doe Run Farms

Cumberland Farms

Hephzibah

Youngsburg

Glenrose

Buck Run

Dennis Run

Stone Creek

Green Tree

Fieldstone Village

Wellington Hunt

Fox Knoll

Brinton Station

Providence Hill

Manchester Farms

Strasburg Hunt

Carriage Forest

APPENDIX A

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION
SOUTHEAST REGIONAL OFFICE

January 28, 2014

Ms. Denise Miller, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Act 537 - Plan of Study
East Fallowfield Township
Chester County

Dear Ms. Miller:

We have completed our review of your municipality's proposed plan of study, as prepared by Herbert E. MacCombie, Jr. Consulting Engineers & Surveyors, Inc., dated November 18, 2013.

The Plan of Study proposes to address the planning requirements necessary to adequate methods of sanitary sewage disposal throughout the Township.

Approval of this proposed Plan of Study is hereby granted. The estimated cost of the plan is $54,990. Please be advised the approval of this scope of work is not a guarantee of eligibility of planning costs for reimbursement by the Commonwealth pursuant to Section 6 (a) of Act 537 and 25 Pa. Code Chapter 71 of the Department of Environmental Protection's (DEP) regulations.

This Plan of Study approval does not constitute a final action by DEP. When a completed plan is submitted to us, we will act upon it consistent with Pa. Code Title 25, Chapter 71.

Your municipality's Act 537 Official Plan Update is to be formatted as suggested in the"A Guide for Preparing Act 537 Update Revisions" including the necessary items listed in the "Act 537 Plan Content and Environmental Assessment Checklist." All necessary items must be included, and a copy of the completed checklist must be included with your Act 537 Plan. This form is available on our website at:
http://www.dep.state.pa.us/dep/deputate/watermgt/wqp/Forms/Act537/Forms_537Plan.htm

Also, please be advised that DEP will not pay grants under the act for planning costs incurred prior to the date of this Plan of Study approval or for information that has been completed previously under local, state, or federal funding programs.

Please note that any new land developments associated with this plan will not be eligible for exemptions from sewage facilities planning under Chapter 71, Section 71.51(b)(2), until after the receiving facilities have been constructed. Applicants proposing projects that will coordinate new development construction with the construction of municipal conveyance or treatment facilities must submit Sewage Facilities Planning Modules for adoption by the municipality and approval by DEP.

If you have any questions, please contact me at 484.250.5175.

Sincerely,

John M. Veneziale
Sewage Planning Specialist 2
Clean Water

cc: Chester County Planning Commission
Chester County Health Department
Herbert E. MacCombie, Jr. Consulting Engineers & Surveyors, Inc.
Ms. Vollero - RCSOB, 11th Floor, Sewage Facilities
Planning Section
Re 30 (GJE14CLW)028-9

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

RECEIVED
SEP 09 2013
By Denise Miller

September 3, 2013

Board of Supervisors
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, PA 19320

Attn: Denise Miller, Secretary

Re: Act 537 Sewage Facilities Plan

Dear Board of Supervisors:

Please be advised that in order to prepare a plan of study, as well as a new Act 537 Sewage Facilities Plan as identified in the "Task/Activity Report" a fee of $54,990.00 is anticipated of which $6,720.00 of that amount is estimated to be for legal expenses. As such, the net cost for engineering services associated therewith would be $48,270.00.

It should be noted that once the Act 537 Sewage Facilities Plan is approved by PADEP, the Township would be able to seek reimbursement from PADEP in the amount of 50% of eligible cost. However, the reimbursement payment may take two (2) years to receive.

The following is a breakdown of the engineering cost identified in the "Task/Activity Report":

Scope of Services

I. Identify and discuss previous and existing wastewater planning. $2,390.00

II. Physical and Demographic Analysis $3,605.00

III. Existing Sewage Facilities in Planning Area including Identifications and descriptions of municipal sewerage systems within the planning area. $4,035.00

IV. Provide description of future growth and develop through mapping, text and analysis for the planning area as defined by the study.

$4,035.00

V. Preparation of Alternatives Analysis to provide for appropriate Sewage Disposal, e.g. but not limited to On-Lot Sewage Disposal, Community On-Lot Systems, Public Sewer Option.

$5,445.00

VI. Evaluation of Alternatives Analysis for consistency with respect to the Clean Streams Law.

a. Plans developed under Municipal Wasteload Management Plan. (Chapter 94)

b. Plans developed under Title II of the Clean Water Act.

c. Comprehensive Plans developed under Act 247 the Pennsylvania Municipalities Planning Code.

d. Anti-degradation requirements as contained in Pa. Code, Title 25 Chapter 93, 95, and 102 and the Clean Water Act.

e. State Water Plans developed under the Water Resources Planning Act.

f. Pennsylvania Price Agricultural Land Policy.

g. The County Act 167 Stormwater Management Plan.

h. Wetlands Protection.

i. Protection of rare , endangered or threatened plant and animal species as identified by the PNDI.

j. Historical and Archeological Resource Protection.

$3,225.00

VII. Institutional Analysis relative to the Township, as well as PAWC with regard to present and past activity and the ability to undertake the recommendation contained within the plan.

$3,385.00

VIII. Identify the alternatives that are most feasible from a technical, Financial and institutional standpoint and justify the alternative of choice based upon the following:

a. Existing Wastewater Disposal needs.

b. Future Wastewater Disposal needs.

c. Operations and Maintenance consideration.

d. Cost effectiveness.

e. Available financing methods.

f. Environmental soundness.

$3,385.00

IX. Preparation of Plan of Study

$945.00

X. Plan Coordination with East Fallowfield Township and PADEP.

$2,180.00

XI. Revisions and Responses to PADEP comments.

$5,850.00

XII. Project Management

$1,750.00

XIII. Plan Reimbursement of Printing Expenses.

$3,960.00

XIV. Meeting Attendance. $4,080.00

Attached please find our fee schedule.

If you have any questions, please don't hesitate to contact our office.

Very truly yours,

James W. MacCombie, P.E.

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

ENGINEERING SERVICES
FEE SCHEDULE
2013

Sr. Prof. Engineer (Principal) (James W.MacCombie, P.E.,P.L.S.)	$135.00 per/hr.
Sr. Prof. Engineer (David J. Biloon, P.E.)	105.00 per/hr.
Prof. Engineer (Dennis F. O'Neill, P.E.)	102.50 per/hr.
Sr. Technician (Class 1) (Herbert E. MacCombie, III)	85.00 per/hr.
Design Engineer (David M. Porter, E.I.T.)	80.00 per/hr.
Technician (Class 2) (Jeremiah MacCombie, Nathaniel I. MacCombie)	70.00 per/hr.
Draftsman-Technician (James C. Bevan, Arber Dhima)	65.00 per/hr.
SEO (James C. Bevan)	75.00 per/hr.
Survey Crew (2 man)	125.00 per/hr.
Survey Crew (3 man)	175.00 per/hr.
Survey Crew (4 man)	225.00 per/hr.
Zoning Officer	85.00 per/hr.

TASK / ACTIVITY REPORT

East Fallowfield Township — Municipality

Chester — County

Portion of East Fallowfield Township — Proposed Planning Area (Attach Map)

8/27/13 — Date of Report

Date Completed Plan Will Be Submitted to DEP: December 2014

Estimated Cost of Plan: $54,990.00

TASK ACTIVITY NUMBER FROM APPENDIX I	PROJECT MANAGER HR/ RATE 135.00		PROJECT ENGINEER HR/ RATE 102.50		SENIOR ENGINEER HR/ RATE 105.00		E.I.T. HR/ RATE 80.00		CADD HR/ RATE 70.00		DRAFTSMAN HR/ RATE 65.00		CLERICAL HR/ RATE 40.00		Q/M HR/ RATE 150.00		EXPENSES		LEGAL EXPENSES HR/ RATE 160.00		SUB TOTAL ($)
	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)	HRS.	COST ($)		COST ($)	HRS.	COST ($)	
I	6	$810	8	$820	4	$420	4	$320					1	$40				$150	2.75	$440	$3,000
II	4	$540	14	$1,435	4	$420	4	$320	6	$420	6	$390	2	$80				$150			$3,755
III	4	$540	14	$1,435	4	$420	6	$480	8	$560	8	$520	2	$80				$150			$4,185
IV	4	$540	14	$1,435	4	$420	6	$480	8	$560	8	$520	2	$80				$150	3.5	$560	$4,745
V	6	$810	30	$3,075	4	$420	6	$480	8	$560			2	$80				$150	2.5	$400	$5,975
VI	6	$810	14	$1,435	4	$420	6	$480					2	$80				$150	3.5	$560	$3,935
VII	6	$810	14	$1,435	4	$420	8	$640					2	$80				$150	8.75	$1,400	$4,935
VIII	6	$810	14	$1,435	4	$420	8	$640					2	$80				$150	5.25	$840	$4,375
Plan of Study	4	$540	2	$205			2	$160					1	$40				$100	1.75	$280	$1,325
Munic. Plan Coord./Plan to DEP	6	$810	12	$1,230					2	$140								$575			$2,755
Respond to Comments	12	$1,620	24	$2,460	6	$630	6	$480	6	$420			6	$240				$100	7	$1,120	$7,070
Proj. Mgmt.	6	$810											1	$40				$100			$950
Q/M															6	$900					$900
Plan Reimburs.			12	$1,230					2	$140			1	$40				$125			$1,535
Meetings	12	$1,620	24	$2,460														$350	7	$1,120	$5,550
Totals	82	$11,070	196	$20,090	38	$3,990	56	$4,480	40	$2,800	22	$1,430	24	$960	6	$900		$2,550	42	$6,720	$54,990

James W. MacCombie, P.E., P.L.S.
Name of Person Completing Report

Signature

Senior Engineer
Title

Mark Toth
Vice Chairman, Board of Supervisors

APPENDIX B

Water and Wastewater Service and
Asset Purchase Agreement
Between the
Township of East Fallowfield
and
Pennsylvania-American Water Company

Dated as of Sept. 30 **, 2003**

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Water and Wastewater Service Agreement and Asset Purchase Agreement

This Agreement is made and entered into this 30th day of Sept, 2003, by and between, the Township of East Fallowfield, a second class township organized and existing under the laws of the Commonwealth of Pennsylvania with its principal office located at 2264 Strasburg Road, East Fallowfield, Pennsylvania (the "Township"), and Pennsylvania-American Water Company, a Pennsylvania corporation and public utility, with its principal office located at 800 West Hershey Park Drive, Hershey, Pennsylvania ("PAWC").

WITNESSETH:

WHEREAS, the Township owns certain facilities for the purpose of (a) distributing water to the public ("Water System") within the Township; and, (b) collecting, and transporting wastewater and sewage for the public pursuant to certain Utility District and Lease Agreements between the Township and PAWC, as more specifically referenced herein ("Wastewater System") (collectively referred to as the "Systems");

WHEREAS, PAWC is a public utility engaged, *inter alia*, in the business of (a) collecting, treating, storing, supplying, distributing the selling water to the public in various areas of Pennsylvania; and, (b) collecting, treating, transporting and disposing of wastewater and sewage for the public in various areas of Pennsylvania through facilities it owns, maintains, and operates for such purposes;

WHEREAS, PAWC owns, operates and maintains, *inter alia*, public water supply systems and wastewater systems in various areas of Pennsylvania;

WHEREAS, PAWC provides public water and wastewater service in and around the Township as a public utility;

WHEREAS, PAWC currently operates, maintains, and utilizes the Systems to provide public water and wastewater services in East Fallowfield Township pursuant to leases with the Township;

WHEREAS, the Township and PAWC desire to terminate their existing leases pursuant to Utility District Agreements and have PAWC take ownership of the Systems as provided for in 4.1(h);

WHEREAS, subject to the terms and conditions set forth herein, the Township desires to sell, and PAWC desires to purchase, substantially all of the assets and other rights of the Township used in connection with the Systems;

WHEREAS, the Township desires to receive certain water and wastewater service from PAWC;

WHEREAS, the Board of Supervisors has determined that there is a need for a safe and adequate supply of public water and for the disposal of sewage in limited and identified parts of the Township as set forth more fully herein; and

WHEREAS, the parties hereto desire to set forth the terms and conditions that shall be applicable to the sale and delivery of water and collection and disposal of sewage by PAWC to customers in the Township on a permanent basis.

NOW THEREFORE, in consideration of the mutual covenants, warranties, representations and agreements set forth herein, and intending to be legally bound, the Township and PAWC (collectively referred to as the "Parties") agree as follows:

I. THE TRANSACTIONS

1.1 Incorporation of Recitals

The recitals set forth above are incorporated herein by reference and are a part of this Agreement.

1.2 Sale and Purchase of Assets

At Closing (as defined in Section 1.5 of this Agreement), subject to the terms and conditions of this Agreement, the Township shall sell, assign, transfer, deliver and convey to PAWC and PAWC shall purchase the Assets (as defined in Section 1.3 of this Agreement) for the Purchase Price (as defined in Section 1.4 of this Agreement).

1.3 Description of Assets

The term "Assets" means, all of the Township's right, title and interest in, under and to all of the assets, properties and rights related to the Systems or used in connection with the Systems as a going concern of every kind, nature and description existing on the Closing Date (as defined in Section 1.5 of this Agreement), wherever such assets, properties and rights are located and whether such assets, properties and rights are real, personal or mixed, tangible or intangible. The Systems and the Assets related to the Systems which are the subject of this Agreement, are listed in Schedule 1.3 attached hereto and incorporated herein. The Systems and the Assets do not include any community system not part of or connected to the Water System or Wastewater System.

Without limiting the generality of the foregoing, the Assets shall include the following:

(a) all land and real property (together with all fixtures, buildings, structures and other improvements erected thereon), easements and rights-of-way (including, but not limited to those listed on Schedule 1.3), rights of use, licenses,

permits, hereditaments, tenements, privileges and other appurtenances belonging or related to the Systems (such as appurtenant rights in and to public streets);

(b) all water lines, pumping stations, pumps, water mains, service lines, distribution facilities, meters, curb boxes, curb stops, hydrants, valves, fittings, and other tangible personal property related to the Water System;

(c) all sewer lines, pumping stations, pumps, collection lines, conveyance lines, collection facilities, manholes, tanks, meters, valves, fittings and other tangible personal property related to the Wastewater System;

(d) all of the Township's rights under any written or oral contract, agreement, lease, plan, instrument, registration, license, sub-license (including any railroad crossing license or sub-license), permit, certificate, document, commitment, arrangement, undertaking, practice, authorization or approval of any nature relating to the Systems and entered into in the ordinary course of business consistent with past practice;

(e) all of the Township's rights under any permit, franchise, license, sub-license, approval, authorization, order, registration, certificate, variance, document and any other similar rights obtained from any authority relating to the Systems, if any and any pending applications therefor;

(f) all information, books, records, ledgers, files, documents, correspondence, data, plans, models, system maps, engineering records, mylars, planning studies, architectural plans, drawings and specifications, customer records and data, supplier lists, records of operations, quality control records and procedures, equipment maintenance records, manual and warranty information, laboratory books, intellectual property and goodwill (including any licenses and sub-licenses granted or obtained with respect thereto) and inspection processes relating to the Systems (Provided that the Township may retain copies of such information as it so desires, and PAWC agrees to reimburse to the Township at Closing the Township's reasonable costs for copying this information for PAWC); and

(g) all assets, property and rights relating to the Systems as more fully described in Schedule 1.3 attached hereto and incorporated herein.

1.4 Purchase Price

The total purchase price for the Assets to be paid by PAWC to the Township is the amount of one dollar ($1.00) and other good and valuable consideration as set forth more specifically in Sections 3.3(d) and 3.3(f) of this Agreement.

1.5 Closing

The date of closing of this transaction ("Closing Date") shall occur on or before forty-five (45) days after satisfaction (or waiver) of the conditions to Closing set forth in Article 4 of this Agreement, or such other date mutually agreed to by the Parties in writing. On the Closing Date (at a time of day to be mutually agreed upon by the Parties), subject to the terms and conditions of this Agreement, the acts of closing pertaining to this transaction ("Closing") shall occur and title and possession of the Assets shall be sold, assigned, transferred, delivered and conveyed to PAWC. The Closing shall take place at the offices of PAWC at 800 West Hersheypark Drive, Hershey, Pennsylvania, or such other location as the Parties may mutually agree.

1.6 Deliveries at Closing by the Township to PAWC

Subject to the terms and conditions of this Agreement, at the Closing, the Township shall deliver (or cause to be delivered) to PAWC:

(a) bills of sale and instruments of assignment to the Assets, duly executed by the Township;

(b) consents of transfer, of all transferable or assignable contracts, agreements, licenses and permits to the extent specifically required hereunder;

(c) the Township's Closing Certificates pursuant to Section 4.1(c) of this Agreement;

(d) all agreements and other documents required by this Agreement;

(e) the Township's Opinion of Counsel pursuant to Section 4.1(g) of this Agreement;

(f) a receipt for the payment of the Purchase Price; and

(g) all such other instruments of conveyance as shall be, in the reasonable opinion of PAWC and its counsel, necessary to transfer to PAWC the Assets in accordance with this Agreement and where necessary or desirable, in recordable form.

1.7 Deliveries at Closing by PAWC to the Township

Subject to the terms and conditions of this Agreement, at the Closing, PAWC shall deliver (or cause to be delivered) to the Township:

(a) a PAWC check or cash in an amount equal to the Purchase Price to the Township;

(b) PAWC's Opinion of Counsel pursuant to Section 4.2(g) of this Agreement;

(c) PAWC's Closing *Certificates* pursuant to Section 4.2(c) of this Agreement;

(d) all agreements and other documents required by this Agreement; and

(e) all such other documents that are, in the reasonable opinion of the Township and its counsel, necessary to consummate the transactions contemplated by this Agreement.

II. REPRESENTATIONS AND WARRANTIES

2.1 Representations and Warranties of the Township

The Township represents and warrants to PAWC as follows:

(a) **Organization and Good Standing.** The Township is a second class township duly organized, validly existing and in good standing under the laws of the Commonwealth of Pennsylvania.

(b) **Authorization and Enforceability.** The Township has the full power and lawful authority to execute this Agreement and to consummate and perform the transactions contemplated hereby and has duly and validly authorized the execution of this Agreement (including such other necessary agreements, instruments and documents in connection herewith) and all necessary proceedings.

This Agreement constitutes the legal, valid and binding obligation of the Township, enforceable against the Township in accordance with its terms, except as such enforceability may be limited by applicable laws relating to bankruptcy, insolvency, fraudulent conveyance, reorganization or affecting creditor's rights generally.

(c) **No Violations of Laws or Agreements.** The Township's performance of this Agreement, as of the Closing Date, shall not (i) require any further approvals or consents from any other party; (ii) violate any law, ordinance or regulation; or, (iii) conflict with or result in a breach of, or constitute a default under, any contract, lease, permit or other agreement or commitment to which the Township is a party.

(d) **No Pending Litigation or Proceedings.** To the best of the Township's knowledge, there is no action, claim, litigation, arbitration, proceeding, judgment, injunction, audit or legal, administrative or governmental investigation pending or threatened against the Township which could reasonably be expected to have a Material Adverse Effect (as defined in Section 8.10 of this Agreement) on the transaction contemplated by this Agreement.

(e) **Brokerage.** The Township has not made any agreement or taken any other action which might cause any person to become entitled to a broker's or finder's fee or commission as a result of the transactions contemplated hereunder which could result in liability to PAWC.

2.2 Representations and Warranties of PAWC

PAWC represents and warrants to the Township as follows:

(a) **Organization and Good Standing.** PAWC is a corporation duly organized and validly existing and in good standing under the laws of the Commonwealth of Pennsylvania.

(b) **Authorization and Enforceability.** PAWC has the full power and lawful authority to execute this Agreement and to consummate and perform the transactions contemplated hereby and has duly and validly authorized the execution of this Agreement (including such other necessary agreements, instruments and documents in connection herewith) and all necessary proceedings.

This Agreement constitutes the legal, valid and binding obligation of PAWC, enforceable against PAWC in accordance with its terms, except as such enforceability may be limited by applicable laws relating to bankruptcy, insolvency, fraudulent conveyance, reorganization or affecting creditor's rights generally.

(c) **No Violations of Laws or Agreements.** PAWC's performance of this Agreement, as of the Closing Date, shall not (i) require any further approvals or consents from any other party; (ii) violate any law, ordinance or regulation; and, (iii) conflict with or result in a breach of any contract, lease of permit to which PAWC is a party.

(d) **No Pending Litigation or Proceedings.** To the best of PAWC's knowledge, there is no claim, litigation, arbitration, proceeding, judgment, injunction, audit or governmental investigation pending or threatened against PAWC which could reasonably be expected to have a Material Adverse Effect on the transaction contemplated by this Agreement.

(e) **Brokerage.** Neither PAWC nor any of its affiliates has made any agreement or taken any other action which might cause any person to become entitled to a broker's or finder's fee or commission as a result of the transactions contemplated hereunder which could result in liability to the Township.

III. COVENANTS

3.1 Mutual Covenants of the Township and PAWC

The Parties mutually covenant and agree that, except as otherwise approved by the other party in advance and in writing:

(a) **Cooperation.** The Parties shall cooperate and shall cause their respective officers, employees, agents and representatives to cooperate to ensure the orderly transition of the Assets and Service from the Township to PAWC and to minimize any disruption to the customers of the Systems from the transactions contemplated by this Agreement.

The Parties shall furnish to the other party any necessary information or reasonable assistance as the other party may request in connection with the consent, approval or authorization of, or registration with or filing or submission to any third party (including any governmental or regulatory agency).

(b) **Further Assurances.** The Parties shall cooperate and deliver such instruments and take such action as may be reasonably requested by the other party in order to carry out the provisions and purposes of this Agreement and the transactions contemplated hereby.

After the Closing, the Parties shall take such other actions and execute such other documents as may be reasonably requested by the other party (i) in order to transfer more effectively to PAWC or to put PAWC more fully in possession of any of the Assets; or, (ii) in connection with the preparation of any tax return, audit or examination by any governmental or taxing authority.

(c) **Expenses.** The Parties shall each bear their own respective accounting, legal and other expenses incurred in connection with the transactions contemplated by this Agreement except as otherwise expressly stated in this Agreement.

3.2 Covenants of the Township

The Township hereby covenants and agrees that, except as otherwise approved in advance in writing by PAWC:

(a) **Continuation of Business.** The Township shall consider and review extensions of the Systems until the Closing Date in the ordinary course of business, consistent with past practice.

(b) **Standstill Agreement.** Until the Closing Date, unless this Agreement is earlier terminated pursuant to Article 5 of this Agreement, the Township shall

not, directly or indirectly, solicit offers for the Assets or the Systems, or respond to inquiries from, share confidential information with, negotiate with or in any way facilitate inquiries or offers from, third parties who express or who have heretofore expressed an interest in accruing any or all of the Assets or the Systems.

(c) **Access.** The Township shall (i) give to PAWC and its representatives, from the date first written above until the Closing Date, full access during normal business hours, upon reasonable notice, to all the properties, books, data, contracts, agreements, documents and records connected to the Assets and/or the Systems; and, (ii) make available to PAWC and its representatives all other information with respect to the Assets and/or the business and affairs of the Systems as PAWC may reasonably request. Provided that PAWC agrees to reimburse to the Township at Closing the Township's reasonable costs for any copying of this information for PAWC.

(d) **FIRPTA Certificate.** The Township agrees to provide PAWC, at Closing, such certificate as is reasonably necessary to insure that a withholding is not required under the Foreign Investment in Real Property Tax Act ("FIRPTA") and Sections 1445 and 6039C of the Internal Revenue Code.

(e) **Contractual Consents.** The Township shall diligently pursue all approvals, authorizations and consents of transfer to all material transferable or assignable contracts, agreements, licenses and permits to the extent specifically required by the terms of such contracts, agreements, licenses or permits, if any to implement this Agreement.

(f) **Regulatory Consents.** The Township hereby agrees to support all PAWC filings and agrees to submit letters of support for the PAWC with the PaPUC or other regulatory body for these filings, e.g., the 537 Plan for the wastewater treatment plant upgrade filing with the Department of Environmental Protection, to implement this Agreement. The above referenced PaPUC filings will include expansion of PAWC's certificated service territory for water and wastewater service as indicated on Schedule 3.2(f).

To the extent applicable, the Township shall diligently pursue all approvals, authorizations, consents and permits required to be obtained by the Township for the Township to sell the Assets.

(g) **Permits and Easements.**

Provided the Township has the ability to do so, without incurring any special charges for same, the Township agrees to grant such permits or convey and/or lease to PAWC at no cost any and all easements in public streets and roads necessary for the construction of water and sewer mains and appurtenances pursuant to Section 3.3(d) hereof.

3.3 Covenants of PAWC

PAWC hereby covenants and agrees that, except as otherwise approved in advance in writing by the Township:

(a) **Regulatory Consents.** PAWC shall, at all times, use its best efforts and diligently pursue all approvals, authorizations, consents and permits required to be obtained to consummate the transaction contemplated by this Agreement, including, without limitation (i) the consent of the Pennsylvania Public Utility Commission; and, (ii) the approval of every regulatory agency of federal, state or local government that may be required.

PAWC shall (i) as promptly as practicable, make or cause to be made such filings and submissions under laws, rules and regulations applicable to it as may be required to consummate the terms of this Agreement; and, (ii) keep the Township apprised of the status of any filing or submission to the Pennsylvania Public Utility Commission or any other governmental or regulatory agency.

(b) **Taxes.** PAWC shall be responsible for all state and local sales, use, documentary stamp, and recording taxes arising from and with respect to the sale and purchase of the Assets.

(c) **Rates and Service.** PAWC is to provide public utility water and wastewater service in the Township in accordance with its duly filed and effective tariffs as amended and supplemented.

(d) **Sewer and Water Line Extensions.** PAWC shall construct a sewer line extension in the Cardinal Drive area and a water line extension in the Strasburg Road area, as indicated on the attached maps (attached hereto and incorporated herein as Schedules 3.3(d) A and B respectively), both at PAWC's expense, provided that the Township enacts and enforces a mandatory tap-in ordinance to the extent permitted by law. The water line extension will be substantially complete on or about eighteen (18) months after the Closing Date (as defined in Section 1.5 of this Agreement). The sewer line extension to the Cardinal Drive area will be substantially complete on or about eighteen (18) months after the transfer to PAWC of the off-site developer funded facilities. The sewer line extension to the Cardinal Drive area is contingent upon off-site developer funded facilities being in place prior to construction. The developer funded facilities include a pump station, gravity main and force main facilities sufficient to transmit the flow from the Cardinal Drive area to PAWC's existing wastewater system, including elimination of a bottleneck and upgrade of the East End trunk line. The sewer line extension in the Cardinal Drive area and water line extension in the Strasburg Road area will be constructed in accordance with the drawings and specifications prepared by the PAWC engineer and reviewed and approved by the

Township engineer, at the Township's expense, including any revisions thereto, which approval excepts all water and wastewater facility technical specifications and will not be unreasonably withheld or delayed, as being in compliance with applicable laws, regulations, and ordinances.

(e) **Future Water and Wastewater Line Extensions within PAWC's PaPUC Certified Area.** Future water and wastewater line extensions within PAWC's Pennsylvania Public Utility Commission ("PaPUC") certified area shall be provided in accordance with PAWC's duly filed and approved tariffs.

Any PAWC service area extension filings in the Township to the PaPUC outside of the area depicted in Schedule 3.2(f) shall either be consistent with the Township's 537 Plan and the Township's comprehensive plan or be subject to approval by the Township which approval shall not be unreasonably withheld or delayed by the Township.

(f) **Refunds.** PAWC will refund to the Township for a period of ten (10) years after the start-up of the booster station required for servicing the Robins Cove development and the upgrade of the East End trunk line, but in no event for a period of more than twenty (20) years after the Closing Date of this Agreement, $1,000 for each new individually metered dwelling unit constructed and sold becoming a residential customer as defined in PAWC's duly filed and approved tariffs that takes both water and wastewater service from PAWC. The refund only applies to developer-funded water and wastewater extensions within the existing PaPUC service territory of PAWC as of the Closing Date of this Agreement. The refunds do not apply to PAWC funded extensions such as those discussed above for the Cardinal Drive area and Strasburg Road. The aggregate dollar amount that can be refunded to the Township under the Agreement is limited to one million dollars ($1,000,000).

All such refund payments shall be due and payable to the Township quarterly after the respective water meter has been set and activated during the preceding quarter. Such refund payments will be made by PAWC to the Township within thirty (30) days after the end of each applicable calendar quarter.

IV. CONDITIONS PRECEDENT

4.1 Conditions Precedent to PAWC's Obligations

The obligation of PAWC to consummate the transactions contemplated by this Agreement is subject to the satisfaction, on or prior to the Closing Date, of each of the following conditions (any one or more of which may be waived in writing, in whole or in part, by PAWC, in its sole discretion):

(a) **Representations and Warranties.** The Township's representations and warranties contained in this Agreement or in any Schedule, list, certificate or

document delivered pursuant to the provisions of this Agreement shall be true in all material respects at and as of the time of Closing, except for changes in the ordinary course of business after the date first written above that are in conformity with the covenants, warranties, representations and agreements contained in this Agreement.

(b) **Performance of Agreements.** The Township shall have performed and complied, in all material respects, with all covenants, agreements and conditions required by this Agreement to be performed, or complied with by it prior to or at the Closing.

(c) **Closing Certificates.** The Township shall have delivered to the PAWC: (i) a certificate of the Secretary (or Assistant Secretary) of the Township, to the best of such Secretary's knowledge, certifying and attaching true and complete copies of the Articles of Incorporation and Bylaws of the Township as the same are in force on the Closing Date and of the resolutions adopted by its Supervisors relating to this Agreement and the transactions contemplated hereby; and, certifying the incumbency of the officers of the Township executing this Agreement or any documents delivered hereunder; and, (ii) a certificate signed by the Township, confirming, to the best of its knowledge, satisfaction of the conditions set forth in Subsections (a) to (c), inclusive, of Section 4.1 of this Agreement.

(d) **Closing Deliveries.** The Township shall have delivered the documents and other items described in Section 1.6 of this Agreement.

(e) **No Litigation.** There shall not be any pending, or to the knowledge of the Township, threatened action, proceeding or investigation by or before any court, arbitrator, governmental body or agency which shall seek to restrain, prohibit or invalidate the transactions contemplated hereby or which, if adversely determined, would result in a breach of a representation, warranty or covenant of either party herein.

(f) **Regulatory Consents.** PAWC shall have obtained the written, final and unappealable approvals, authorizations and consents (including consents for permit transfers) that are required to consummate the transactions contemplated by this Agreement, including, without limitation (i) the approval of the Pennsylvania Public Utility Commission; and, (ii) the approval of every regulatory agency of federal, state or local government that may be required in the opinion of either PAWC or the Township.

(g) **Opinion of Counsel.** The Township shall have delivered to PAWC a favorable written opinion of the Township's counsel, dated as of the Closing Date and addressed to PAWC, in form and substance satisfactory to PAWC, to the effect set forth in Schedule 4.1(g).

(h) **Utility District and Lease Agreements.** With respect to utility district agreements, all such agreements and leases are terminated and cancelled and any further expansion by PAWC within the Township will not require any type of utility district agreement. Provided, that within approved service areas, PAWC will have to secure all normal and customary permits and approvals from the Township regarding future water and sewer expansions within the Township including the payment of all permit and review fees associated therewith except for the extensions in Section 3.3(d) hereof, i.e., for Cardinal Drive and the Strasburg Road area. These would include, but not be limited to, road opening permits, building permits, and grading permits, which may be required by the Township. Such Agreements and Leases include, but are not limited to, the following: (1) Water and Wastewater Service Agreement East Fallowfield Township Water and Sewer District #1 dated July 17 and 25, 1991 between the City of Coatesville Authority and the Township of East Fallowfield, (2) Water and Wastewater Service Agreement East Fallowfield Township Water and Sewer District #2 dated July 17 and 25, 1991 between the City of Coatesville Authority and the Township of East Fallowfield, (3) Conveyance and Lease Agreement dated July 17, 1991 between the City of Coatesville Authority and the Township of East Fallowfield, (4) Water and Wastewater Service Agreement East Fallowfield Township Water and Sewer District #2 as Amended dated December 9, 1992 between the City of Coatesville Authority and the Township of East Fallowfield, and (5) Water and Wastewater Service Agreement East Fallowfield Township Water and Sewer District #2A and #2B as Amended dated March 10, 1993 between the City of Coatesville Authority and the Township of East Fallowfield.

4.2 Conditions Precedent to the Township's Obligations

The obligation of the Township to consummate the transactions contemplated by this Agreement is subject to the satisfaction, on or prior to the Closing Date, of each of the following conditions (any one or more of which may be waived in writing, in whole or in part, by the Township, in its sole discretion):

(a) **Representations and Warranties.** PAWC's representations and warranties contained in this Agreement or in any Schedule, list, certificate or document delivered pursuant to the provisions of this Agreement shall be true in all material respects at and as of the time of Closing, except for changes in the ordinary course of business after the date first written above that are in conformity with the covenants, warranties, representations and agreements contained in this Agreement.

(b) **Performance of Agreements.** PAWC shall have performed and complied, in all material respects, with all covenants, agreements and conditions required by this Agreement to be performed or complied with by it prior to or at the Closing.

(c) **Closing Certificates.** PAWC shall have delivered to the Township: (i) a certificate of the Secretary (or Assistant Secretary) of PAWC, to the best of such Secretary's knowledge, certifying and attaching true and complete copies of the resolutions of the Board of Directors of PAWC authorizing the execution and delivery of this Agreement and the transactions contemplated hereby and the performance of the obligations of PAWC hereunder; and, certifying the incumbency of the officers of PAWC executing this Agreement or any documents delivered hereunder; and, (ii) a certificate of the President (or Vice President) of PAWC confirming, to the best of such President's (or Vice President's) knowledge, satisfaction of the conditions set forth in Subsections (a) and (b) of Section 4.2 of this Agreement.

(d) **No Litigation.** There shall not be any pending, or to the knowledge of PAWC, threatened action, proceeding or investigation by or before any court, arbitrator, governmental body or agency which shall seek to restrain, prohibit or invalidate the transactions contemplated hereby or which, if adversely determined, would result in a breach of a representation, warranty or covenant of either party herein.

(e) **Regulatory Consents.** PAWC shall have obtained the written, final and unappealable approvals, authorizations and consents (including consents for permit transfers) that are required to consummate the transactions contemplated by this Agreement, including, without limitation (i) the approval of the Pennsylvania Public Utility Commission; and, (ii) the approval of every regulatory agency of federal, state or local government that may be required in the opinion of either PAWC or the Township.

(f) **Other Consents.** PAWC shall have obtained any other approvals, authorizations and consents that are required to enable PAWC to consummate the transactions contemplated by this Agreement and to operate the Systems.

(g) **Opinion of Counsel.** PAWC shall deliver to the Township a favorable written opinion of PAWC's counsel, dated as of the Closing Date and addressed to the Township, in form and substance satisfactory to the Township, to the effect set forth in Schedule 4.2(g).

V. TERMINATION

5.1 Termination

This Agreement may be terminated prior to the Closing Date only as follows and in each case only by written notice:

(a) by the mutual written consent of the Township and PAWC;

(b) by either the Township or PAWC, if the Closing has not occurred (other

than through the failure of any party seeking to terminate this Agreement to comply fully with its obligations under this Agreement) on or before the first (1st) anniversary of the date first written above, or such later date as the Parties may agree upon;

(c) by either the Township or PAWC, if a material breach of any covenant, warranty, representation, agreement or provision of this Agreement has been committed by the other party and such breach has not been (i) cured within thirty (30) days after the non-breaching party gives written notice of said breach to the breaching party; or, (ii) waived by the non-breaching party;

(d) by either the Township or PAWC, if the Pennsylvania Public Utility Commission does not approve of any of the following matters: (i) the acquisition by purchase of the Assets of the Systems; (ii) the right of PAWC to offer, render, furnish, or supply water and sewer service to the public in the area(s) served, respectively, by the Water System and the Wastewater System; (iii) the right of PAWC to charge applicable tariff rates.

(e) by PAWC, if any of the conditions in Section 4.1 of this Agreement (i) have not been satisfied as of the Closing Date; or, (ii) have become impossible (other than through the failure of PAWC to comply with its obligations under this Agreement); and PAWC has not waived such condition on or before the Closing Date; and

(f) by the Township, if any of the conditions in Section 4.2 of this Agreement (i) have not been satisfied as of the Closing Date; or, (ii) have become impossible (other than through the failure of the Township to comply with its obligations under this Agreement); and, the Township has not waived such condition on or before the Closing Date

5.2 Effect of Termination

Each party's right of termination under Section 5.1 of this Agreement is in addition to any other rights it may have under this Agreement or otherwise, and the exercise of a right of termination will not be an election of remedies.

If this Agreement is terminated pursuant to Section 5.1 of this Agreement, all further obligations of the Parties under this Agreement will terminate, except that the obligations in Sections 3.1(c) (Expenses)) and 8.14 (Jurisdiction) of this Agreement shall survive. Provided, however, that if this Agreement is terminated by a party because of the breach of this Agreement by the other party or because one or more of the conditions to the terminating party's obligations under this Agreement is not satisfied as a result of the other party's failure to comply with its obligations under this Agreement, the terminating party's right to pursue all legal remedies will survive such termination unimpaired.

VI. INDEMNIFICATION

6.1 Definition of Damages

For purposes of this Agreement, "Damages" means the aggregate amount of all damages, claims, losses, obligations, liabilities (including any governmental penalty, fines or punitive damages), deficiencies, interest, costs and expenses arising out of or relating to a matter and any actions, judgments, costs and expenses (including reasonable attorney's fees and all other expenses incurred in investigating, preparing, or defending any litigation or proceeding, commenced or threatened) incident to such matter or to the enforcement of this Agreement.

6.2 Indemnification by the Township

The Township agrees to indemnify, defend and hold harmless PAWC, and its affiliates, and their respective officers, directors and agents from and against any and all Damages arising out of or resulting from:

(a) any misrepresentation, breach of warranty, or non-fulfillment of any covenant or agreement made by the Township in this Agreement or in any Schedule, statement, certificate or other document furnished or to be furnished to PAWC in connection with the transactions contemplated by this Agreement;

(b) any and all liabilities of the Township of any nature, (whether due or to become due), (whether accrued, absolute, contingent or otherwise), existing prior to the Closing Date or arising out of any transaction entered into, any state of facts existing or any event occurring prior to the Closing Date; and

(c) the successful enforcement of this Section of this Agreement.

The Township's obligations under this Section of this Agreement shall be discharged, and all amounts payable hereunder (including costs and fees in the defense of any litigation), shall be paid to PAWC as they are incurred by PAWC.

6.3 Indemnification by PAWC

PAWC agrees to indemnify, defend and hold harmless the Township and its respective officers, directors and agents from and against any and all Damages arising out of or resulting from:

(a) any misrepresentation, breach of warranty, or non-fulfillment of any covenant or agreement made by PAWC in this Agreement or in any Schedule, statement, certificate or other document furnished or to be furnished to the Township in connection with the transactions contemplated by this Agreement;

(b) the ownership, operation or use of the Assets or Systems on or after the Closing Date, excepting only liabilities resulting from unlawful acts by the Township or breaches by the Township of covenants, warranties, representations and agreements hereunder;

(c) the successful enforcement of this Section of this Agreement.

PAWC's obligations under this Section of this Agreement shall be discharged, and all amounts payable hereunder (including costs and fees in the defense of any litigation), shall be paid to the Township as they are incurred by the Township.

6.4 General Indemnification Procedures

(a) During the applicable survival period specified in Article 7 of this Agreement, a party seeking indemnification pursuant to Article 6 of this Agreement (an "Indemnified Party") shall give prompt written notice to the party from whom such indemnification is sought (the "Indemnifying Party") of the assertion of any claim, the incurrence of any Damages, or the commencement of any action, suit or proceeding, of which it has knowledge in respect of which indemnity may be sought hereunder, and will give the Indemnifying Party such information with respect thereto as the Indemnifying Party may reasonably request, but failure to give such required notice shall relieve the Indemnifying Party of any liability hereunder only to the extent that the Indemnifying Party has suffered actual prejudice thereby.

The Indemnifying Party shall have the right exercisable by written notice to the Indemnified Party after receipt of notice from the Indemnified Party of the commencement of or assertion of any claim or action, suit or proceeding by a third party in respect of which indemnity may be sought hereunder (a "Third Party Claim"), to assume the defense of such Third Party Claim which involves (and continues to involve) solely monetary damages; provided, that (i) the Indemnifying Party expressly agrees in such notice that, as between the Indemnifying Party and the Indemnified Party, solely the Indemnifying Party shall be obligated to satisfy and discharge the Third Party Claim; (ii) such Third Party Claim does not include a request or demand for injunctive or other equitable relief; and, (iii) the Indemnifying Party makes reasonably adequate provision to assure the Indemnified Party of the ability of the Indemnifying Party to satisfy the full amount of any adverse monetary judgment that is reasonably likely to result.

(b) Neither the Indemnified Party nor the Indemnifying Party shall settle any Third Party Claim without the prior written consent of the other, which consent shall not be unreasonably withheld or delayed.

(c) The Indemnifying Party or the Indemnified Party, as the case may be, shall have the right to participate (but not control), at its own expense, in the

defense of any Third Party Claim which the other party is defending as provided in this Agreement.

(d) Notwithstanding any other provision of Article 6 of this Agreement, no claim for indemnification may be asserted under Article 6 of this Agreement, and no indemnification shall be due and owing from any party unless and until the aggregate of all such claims which may be made against such party exceeds Ten Thousand Dollars ($10,000).

VII. SURVIVAL

7.1 Survival

All covenants, warranties, representations and agreements made by the Parties in this Agreement or in any Schedule, document, statement or certificate furnished in connection with the transaction contemplated by this Agreement shall survive the Closing.

7.2 Limitations on Survival

(a) The covenants, warranties, representations and agreements set forth in Section 3.1 and Section 3.2 of this Agreement shall survive the Closing for a period of five (5) years.

(b) Article 6 of this Agreement shall survive the Closing for the applicable period(s) of the indemnified covenants, warranties, representations and agreements as limited by this Article 7.

(c) The covenants, warranties, representations and agreements of PAWC in Section 3.3 shall survive the Closing for a period of twenty (20) years.

(d) The covenants, warranties, representations and agreements that are not explicitly limited by Subsections (a) to (b), inclusive, of Section 7.2 of this Agreement shall survive the Closing for a period of one (1) year.

VIII. MISCELLANEOUS

8.1 Schedules

All Exhibits and Schedules ("Schedules") annexed or referred to in this Agreement are hereby incorporated in and made a part of this Agreement as if set forth in full herein.

Schedules are made to the best of the parties' knowledge as of the date first written above. Prior to Closing, the Parties shall promptly deliver an amended or supplemented Schedule when any change in fact, condition or information requires an

amendment or supplement to such Schedule.

8.2 Entire Agreement

This Agreement constitutes the entire agreement between the Parties concerning the sale and purchase of the Assets, and supersedes all prior oral or written agreements, understandings, representations and warranties, and courses of conduct and dealing between the Parties on the subject matter hereof.

8.3 Amendment

This Agreement may be amended or modified only by a writing executed by all of the Parties.

8.4 Extension or Waiver of Performance

Either the Township or PAWC may extend the time for or waive the performance of any of the obligations of the other, waive any inaccuracies in the warranties or representations by the other, or waive compliance by the other with any of the covenants, conditions or agreements contained in this Agreement, provided that any such extension or waiver shall be in writing and signed by the waiving party in the case of a waiver, or by both the Township and PAWC in the case of an extension.

8.5 Assignment or Delegation

The Parties may assign, delegate or otherwise transfer any of their duties, rights or obligations under this Agreement without the prior written consent of the other party.

8.6 Successors and Assigns; Binding Effect

This Agreement shall be binding upon, and inure to the benefit of the Parties and their respective successors and assigns.

8.7 Governing Law

This Agreement shall be governed by and construed under the laws of the Commonwealth of Pennsylvania.

8.8 Notices

All notices provided for in this Agreement shall be in writing, addressed to the Township or PAWC, as the case may be, at the addresses set forth in this Paragraph and may be (a) delivered in person; (b) sent by United States registered or certified mail, return receipt requested; (c) sent by Federal Express or any other overnight courier or delivery service from which a receipt may be obtained; or, (d) sent by facsimile or

telefax transmission during regular business hours (9:00 a. m. to 5:00 p. m., Monday-Friday, excluding holidays):

To the Township:

Robert Sparr, Chairman
Board of Supervisors
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, PA 19320
(610) 384-7144
Fax: (610) 384-7143

With a copy to:

Vincent M. Pompo, Solicitor
East Fallowfield Township
Windle and McErlane, P.C.
24 East Market Street
P.O. Box 565
West Chester, PA 19381-0565
(610) 430-8000
Fax: (610) 692-6210

To PAWC:

Robert M. Ross, President
Pennsylvania-American Water Company
800 West Hershey Park Drive
P.O. Box 888
Hershey, PA 17033-0888
(717) 531-3200
Fax: (717) 531-3252

With a copy to:

Velma A. Redmond, Esquire
Corporate Counsel
Pennsylvania-American Water Company
800 West Hershey Park Drive
P.O. Box 888
Hershey, PA 17033-0888
(717) 531-3210
Fax: (717) 531-3252

The Parties shall have the right to designate a new address for the receipt of

notices by written notice to the other party as provided in Section 8.8 of this Agreement.

8.9 Captions

The headings and captions used with the subsections, sections and articles of this Agreement are for convenience or reference only and shall not be deemed to modify or limit the provisions of this Agreement.

8.10 Construction

The Parties have participated jointly in the negotiation and drafting of this Agreement. In the event any ambiguity or question of intent or interpretation arises, this Agreement shall be construed as if drafted jointly by the Parties and no presumption or burden of proof shall arise favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

Any reference to any federal, state, local or foreign statute shall be deemed to refer to all rules and regulations promulgated thereunder, unless the context requires otherwise.

Words used herein, regardless of the number and gender specifically used, shall be deemed and construed to include any other number, singular or plural, and any other gender, masculine, feminine or neuter, as the context may require. The word "Including" means included, without limitation.

"Material Adverse Effect" means a change or effect (or series of related changes or effects) which has or is reasonably likely to have a material adverse change in or effect upon the business, assets, condition (financial or otherwise), or results of operations of the Systems or Assets, taken as a whole.

8.11 Cumulative Remedies

In the event of default by PAWC in the performance of its obligations under this Agreement, the Township shall have the right, in addition to any other remedies available at law or in equity, to seek specific performance of the obligations set forth in this Agreement, or both, and PAWC shall pay reasonable attorney's fees incurred in the enforcement of any rights of the Township following default by PAWC. The remedies afforded in this Agreement are cumulative to each other and to all other remedies provided by law. The remedies afforded in this Agreement are cumulative to each other and to all other remedies provided by law.

8.12 No Waiver

No delay of or omission in the exercise of any right, power or remedy accruing to any party as a result of any breach or default by any other party under this

Agreement shall impair any such right, power or remedy; nor shall it be construed as a waiver of or acquiescence in any such breach or default, or any similar breach or default occurring later; nor shall any waiver of a single breach or default be deemed a waiver of any other breach or default occurring before or after that waiver.

8.13 Time of the Essence

Time is of the essence in this Agreement.

8.14 Jurisdiction

The Parties each irrevocably submit to the exclusive jurisdiction of (a) the Court of Common Pleas for Chester County in the Commonwealth of Pennsylvania and (b) the United States District Court for the Eastern District of Pennsylvania, for the purposes of any suit, action or other proceeding arising out of this Agreement or any transaction contemplated by this Agreement.

When the above-mentioned courts may properly exercise jurisdiction over an action, suit or proceeding relating to this Agreement, the Parties agree not to commence or maintain any such action, suit or proceeding in a court or forum other than the above-mentioned courts.

8.15 Third Party Beneficiaries

Nothing herein expressed or implied is intended or should be construed to confer upon or give to any person (other than the Parties and the Township) any rights or remedies under or by reason of this Agreement.

8.16 Counterparts

This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original copy of this Agreement and all of which, when taken together, shall be deemed to constitute one and the same agreement.

[Signatures Appear on Next Page]

INTENDING TO BE BOUND HEREBY, the respective parties herein have executed this Agreement as of the date and year first written above.

Pennsylvania-American Water Company

BY:

Charles W. Johnston
Vice President – Business Development

ATTEST:

East Fallowfield Township

BY:

R. A. CLARK, CHAIR
Title

ATTEST:

List of Schedules

1.3 Assets, Property, and Rights

3.2(f) Current and Proposed PAWC water and wastewater certificated service territories

3.3(d) A. Sewer and Water Line Extensions

3.3(d) B. Future Water and Wastewater Line Extensions within PAWC's PaPUC Certified Area

4.1(g) Form of Opinion of Counsel for the Township's Counsel

4.2(g) Form of Opinion of Counsel for PAWC's Counsel

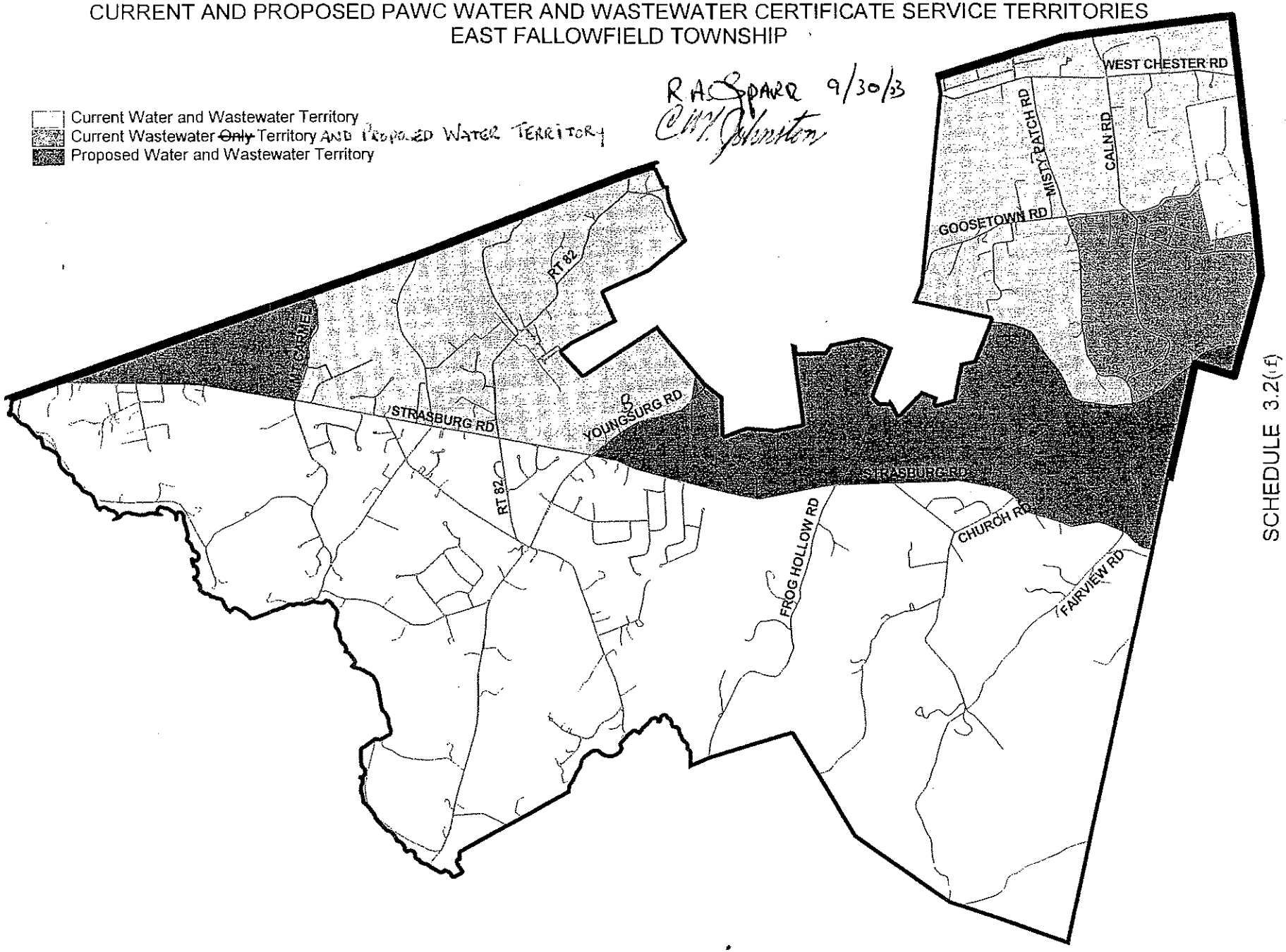
Schedule 1.3

Lands bounded by Route 82, Strasburg Road, Buck Run Road, South Coatesville Borough and Valley Township, with the exception of the franchise territory of the former Chester County Utilities, Ltd. as to sewer service only – water and sewer (District # 1)

Strasburg Hills (a.k.a Strasburg Hunt) - water and sewer (District # 2 and # 2A)

Willow Rock and other existing residential properties on Rebecca and Elizabeth Drives, Hannum Drive and the western side of Park Avenue - water only (District # 2B)

PENNSYLVANIA-AMERICAN WATER COMPANY
CURRENT AND PROPOSED PAWC WATER AND WASTEWATER CERTIFICATE SERVICE TERRITORIES
EAST FALLOWFIELD TOWNSHIP

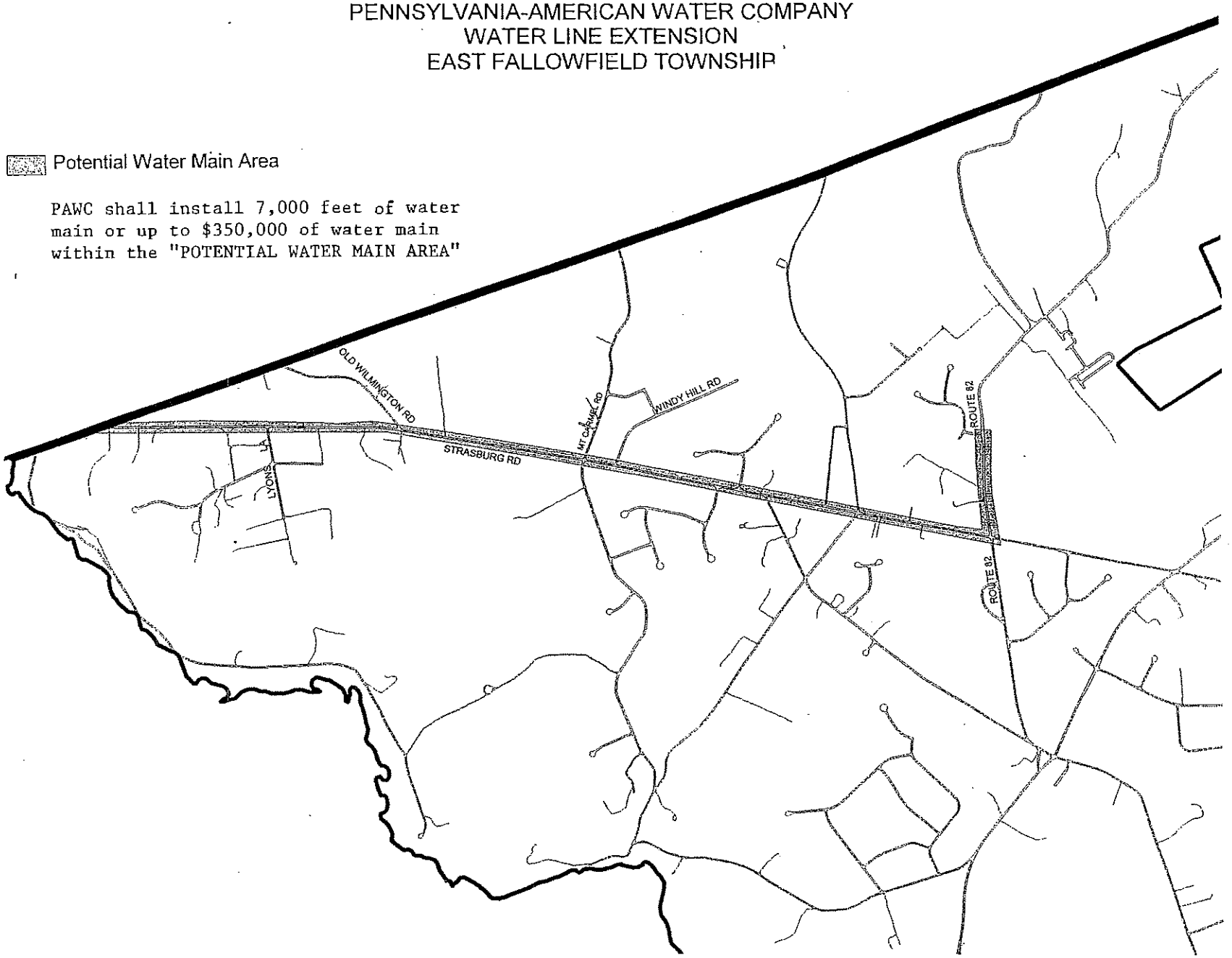


SCHEDULE 3.2(f)

PENNSYLVANIA-AMERICAN WATER COMPANY
SEWER LINE EXTENSION
EAST FALLOWFIELD TOWNSHIP

SCHEDULE 3.3(d)A

PENNSYLVANIA-AMERICAN WATER COMPANY
WATER LINE EXTENSION
EAST FALLOWFIELD TOWNSHIP



SCHEDULE 3.3(d)B

Schedule 4.1(g)
Form of Opinion for the Township's Counsel

_____, 2003

Pennsylvania-American Water Company
800 West Hersheypark Drive
P.O. Box 888
Hershey, Pennsylvania 17033-0888

Ladies and Gentlemen:

I have acted as counsel for the Township of East Fallowfield, a second class township organized and existing under the laws of the Commonwealth of Pennsylvania (the "Township"), in connection with the execution and delivery by the Township of the Water and Wastewater Service and Asset Purchase Agreement between the Township and Pennsylvania-American Water Company ("PAWC") (the "Agreement") dated _____, 2003. This opinion is delivered to you pursuant to Paragraph 4.1(g) of the Agreement. All capitalized terms used herein without definition shall have the respective meanings ascribed to them in the Agreement unless otherwise noted.

In connection with the opinions expressed below, I have made such examination of law and have examined the originals, or copies, certified or otherwise identified to my satisfaction, of the Agreement and all other agreements and instruments to be executed by the Township in connection with the Agreement, if any, and such other documents and records of the Township, certificates of public officials and of officers of the Township, and such other documents as I have deemed necessary or appropriate.

Based upon and subject to the foregoing, it is my opinion that as of the date hereof:

1. The Township is validly existing and in good standing under the laws of the Commonwealth of Pennsylvania as a second class township.

2. The Township has full power and lawful authority to execute and deliver, to perform its obligations under, and to consummate the transactions contemplated by the Agreement to which it is party, and to own, lease and operate the Assets and the Systems as presently being conducted.

3. The execution and delivery and performance by the Township of the Agreement to which it is a party, and the consummation of the transaction contemplated thereby, have been duly authorized by all necessary action of such party and do not and will not contravene any provision of the organizational documents of the Township.

4. Upon due execution and delivery by the parties thereto, the Agreement to which it is a party will be a legal obligation of the Township, enforceable against the Township in accordance with its terms, except as such enforceability may be limited by applicable laws relating to bankruptcy, insolvency, fraudulent conveyance, reorganization or affecting creditors' rights generally.

5. All proceedings required to be taken by or on the part of the Township to authorize the execution, delivery and performance of the Agreement and the consummation of the transactions thereby, have been duly and properly taken. The Agreement to which the Township is a party has been duly and validly executed and delivered by appropriate officers of the Township.

6. All consents, approvals, authorizations or orders of any court or governmental authority of the United States or of the Commonwealth of Pennsylvania required for the consummation by the Township of the transactions contemplated by the Agreement, except for those consents, approvals, authorizations or orders required to be obtained by PAWC, have been obtained by the Township.

7. Neither the execution and delivery of the Agreement by the Township nor the consummation of the transactions contemplated thereby will, to the best of my knowledge, conflict with, or result in a breach of, the terms, conditions or provisions or, constitute a default under, the terms of any agreement or instrument to which the Township is a party or by which the Assets may be bound or affected. The execution, delivery and performance of, and compliance with, the Agreement by the Township will not violate any provision of any law, rule, regulation, or to my knowledge, order, permit, certificate, writ, judgment, injunction, decree, determination, award or other decision of any court, arbitrator, or governmental authority by which the Township is bound or to which it is subject.

8. I have no knowledge that (i) there are any actions, suits, investigations or proceedings pending against or threatened against of affecting the Township, the Systems or any of the Assets before any court or arbitrator or authority which individually or in the aggregate, would have a Material Adverse Effect and (ii) there are currently any outstanding judgments, decrees, or orders of any court or authority against the Township, which relates to or arise out of the ownership, condition or operation of the Systems or the Assets which individually or in the aggregate would have a Material Adverse Effect.

The opinions herein are given only with respect to the laws of the Commonwealth of Pennsylvania and the federal laws of the United States of America, as applicable, in each case as enacted and construed on the date hereof.

The foregoing opinions are solely for the use of PAWC, have been expressed solely in connection with the transaction contemplated by the Agreement and are given for no other purpose and shall not be delivered to or relied upon by any other person or party except PAWC.

Sincerely,

Vincent M. Pompo, Solicitor
East Fallowfield Township

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Schedule 4.2(g)
Form of Opinion for PAWC's Counsel

_____, 2003

Township of East Fallowfield
2264 Strasburg Road
East Fallowfield, Pennsylvania 19320

Ladies and Gentlemen:

I have acted as counsel for the Pennsylvania-American Water Company, a Pennsylvania corporation ("PAWC"), in connection with the execution and delivery by the PAWC of the Water and Wastewater Service and Asset Purchase Agreement between the Township of East Fallowfield and PAWC (the "Agreement") dated _____ _____, 2003, between PAWC and the Township of East Fallowfield, a second class township organized and existing under the laws of the Commonwealth of Pennsylvania (the "Township"). This opinion is delivered to you pursuant to Paragraph 4.2 of the Agreement. All capitalized terms used herein without definition shall have the respective meanings ascribed to them in the Agreement unless otherwise noted.

In connection with the opinions expressed below, I have made such examination of law and have examined the originals, or copies, certified or otherwise identified to my satisfaction, of the Agreement and any other agreements and instruments to be executed by PAWC in connection with the Agreement, and such other documents and records of PAWC, certificates of public officials and of officers of PAWC, and such other documents as I have deemed necessary or appropriate.

Based upon and subject to the foregoing, it is my opinion that as of the date hereof:

1. PAWC is a corporation duly organized and validly existing and in good standing under the laws of the Commonwealth of Pennsylvania.

2. PAWC has full power and lawful authority to execute and deliver, to perform its obligations under, and to consummate the transactions contemplated by the Agreement to which it is party, and to own, lease and operate the Assets and the Systems as contemplated by the Agreement.

3. The execution and delivery and performance by PAWC of the Agreement to which it is a party, and the consummation of the transaction contemplated thereby, have been duly authorized by all necessary action of such party and do not and will not contravene any provision of the organizational documents of PAWC.

4. Upon due execution and delivery by the parties thereto, the Agreement to which it is a party will be a legal obligation of PAWC, enforceable against

PAWC in accordance with its terms, except as such enforceability may be limited by applicable laws relating to bankruptcy, insolvency, fraudulent conveyance, reorganization or affecting creditors' rights generally.

5. All proceedings required to be taken by or on the part of PAWC to authorize the execution, delivery and performance of the Agreement and the consummation of the transactions thereby, have been duly and properly taken. The Agreement to which PAWC is a party has been duly and validly executed and delivered by appropriate officers of PAWC.

6. All consents, approvals, authorizations or orders of any court or governmental authority of the United States or of the Commonwealth of Pennsylvania required for the consummation by PAWC of the transactions contemplated by the Agreement have been obtained by PAWC, except for those consents, approvals, authorizations or orders required to be obtained by the Township, if any.

7. Neither the execution and delivery of the Agreement by PAWC nor the consummation of the transactions contemplated thereby will, to the best of my knowledge, conflict with, or result in a breach of, the terms, conditions or provisions or, constitute a default under, the terms of any agreement or instrument to which PAWC is a party or by which the Assets may be bound or affected. The execution, delivery and performance of, and compliance with, the Agreement by PAWC will not violate any provision of any law, rule, regulation, or to my knowledge, order, permit, certificate, writ, judgment, injunction, decree, determination, award or other decision of any court, arbitrator, or governmental authority by which PAWC is bound or to which it is subject.

8. I have no knowledge that (i) there are any actions, suits, investigations or proceedings pending against or threatened against of affecting PAWC, the Systems or any of the Assets before any court or arbitrator or authority which individually or in the aggregate, would have a Material Adverse Effect and (ii) there are currently any outstanding judgments, decrees, or orders of any court or authority against PAWC, which relates to or arise out of the ownership, condition or operation of the Systems or the Assets which individually or in the aggregate would have a Material Adverse Effect.

The opinions herein are given only with respect to the laws of the Commonwealth of Pennsylvania and the federal laws of the United States of America, as applicable, in each case as enacted and construed on the date hereof.

The foregoing opinions are solely for the use of the Township, have been expressed solely in connection with the transaction contemplated by the Agreement and are given for no other purpose and shall not be delivered to or relied upon by any other person or party except the Township.

Sincerely,

Velma A. Redmond

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APPENDIX C

COATESVILLE DISTRICT
CHESTER COUNTY

CONNECTION MANAGEMENT PLAN

WASTEWATER TREATMENT PLANT

AND

COLLECTION SYSTEM

REPORTING Data REVISED: October 2021

PREPARED BY:
PENNSYLVANIA - AMERICAN WATER COMPANY
COATESVILLE DISTRICT
GERALD A. DeBALKO, P.E.
4 WELLINGTON BLVD.
WYOMISSING, PA 19610
T: (484) 855-1006

CONNECTION MANAGEMENT PLAN

CONVEYANCE

&

COLLECTION SYSTEM

REPORTING Data REVISED: October 2021

SUMMARY OF CORRECTIVE ACTION PLANS

East End Trunk Line Corrective Action Plan (CAP)

Previous Connection Management Plans (CMP) identified various East End Trunk Line (EETL) segments as the most critical section. The EETL segments previously awarded for replacement (sections 19 through 26 and 29 through 31) were completed in 2007. In 2014, PAWC completed the replacement of additional segments of the EETL (sections 36 through 46) that were previously identified as a projected overload. With growth projections based on the 2013 Chapter 94 report data received from each municipality and updated in this October 2014 revised CMP, there are up to three segments of the EETL that are under a projected hydraulic overload. 2010 metered flow data throughout the Coatesville collection system was utilized in comparison of the hydraulic capacity of each segment to determine the remaining hydraulic capacity.

Table B1 of the CMP highlights the EETL segments of MH EE 015 to MH EE 018 as a projected hydraulic overload. Previous manhole numbering systems relating to the same segments MH 26 to MH 29, and MH 430, MH 433, MH 434, and MH 1044. The remaining hydraulic capacity equates to 1256 EDU's allowed prior to the upgrade of these sections. 1204 EDU's are projected in 5 years from the areas contributing to these segments, West Brandywine Township, Caln Township, the eastern section of East Fallowfield, and portions of Coatesville Basin C6 and C7. Starting with 2010 as the base flow, Table B1 shows 135 EDU's connected through March 2021. These connections will be monitored by PAWC and the improvements will be completed prior to the connection of the 1256th EDU.

Below is a schedule of corrective actions PAWC has and will take in the future to improve this projected hydraulic overload.

- PAWC has completed the design and DEP issued the Part II Permit on April 27, 2005 for the entire EETL.
- PAWC completed construction of MH #16 to #18 of the EETL and placed into service on 5/10/06.
- PAWC completed construction of MH sections 19 through 26 and 29 through 31 of the EETL and placed into service on 1/25/07.
- PAWC completed construction of MH sections 36 through 46 of the EETL and placed into service on 6/30/14.
- PAWC will continue to monitor the growth rate upstream of these developments, continue flow monitoring, and Sewer Gems modeling of the EETL.
- PAWC will reissue bidding documents when the projected overload is within two years.
- PAWC will award a contract for the necessary improvements with 120 days after the receipt of bids.
- PAWC will issue the Notice to Proceed within 90 days after the Notice of Award.
- PAWC will substantially complete construction of the necessary improvements within 180 days after the Notice to Proceed.

West End Trunk Line Corrective Action Plan (CAP)

Previous Connection Management Plans (CMP) identified various West End Trunk Line (WETL) segments as the most critical section. All WETL segments previously awarded for replacement (WWTP through Mittal property to Strode Avenue) are now complete. With growth projections based on the 2014 Chapter 94 report data received from each municipality and updated in this October 2015 revised CMP, there are up to seventeen segments of the WETL that are under a projected hydraulic overload, with the most critical area being segments between WE 013 to WE 020. 2010 metered flow data throughout the Coatesville collection system was utilized in comparison of the hydraulic capacity of each segment to determine the remaining hydraulic capacity.

Table B2 of the CMP highlights the WETL segments of WE 013 to WE 020 as a projected hydraulic overload. The remaining hydraulic capacity equates to 1361 EDU's allowed prior to the upgrade of these sections. 1188 EDU's are projected in 5 years from the areas contributing to these segments, West Sadsbury Township, West Caln Township, Parkesburg Borough, Sadsbury Township, Highland Township, portions of Valley Township, and portions of Coatesville Basin C1 and C2. Starting with 2010 as the base flow, Table B2 shows 958 EDU's connected through March 2018. These connections will be monitored by PAWC and the improvements will be completed prior to the connection of the 1361st EDU.

Below is a schedule of corrective actions PAWC has and will take in the future to improve this projected hydraulic overload.

- In 2020 the last segment of the WETL replacement is being constructed.
- In 2021 PAWC intends to submit the Certificate of Completion to close the Part II permit.
- PAWC has completed the design for improvements of the WETL from Strode Avenue to the discharge point of the Parkesburg pump station on Valley Road by January 2011.
- PAWC has submitted a WQM Part II permit for the improvements in April 2011.
- PAWC receipt of WQM Part II permit from DEP in September 2011.
- PAWC has completed the replacement of sections WE 013 through WE 018 in 2016 and the line has been placed in service.
- Now that WE 013 to WE 018 has been replaced, there are additional critical segments upstream of WE 018 that need to be replaced as per the existing WQM Part II permit.
- PAWC will continue to monitor the growth rate upstream of these developments, continue flow monitoring, and Sewer Gems modeling of the WETL.
- PAWC will reissue bidding documents when the projected overload is within two years.
- PAWC will award a contract for the necessary improvements with 120 days after the receipt of bids.
- PAWC will issue the Notice to Proceed within 90 days after the Notice of Award.
- PAWC will substantially complete construction of the necessary improvements within 180 days after the Notice to Proceed.

Parkesburg Pump Station Corrective Action Plan (CAP)

The Parkesburg Pump Station and its related force main was identified in the PAWC sponsored Act 537 plan as a projected overload given the Act 537 Plan growth within five years. The 2014 Chapter 94 report identifies that the station is not projected to be overloaded within the two year projection provided in the CMP revised October 2015. However, the station is projected to be hydraulically overloaded with five years given the growth projections based on the 2014 Chapter 94 report data received from each municipality and updated in this October 2015 revised CMP. 2010 metered flow data throughout the Coatesville collection system was utilized in comparison of the hydraulic capacity of each segment to determine the remaining hydraulic capacity.

Table B3 of the CMP highlights the Parkesburg Pump Station as in a projected hydraulic overload. The remaining hydraulic capacity equates to 356 EDU's allowed prior to the upgrade of these sections. 314 EDU's are projected in 5 years from the areas contributing to these segments, West Sadsbury Township, West Caln Township, Parkesburg Borough, and Highland Township. Starting with 2010 as the base flow, Table B3 shows 281 EDU's connected through March 2021. These connections will be monitored by PAWC and the improvements will be completed prior to the connection of the 356th EDU.

Below is a schedule of corrective actions PAWC has and will take in the future to improve this projected hydraulic overload.

- PAWC has completed construction of the Parkesburg Phase III improvements which increase the design capacity to 5.508MGD. Post Construction Certification will be submitted in 2021 and should close the CAP.
- PAWC has started the design for improvements of the Parkesburg Pump Station in August 2011.
- PAWC did submit a WQM Part II permit for the improvements in July 2012.
- PAWC receipt of WQM Part II permit from DEP in January 2013.
- PAWC has started the Phase 1 improvements in November 2015 and was completed in the summer of 2015.
- PAWC will continue to monitor the growth rate upstream of these developments, continue flow monitoring, and Sewer Gems modeling of the Parkesburg Pump Station.
- PAWC will reissue bidding documents for Phase 2 improvements when the projected overload is within two years.
- PAWC will award a contractor for the Phase 2 improvements with 120 days after the receipt of bids.
- PAWC will issue the Notice to Proceed within 90 days after the Notice of Award.
- PAWC will substantially complete construction of the necessary improvements within 365 days after the Notice to Proceed.

Borough of Parkesburg Collection System - Corrective Action Plan (CAP)

PAWC has signed planning modules for three developments with the Borough of Parkesburg, the Davis Tract 324 EDU's, Crystal Springs 129 EDU's, and HDC Site 75 EDU's. PAWC performed a capacity analysis and identified the combined total of additional EDU's will cause specified segments to be greater than its design capacity. A restriction shall be placed upon these three developments that prior to connection of a combined total of 232 EDU's, pipe segments must be replaced. To assist the developers, PAWC will coordinate the design, permitting and construction of the improvements and offer the following Corrective Action Plan (CAP).

- PAWC has begun design efforts in October 2007.
- PAWC has submitted the Part II permit to DEP in March 2008.
- PAWC will receive bids for construction pending developer's construction schedule.
- Notice of Award and Proceed issued two months after receipt of bids.
- Construction timeframe – six months to final completion after Notice of Award.

Pennsylvania American Water

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021
WASTEWATER TREATMENT PLANT FLOWS

TABLE 1

Annual Average 7.0 MGD
3 Consecutive Month Maximum 21.0 MGD

MONTH	MONTHLY FLOW AVERAGE (MGD) YEAR 2016	2017	2018	2019	2020 MONTHLY FLOW AVERAGE (MGD)	2020 3 MONTH MAXIMUM (MGD)	2020 RAIN TOTAL (in.)
JANUARY	3.387	3.436	**4.324**	2.880	3.680		3.62
FEBRUARY	3.120	4.197	**4.037**	3.065	**3.907**		3.40
MARCH	**3.384**	4.139	**4.466**	3.801	**3.783**	3.790	3.72
APRIL	**3.494**	3.672	3.691	**4.358**	**4.156**	**3.949**	4.55
MAY	**3.480**	4.465	3.875	**4.383**	3.847	3.929	1.97
JUNE	3.024	**4.482**	3.485	**4.950**	3.690	3.898	4.68
JULY	2.967	**4.727**	3.233	3.170	3.358	3.632	3.60
AUGUST	3.156	**5.814**	2.749	2.943	3.951	3.666	11.21
SEPTEMBER	2.867	4.453	2.405	2.859	3.462	3.590	2.57
OCTOBER	2.988	3.446	2.474	3.179	3.515	3.643	3.71
NOVEMBER	3.211	4.389	2.553	2.786	3.623	3.533	5.28
DECEMBER	3.559	3.320	2.826	3.381	4.325	3.821	3.55
AVERAGE	3.220	4.212	3.343	3.480	AVERAGE 3.7748	--	
3 Month MAX	3.453	5.008	4.276	4.564	3 MTH. MAX. ---	3.949	

Number of New Connections for Each Quarter 2020	
1st Quarter	33
2nd Quarter	22
3rd Quarter	35
4th Quarter	53
Total for Year	143

5 YEAR FLOW HISTORY

	ANNUAL AVERAGE	3 MONTH MAXIMUM	PEAKING FACTOR
2020	3.775	3.949	1.046
2019	3.480	4.564	1.312
2018	3.343	4.276	1.279
2017	4.212	5.008	1.189
2016	3.220	3.453	1.072

RUNNING ANNUAL AVERAGE FLOW

3.7748 **MGD** January 2020 - December 2020

RUNNING 5 YEAR AVERAGE

3.606 **4.250** **1.179**

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021
WASTEWATER TREATMENT PLANT FLOWS

TABLE 2

PROJECTED TOTAL PER CMP, REVISED March 2021 - BASED ON ANNUAL AVERAGE (GPD)

	Act 537 Approved Contracted Allocation	Chapter 94 Flow 2020	2021	2022	2023	2024	2025	5-year Net Increase
City of Coatesville	*	1,535,949	1,544,324	1,564,124	1,596,974	1,634,774	1,668,974	133,025
Valley Township	1,540,000	833,100	839,625	862,575	879,675	895,650	911,625	78,525
Caln Township	800,000	169,151	192,826	250,026	326,126	366,476	377,051	207,900
West Brandywine Township	345,000	168,073	185,398	206,998	226,348	254,473	282,598	114,525
Sadsbury Township	410,750	185,523	194,523	208,923	237,723	270,573	294,873	109,350
West Sadsbury Township	*	112,921	113,146	113,371	115,846	122,821	132,046	19,125
East Fallowfield Township	*	169,589	172,739	176,789	182,414	188,039	193,664	24,075
Borough of Parkesburg	*	346,628	348,353	352,428	357,853	363,953	370,978	24,350
West Caln Township	*	45,274	46,624	48,199	51,799	55,399	58,774	13,500
Veterans Hospital	*	131,994	131,994	131,994	131,994	131,994	131,994	-
Highland Township		675	900	2,250	4,725	7,200	9,675	9,000
Bulk Delivery		75,886	75,886	75,886	75,886	75,886	75,886	-
Ave. Total Flow (GPD)		**3,774,763**	**3,846,338**	**3,993,563**	**4,187,363**	**4,367,238**	**4,508,138**	**733,375**
3-Month Max (GPD)		**3,948,643**	**4,023,515**	**4,177,522**	**4,380,249**	**4,568,410**	**4,715,801**	**767,157**
Peak Factor		**1.046**	**1.046**	**1.046**	**1.046**	**1.046**	**1.046**	

PROJECTED TOTAL PER CMP, REVISED March 2021 - BASED ON 5 YEAR ADJUSTED AVERAGES

Ave. Total Flow (GPD)		**3,649,784**	**3,721,359**	**3,868,584**	**4,062,384**	**4,242,259**	**4,383,159**	**733,375**
3-Month Max (GPD)		**4,301,612**	**4,385,969**	**4,559,488**	**4,787,899**	**4,999,899**	**5,165,963**	**864,351**
Peak Factor		**1.179**	**1.179**	**1.179**	**1.179**	**1.179**	**1.179**	

Contract and Planning Allocations For WWTF Expansion			
	Allocation	Contracted Capacity	
City of Coatesville	2,271,413		
Valley Township		1,540,000	
Caln Township		800,000	
West Brandywine Township		533,100	
Sadsbury Township		410,750	
West Sadsbury Township	380,399		
East Fallowfield Township	269,107		
Borough of Parkesburg	654,921		
West Caln Township	508,225		
Veterans Hospital	96,078		
Highland Township	48,375		
Totals:	4,228,518	3,283,850	7,512,368

TABLE 3
SUMMARY OF CONNECTIONS

SOURCE	2016 New Flow	2016 Equiv. EDU's	2017 New Flow	2017 Equiv. EDU's	2018 New Flow	2018 Equiv. EDU's	2019 New Flow	2019 Equiv. EDU's	2020 New Flow	2020 Equiv. EDU's	5 Year Totals New Flow	5 Year Totals Equiv. EDU's
Bulk Customers												
Valley Twp.	6,525	29	10,575	47	3,600	16	0	0	675	3	21,375	95
Caln Twp.	0	0	0	0	7,650	34	0	0	225	1	7,875	35
W. Brandywine Twp.	675	3	0	0	0	0	0	0	7,200	32	7,875	35
Sadsbury	2,025	9	5,400	24	5,850	26	0	0	12,150	54	25,425	113
Subtotal	9,225	41	15,975	71	17,100	76	0	0	20,250	90	62,550	278
Billed Customers [1]	3,150	14	1,350	6	0	0	0	0	11,925	53	16,425	73
Veteran's Hospital	(1,096)	(5)	20,356	90	(10,719)	(48)	49,221	219	0	0	57,762	257
TOTAL	11,279	50	37,681	167	6,381	28	49,221	219	32,175	143	136,737	608

[1] Net EDU addition for City of Coatesville, East Fallowfield Twp., Parkesburg Boro, West Sadsbury, West Caln, & Bulk Haulers

Note: One EDU = 225 GPD

Base Flow Determination

	2016	2017	2018	2019	2020	5-YR Adjusted Average
Actual Annual Average	3.220	4.212	3.343	3.480	3.775	
Flow Adjustments 2016		0.011	0.011	0.011	0.011	
Flow Adjustments 2017			0.038	0.038	0.038	
Flow Adjustments 2018				0.006	0.006	
Flow Adjustments 2019					0.049	
Flow Adjustments 2020						
Total Adjustment	0.000	0.011	0.049	0.055	0.105	
Equivalent Flow	3.220	4.223	3.392	3.535	3.879	3.650

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021
PROJECTED NEW CONNECTIONS

LINE	DEP Code No.	NAME	TOTAL EQ. EDU's	EDUS EQ. ACTIVE	EDUS REMAINING	EST. GPD REMAINING	PLANNING (b) MODULE	EETL &WETL MH	START	BUILD OUT	TYPE	PROJECTED NEW CONNECTIONS (c) 2021	2022	2023	2024	2025	TOTAL IN 5 YEARS	TOTAL BEYOND 2025
1	**City of Coatesville**																	
2	1-15001-036-3IJ	Cambria Terrace	69	54	15	3,375	Y (TOC)	16	2004	2006	R	6	6	3			15	-
3	1-15001-037-3IJ	Bond House (Mount Pleasant Street)	13	13	-	-	Y (TOC)	523	2005	2006	R						-	-
4		Brandywine View	638	-	638	143,550	Y (TOC)	23			R		10	20	20	20	70	568
5		Pulver Office Building 1	8	-	8	1,800	Y (TOC)	578			C	8					8	-
6		Marriott Hotel	47	47	-	-	Y (TOC)	578			C						-	-
7		Marriott Resturant	31	-	31	6,975		578			C		31				31	-
8		Chetty Towers 1 - Residential	60	-	60	13,500		23			R			60			60	-
9		Chetty Towers 1 - Commercial	10	-	10	2,250		23			C			10			10	-
10		Chetty Towers 2 - Residential	150	-	150	33,750		16			R				90	60	150	-
11		Chetty Towers 2 - Commercial	25	-	25	5,625		16			C				5	20	25	-
12		701 ELH - Residential	7	-	7	1,400	Y (TOC)	33			R	7					7	-
13		731 ELH - Residential	9	-	9	1,800	Y (TOC)	33			R	9					9	-
14		Coatesville VoTech	4	-	4	900	Y (TOC)				R	1	1	1	1		4	-
15		McColl-Coatesville Condominium	8	-	8	1,800	Y (TOC)				R	8					8	-
16		Flatts Tract	200	-	200	45,000					R/C			50	50	50	150	50
17		Gateway Development (Lipkin Building)	38	-	38	8,550					R/C		38				38	-
18		Coatesville Misc (2 or less EDU's)	15	7	8	1,800					R		2	2	2	2	8	-
19		1140, 1140 A, 1138 West Chester Rd	3	3	-	-		33										
20		658 E Chestnut-not sure about this one-meter installed 2/2020-5 units	5	5	-	-												
21		116 N 2nd Ave-Mill City Properties(paid 8 sewer capacity fees-meter installed 11/2020)	8	8	-	-												
22																		
23		Total EDU	1,348	137	1,211	272,075					EDU	39	88	146	168	152	593	618
24		Total Flow	303,300	30,825	272,475						FLOW	8,375	19,800	32,850	37,800	34,200	133,025	139,050
25	**Valley Township (d)**																	
26	1-15956-117-3H	Hillview	512	512	-	-	Y	16	2003	2008	R						-	-
27	1-15956-134-3IJ	Oak Crest (Dague)	188	165	23	5,175	Y	16	2005	2008	R	12	11				23	-
28	1-15956-124-3J	Lambert Subdivision	3	2	1	225	Y	578	2008	2009	R	1					1	-
29	1-15961-306-4	Highlands Corp. Center Phase I, II, III	102	91	11	2,475	Y	16	2005	2007	C		6	5			11	-
30	1-15956-125-3J	Valley Suburban (Stoltzfus Commercial)	340	-	340	76,500	Y	578	2005	2008	R/C		20	40	40	40	140	200
31	1-15956-128-3IJ	Valley Farm & Mt. Airy Road	81	55	26	5,850	Y	16	2005	2008	R						-	26
32	1-15956-135-3J	London Tract	14	14	-	-	Y	578			R						-	-
33	1-15956-133-3IJ	Concern	3	3	-	-	Y	578			R						-	-
34	1-15956-151-3J	Bone Tract (Valley View Lot 5)	3	3	-	-	Y	578	2006	-	C						-	-
35	1-15956-149-X	Laurence Professional Center	2	-	2	450	Y	578	2006	-	C		2				2	-
36	1-15956-147-X	Hendry Lot	1	-	1	225	Y	578	2006	-	R	1					1	-
37		Valley Farms Associates Mineral Springs Property	1	-	1	225		578	2006	-	R	1					1	-
38		Valley View Business Park Lot 8 Townhomes	115	-	115	25,875		578	2006	-	R		25	30	30	30	115	-
39		John Woodward	1	-	1	225		578	2006	-	R	1					1	-
40		Olinick Lot	1	-	1	225		578	2006	-	R	1					1	-
41		Saunders Lot	1	-	1	225		578	2006	-	R	1					1	-
42		Albert W Gauff Lot	1	-	1	225		578	2006	-	R	1					1	-
43		Weaver Lot	1	-	1	225		578	2006	-	R	1					1	-
44		Remainder of Valley View Business Park (Lots 6,7,9)	312	-	312	70,088		578	2006	-	C		36				36	276
45		Airport Expansion	111	-	111	24,975		578	2006	-	C	1	1	1	1	1	5	106
46		Rainbow Village	30	-	30	6,750		578	2006	-	R						-	30
47		1126 W. Lincoln Highway	1	-	1	225		578	2006	-	R						-	1
48		Dollar General	2	-	2	450		578	2006	-	R						-	2
49		Spruce Street Residences	4	-	4	900		578	2006	-	R						-	4
50		James J. Terry Funeral Home	2	-	2	450		578	2006	-	R	1					1	1
51		Divita Dialysis Med Center - 1129 W Lincoln Highway	31	27	4	900		578	2006	-	R	4					4	-
52		1895 Valley Rd	1	-	1	225		578				1					1	-
53		923 West Chestnut St	1	-	1	225		578				1					1	-
54		1105 Hilltop Lane	3	1	2	450		578				1	1				2	-
55		115 Glencrest Rd	1	1	-	-		578									-	-
52																		
53		Total EDU	1,869	874	995	223,763					EDU	29	102	76	71	71	349	646
54		Total Flow	420,413	196,650	223,763						FLOW	6,525	22,950	17,100	15,975	15,975	78,525	145,238
55	**Caln Township (d)**																	
56	1-15912-186-3J	Hillview (aka Hill Farm)	99		99	19,800	Y	45	2006	2011	R	25	25	25	24		99	-
57	1-15912-195-3J	Southwoods (Weiss)	20		20	4,500	Y	45	2006	2009	R	10	10				20	-
58	1-15912-159-E	Hills of Thorndale Woods(Southdown/Duca)	262		262	58,950	Y	54	2005	2010	R	30	30	30	30	30	150	112
59		Toomey Estates (elio Colavito)	40		40	9,000		54			C						-	40
60		Caln Road	40		40	9,000		54			R	10	10	10	10		40	-
61		Dogwood & Scott Drive Sewer Extension	72	41	31	6,975		26			R	16	15				31	-
62		Caln Plaza Shopping Center	4	4	-	-		54			C						-	-
63		Flow Diversion Municipal Pump Station	981		981	220,725	Y	54			R/C		150	259	101		510	471
64		Caln Misc (Infill & OLDS Convers. To public)	236	3	233	52,425		54				17	17	17	17	17	85	148
65																		
66		Total EDU	1,754	48	1,706	381,375					EDU	108	257	341	182	47	935	771
67		Total Flow	394,650	10,800	383,850						FLOW	23,675	57,200	76,100	40,350	10,575	207,900	173,475
68	**West Brandywine Township (d) - LIMITED BASED ON ACT 537 APPROVALS**																	
69		Existing Unconnected EDU's	24		4	5,400	537	46			R	8	1	1	1	1	12	(8)
70		Traditions of America	227	107	120	27,000	Y	46			R	69	51				120	-
71		Culbertson Village Residential/Cross Creek	178		178	40,050	537	46			R		34	34	34	34	136	42
72		TOA #2 Baldwin/Overlook	184		184	41,400		46			R		10	34	34	34	112	72
73		TOA #3 Beechwood/Overlook	265		265	59,625		46			R			10	51	51	112	153
74		Janice/Cobblestone	34		34	7,650	PM	46			R			7	5	5	17	17
75		Culbertson Village Commercial	28		28	6,300	537	46			C						-	28
76		Monacy Manor (in existing unconnected EDU's)			-	-	537	46			R						-	-
77		Hunters Crossing	14		14	3,150		46			R						-	14
78		Hunters Crossing Adjacent Properties	14		14	3,150		46			C						-	14
79																		
80																		
81		Total EDU	968	107	841	193,725					EDU	77	96	86	125	125	509	332
82		Total Flow	217,800	24,075	189,225						FLOW	17,325	21,600	19,350	28,125	28,125	114,525	74,700
83	**Highland Township - LIMITED BASED ON ACT 537 APPROVALS**																	
84		Woodview Acres	54	-	54	12,150		638			R		5	10	10	10	35	19
85		Highland Misc (2 EDU's or less)	5	-	5	1,125		638	2005	2008	R	1	1	1	1	1	5	-
86																		
87		Total EDU	59	-	59	13,275					EDU	1	6	11	11	11	40	19
88		Total Flow	13,275	-	13,275						FLOW	225	1,350	2,475	2,475	2,475	9,000	4,275

Borough of South Coatesville																				
	1140 & 1138 West Chester Road		2		2	450		638			R	2					2	-
																	-	-
		Total EDU	2	-	2	450					EDU	2	-	-	-	-	2	-
		Total Flow	450	-	450						FLOW	450	-	-	-	-	450	-
Sadsbury Township (d) - LIMITED BASED ON ACT 537 APPROVALS																				
	Bellaire Business Center Overall - (CTDI expansion)		139	56	83	18,675	Y	638	2003	2008	R	11					11	72
	Rock Holdings (Lot 7B Independence Way)		9	-	9	2,025	Y	638	2004	2008	C						-	9
1-15947-104-3J	Sadsbury Park		461	204	257	57,825	Y	638	2005	2008	R	25	25	25	25	25	125	132
	Lincoln Crest MHP (additional EDU's)		50		50	11,250		638	2005	2006	R						-	50
	Lafayette Square		125	40	85	19,125	Y	638			R		25	40	20		85	-
	Sadsbury Township Existing Residents		80	17	63	14,175	Y	638			R	4	4	4	4	4	20	43
	Sadsbury Commons		240		240	54,000		638			C			25	50	50	125	115
	Sadsbury Commons - Medical Office Building		3		3	675		638			C			3			3	-
	Sadsbury Commons Reserve		3		3	675		638			C						-	3
	Sadsbury Commons Misc. Flow		26		26	5,850		638			C			9	7	7	23	3
	CVS Total development		24		24	5,400		638			C			2	20	2	24	-
	Sadsbury Square		84		84	18,900		638			R		10	20	20	20	70	14
		Total EDU	1,244	317	927	208,575					EDU	40	64	128	146	108	486	441
		Total Flow	279,900	71,325	208,575						FLOW	9,000	14,400	28,800	32,850	24,300	109,350	99,225
East Fallowfield Township - LIMITED BASED ON ACT 537 APPROVALS																				
1-15918-194-3J	Harkins Farm		-		-	-		37	2006	2008	R						-	-
1-15918-159-3H	Stone Creek (Robins Cove)		53	53	-	-	Y (TOC)	37	2004	2008	R						-	-
1-15918-207-3I	North Woods (Thompson North)		27	27	-	-	Y (TOC)	37	2006	2009	R						-	-
1-15918-208-3I	Mendenhall Tract		74	11	63	14,175	Y (TOC)	37	2005	2009	R	2	2	4	4	4	16	47
1-15918-211-3IJ	Providence Hill (Chen Tract)		218	218	-	-	Y (TOC)	37	2005	2010	R						-	-
1-15918-196-3J	Manchester Farms (Thompson South)		112	112	-	-	Y (TOC)	37	2004	2009	R						-	-
1-15918-213-3J	Ridgecrest (Martin)		72	17	55	12,375	Y (TOC)	37	2005	2010	R	10	10	10	10	10	50	5
	Cardinal Drive Area		77	76	1	225	Y (TOC)	37			R	1					1	-
	Coatesville SD - Brandywine MS		75		75	16,875		37			C						-	75
	Scott Farm		75		75	16,875		37			R		5	10	10	10	35	40
	Etteleson Development		32		32	7,200		37			C						-	32
	Bonsall farm		20		20	4,500		37			C						-	20
	East Fallowfield Misc (2 EDU's or less)		13	8	5	1,125		38			R	1	1	1	1	1	5	-
		Total EDU	848	522	326	73,350					EDU	14	18	25	25	25	107	219
		Total Flow	190,800	117,450	73,350						FLOW	3,150	4,050	5,625	5,625	5,625	24,075	49,275
Parkesburg Borough																				
1-15807-037-3H	Parkesburg Knoll		171	165	6	1,350	Y (TOC)	638	2000	2003	R	4	2				6	-
1-15807-050-3J	Crystal Springs Expansion (Heritage)		129	-	129	29,025	Y (TOC)	638	2004	2009	R				5	10	15	114
1-15807-046-3H	Lindale Village		31	-	31	6,975	Y (TOC)	638	2004	2009	R			5	5	5	15	16
	Davis Tract		324	-	324	72,900	Y (TOC)	638	2005	2009	R		5	10	10	10	35	289
	MK Builders		3	-	3	675	Y (TOC)	638	2004	2004	R	1	2				3	-
	Phillips Site		4	-	4	900	Y (TOC)	638	2004	2004	R		2	2			4	-
	Parkesedge Apartments		32	-	32	6,400		638			R		5	5	5	5	20	12
	Siti Crook - Maple Alley		2	-	2	400		638										2
	Octorara Avenue		3	-	3	600		638										3
	Parkesburg Misc (2 EDU's or less)		20	6	14	2,800		638				3	3	3	3	2	14	-
		Total EDU	719	171	548	122,025					EDU	8	19	25	28	32	112	436
		Total Flow	161,775	38,475	122,025						FLOW	1,725	4,075	5,425	6,100	7,025	24,350	97,675
West Caln Township - LIMITED BASED ON ACT 537 APPROVALS																				
1-15961-554-3Hrev	Calnshire West		124	97	27	6,075	Y (TOC)	638	2003	2005	R	4	4	6	6	7	27	-
1-15961-554-3Hrev	Sandy Hill		87	87	-	-	Y (TOC)	638	2003	2006	R						-	-
	Sands Property		309	-	309	69,525		638			R			4	4	3	11	298
	Lawrence Development		72	-	72	16,200		638			R			4	4	4	12	60
	Lapp Tract		3	-	3	675		638			R		1	1	1		3	-
	Arron King		1	1	-	-	Y	638			R						-	-
	Aaron Glick		2	-	2	450	Y	638			R	1	1				2	-
	West Caln Misc (2 EDU's or less)		5	-	5	1,125		638				1	1	1	1	1	5	-
		Total EDU	603	185	418	94,050					EDU	6	7	16	16	15	60	358
		Total Flow	135,675	41,625	94,050						FLOW	1,350	1,575	3,600	3,600	3,375	13,500	80,550
West Sadsbury Township																				
	Lower Valley Road Partners, LP (Victory)		311	232	79	17,775.0	Y	638	2006	2006	I	0	0	0	20	20	40	39
	Mast Property		600	-	600	135,000.0		638			R/C			10	10	20	40	560
	Upper Valley Road - Daycare/Apartment		6	6	-	-	Y	638			C							-
	West Sadsbury Misc (2 EDU's or less)		6	1	5	1,125.0		638				1	1	1	1	1	5	-
		Total EDU	923	239	684	153,900					EDU	1	1	11	31	41	85	599
		Total Flow	207,675	53,775	153,900						FLOW	225	225	2,475	6,975	9,225	19,125	134,775

	PROJECTED EDUS		REMAINING EDUS	
	TOTAL	ACTIVE	TOTAL	FLOW
Total EDU	10,337	2,600	7,717	1,736,563
Total Flow	2,325,713	585,000	1,736,213	

Summary #1

PLANT PROJECTED F	CURRENT	2021	2022	2023	2024	2025	TOTAL IN 5 YEARS	TOTAL BEYOND 2015
TOTAL EDU'S		189	354	497	331	191	1,562	2,194
TOTAL FLOW		42,525	79,650	111,825	74,475	42,975	351,450	493,650
TOTAL PROJECTED WWTP FLOW	3,774,763	3,817,288	3,896,938	4,008,763	4,083,238	4,126,213	4,126,213	4,619,863
	2,020							

EDU = 225.0

(a) Status Legend: 0=Completed, 1=Under Construction, 2=Under Agreement,
3=Under PAWC Plan Review, 4=Initial Planning, 5=Speculative

(b) Signed by PAWC, does not indicated approval by DEP

(c) * indicates project completion. Other developments are projected to extend beyond 5 years.

(d) Municipal agreements will be governed the CMP.

#2

PROJECTED EDU's WITH PM SIGNED BY PAW AND PENDING PROJECTS								
TOTAL EDU'S		325	658	865	803	627	3,278	4,439
TOTAL FLOW		71,575	147,225	193,800	179,875	140,900	733,375	998,238
TOTAL PROJECTED WWTP FLOW	3,774,763	3,846,338	3,993,563	4,187,363	4,367,238	4,508,138	4,508,138	5,506,375
proj 3-month max		4,461,752	4,632,533	4,857,341	5,065,996	5,229,440		

"P" - Indicates PAWC has not signed planning modules and is requesting approval by DEP to move the projects from Table A3 to A2, and upon approval PAWC will then sign the planning modules.

Apartments= 200

Senior Housing= 200

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021

TABLE B1

EETL Allocation until Expansion is Complete from MH EE 015 to MH EE 018 [4]

Township	Development	Total Connections (1)	Connections Allowed (2)	2011 and Beyond Connections Made (3)	Connections Remaining (3)
City of Coatesville					
	701 ELH - Residential	7		0	7
	731 ELH - Residential	9		0	9
	Coatesville VoTech	4		0	4
	Coatesville Misc (2 or less EDU's)	15		7	8
Caln Township					
	Hillview (aka Hill Farm)	99		0	99
	Southwoods (Weiss)	20		0	20
	Hills of Thorndale Woods(Southdown/Duca)	262		0	150
	RG Carwash	7		7	0
	Toomey Estates (elio Colavito)	40		0	0
	Caln Road	40		0	40
	Dogwood & Scott Drive Sewer Extension	72		41	31
	Caln Plaza Shopping Center	4		4	0
	Flow Diversion Municipal Pump Station	981		0	510
	Caln Misc (Infill & OLDS Convers. To public)	236		3	85
West Brandywine Township					
	Existing Unconnected EDU's	24		0	12
	Traditions of America	227		107	120
	Culbertson Village Residential/Cross Creek	178		0	136
	TOA #2 Baldwin/Overlook	184		0	112
	TOA #3 Beechwood/Overlook	265		0	112
	Hunters Crossing	14		0	0
East Fallowfield Township					
	Harkins Farm	0		0	0
	Stone Creek (Robins Cove)	53		4	0
	North Woods (Thompson North)	27		5	0
	Mendenhall Tract	74		0	16
	Providence Hill (Chen Tract)	218		0	0
	Manchester Farms (Thompson South)	112		3	0
	Ridgecrest (Martin)	72		17	50
	Cardinal Drive Area	77		1	1
	Coatesville SD - Brandywine MS	75		0	0
	Scott Farm	75		0	35
	Etteleson Development	32		0	0
	Bonsall farm	20		0	0
	East Fallowfield Misc (2 EDU's or less)	13		8	5
Borough of South Coatesville					
	1140 & 1138 West Chester Road	2		0	2
		Subtotal	**1256**	**207**	**1564**

NOTE (1) - Total projected new connections upstream of critical section.

(2) - Connection allowed prior to completion of EETL replacement of Manhole EE 015 to Manhole EE 018

(3) - Connections made since January 2011 and remaining in next 5 years, from 2012 Chapter 94 Report.

(4) - This table is not a commitment of capacity by PAWC, but rather a summary of each municipalities projections in the Chapter 94 Report. These tables will be updated every 6 months based upon changes to the projections and actual connections.

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021

TABLE B2

WETL Allocation until Expansion is Complete from MH WE 013 to MH WE 020 (4)

Township	Development	Total Connections (1)	Connections Allowed (2)	2011 and Beyond Connections Made (3)	Connections Remaining (3)
City of Coatesville					
	Flatts Tract	150		0	150
	Coatesville Misc (2 or less EDU's)	10		0	10
Valley Township					
	Oak Crest (Dague)	188		165	23
	Lambert Subdivision	3		2	1
	Highlands Corp. Center Phase I, II, III	102		91	11
	Valley Suburban (Stoltzfus Commercial)	340		0	140
	Valley Farm & Mt. Airy Road	81		55	0
	London Tract	14		14	0
	Concern	3		3	0
	Bone Tract (Valley View Lot 5)	3		3	0
	Laurence Professional Center	2		0	2
	Hendry Lot	1		0	1
	Valley Farms Associates Mineral Springs Property	1		0	1
	Valley View Business Park Lot 8 Townhomes	115		0	115
	John Woodward	1		0	1
	Olinick Lot	1		0	1
	Saunders Lot	1		0	1
	Albert W Gauff Lot	1		0	1
	Weaver Lot	1		0	1
	Remainder of Valley View Business Park (Lots 6,7,9)	312		0	36
	Airport Expansion	111		0	5
	Rainbow Village	30		0	0
	1126 W. Lincoln Highway	1		0	0
	Dollar General	2		0	0
	Spruce Street Residences	4		0	0
	James J. Terry Funeral Home	2		0	1
	Divita Dialysis Med Center - 1129 W Lincoln Highway	31		27	4
Highland Township					
	Woodview Acres	54		0	54
	Highland Misc (2 EDU's or less)	5		0	5
Sadsbury Township					
	Bellaire Business Center Overall - (CTDI expansion)	139		56	11
	Rock Holdings (Lot 7B Independence Way)	9		0	0
	Sadsbury Park	461		204	125
	Lincoln Crest MHP (additional EDU's)	50		0	0
	Lafayette Square	125		40	85
	Sadsbury Township Existing Residents	80		17	20
	Sadsbury Commons	240		0	125
	Sadsbury Commons - Medical Office Building	3		0	3
Parkesburg Borough					
	Parkesburg Knoll	41		35	6
	Crystal Springs Expansion (Heritage)	129		0	15
	Lindale Village	31		0	15
	Davis Tract	324		0	35
	MK Builders	3		0	3
	Phillips Site	4		0	4
	Parkesedge Apartments	32		0	20
	Siti Crook - Maple Alley	2		0	0
	Octorara Avenue	3		0	0
	Parkesburg Misc (2 EDU's or less)	20		6	14
West Caln Township					
	Calnshire West	28		1	27
	Sands Property	309		0	11
	Lawrence Development	72		0	12
	Lapp Tract	3		0	3
	West Caln Misc (2 EDU's or less)	5		0	5
West Sadsbury Township					
	Lower Valley Road Partners, LP (Victory)	311		232	40
	Mast Property	600		0	40
	Upper Valley Road - Daycare/Apartment	6		6	0
	West Sadsbury Misc (2 EDU's or less)	6		1	5
		Subtotal	**1361**	**958**	**1188**

NOTE
(1) - Total projected new connections upstream of critical section.
(2) - Connection allowed prior to completion of WETL replacement of Manhole WE 013 to Manhole WE 020
(3) - Connections made since January 2011 and remaining in next 5 years, from 2012 Chapter 94 Report.
(4) - This table is not a commitment of capacity by PAWC, but rather a summary of each municipalities projections in the Chapter 94 Report. These tables will be updated every 6 months based upon changes to the projections and actual connections.

CONNECTION MANAGEMENT PLAN - REPORTING Data REVISED: October 2021

TABLE B3

WETL Allocation until Expansion is Complete for Parkesburg Pump Station [4]

Township	Development	Total Connections (1)	Connections Allowed (2)	2011 and Beyond Connections Made (3)	Connections Remaining (3)
Highland Township					
	Woodview Acres	54		0	54
	Highland Misc (2 EDU's or less)	5		0	5
Parkesburg Borough					
	Parkesburg Knoll	41		35	6
	Crystal Springs Expansion (Heritage)	129		0	15
	Lindale Village	31		0	15
	Davis Tract	324		0	35
	MK Builders	3		0	3
	Phillips Site	4		0	4
	Parkesedge Apartments	32		0	20
	Siti Crook - Maple Alley	2		0	0
	Octorara Avenue	3		0	0
	Parkesburg Misc (2 EDU's or less)	20		6	14
West Caln Township					
	Calnshire West	28		1	27
	Sands Property	309		0	11
	Lawrence Development	72		0	12
	Lapp Tract	3		0	3
	West Caln Misc (2 EDU's or less)	5		0	5
West Sadsbury Township					
	Lower Valley Road Partners, LP (Victory)	311		232	40
	Mast Property	600		0	40
	Upper Valley Road - Daycare/Apartment	6		6	0
	West Sadsbury Misc (2 EDU's or less)	6		1	5
		Subtotal	**356**	**281**	**314**

NOTE (1) - Total projected new connections upstream of critical section.

(2) - Connection allowed prior to completion of upgrades to the Parkesburg Pump Station

(3) - Connections made since January 2011 and remaining in next 5 years, from 2012 Chapter 94 Report.

(4) - This table is not a commitment of capacity by PAWC, but rather a summary of each municipalities projections in the Chapter 94 Report. These tables will be updated every 6 months based upon changes to the projections and actual connections.

TABLE 4
PAWC Pump Stations - 2020 Chapter 94 Report

		Permitted Capacities		Present Flows			Projected Flows			
Pump Station Name	Number of Pumps	AA Permitted Capacity (gpd)	Hydraulic Design Capacity (gpm)	Annual Average Flows (gpd)	Peak Hourly Flow (gpd)	Peak Hourly Flow (gpm)	Peaking Factor	(1) 2-Year Additional Flow (gpd)	2-Year AA Flow (gpd)	(1) 2-Year Projected Maximum Flow (gpd)
Branford Village Lift Station #1	2	149,000	311	57,099	200,400	139	3.51	0	57,099	200,400
Branford Village Lift Station #2	2	65,000	71	18,669	43,704	30	2.34	0	18,669	43,704
Brinton Station Lift Station #1	2	22,000	62	5,152	11,880	8	2.31	0	5,152	11,880
Brinton Station Lift Station #2	2	3,000	9		Combined with #1		2.14	0	0	0
Derry Lane Pump Station (Fieldstone)	2	19,425	57	3,130	1,454	1	0.46	1,575	4,705	2,186
Millview Lift Station	2		178	20,527	42,192	29	2.06	0	20,527	42,192
Northwoods Lift Station	2	7,100	21	4,434	14,496	10	3.27	0	4,434	14,496
Parkesburg Lift Station	4	1,451,826	3,825	462,400	1,336,393	928	2.89	46,800	509,200	1,471,651
Providence Hill Lift Station	2	51,450	250	30,031	69,713	48	2.32	225	30,256	70,235
Robins Cove #1 Lift Station	2		55		Combined with #2		3.66	0	0	0
Robins Cove #2 Lift Station	2	163,418	550	82,456	220,512	153	2.67	2,475	84,931	227,131
Sandy Hill Lift Station	2	100,000	276	43,579	135,312	94	3.10	4,725	48,304	149,983
Strasburg Hunt Lift Station #1	2		43		Combined with #2		3.00	0	0	0
Strasburg Hunt Lift Station #2	2		52	24,882	74,646	52	3.00	0	24,882	74,646
West Sadsbury Lift Station	2	100,000	174	2,515	30,072	21	11.96	0	2,515	30,072
West Sadsbury Commons Lift Station	2	40,000	150	26,408	34,704	24	1.31	0	26,408	34,704
West Sadsbury Lower Valley Road	2	214,560	149	83,998	160,392	111	1.91	2,475	86,473	165,118

(1) - Based upon Connection Management Plan Revised March 2021

APPENDIX D

EAST FALLOWFIELD TWP.
Projection of EDU Connections and Flows (GPD)
2023 Act 537 Plan Update

Project Name	Plan Status	Total EDUs	Prior to 2022	2022	Remaining EDUs	2023	2024	2025	2026	2027	Total in 5 Years	Total Beyond 5 Years
Stone Creek (Robins Cove)	1-15918-159-3H	53	53	-	0	-	-	-	-	-	0	0
North Woods (Thompson North)	1-15918-207-3I	27	27	-	0	-	-	-	-	-	0	0
Mendenhall Tract (Pelham Place/Fieldstone Village)	1-15918-208-3I	74	18	8	48	5	-	-	-	-	5	43
Providence Hill (Chen Tract)	1-15918-211-3IJ	218	218	-	0	-	-	-	-	-	0	0
Manchester Farms (Thompson South)	1-15918-196-3J	112	112	-	0	-	-	-	-	-	0	0
Ridgecrest (Martin)	1-15918-213-3J	72	72	0	0	-	-	-	-	-	0	0
Cardinal Drive Area		77	77	0	0	-	-	-	-	-	0	0
Coatesville School District - South Brandywine MS		75	-	-	75	-	75	-	-	-	75	0
Scott Farm	Final Plan Approved	75	-	-	75	-	-	-	-	-	0	75
Etteleson Development	Preliminary Plan	32	-	-	32	-	-	-	-	-	0	32
Bonsall Farm	Preliminary Plan	20	-	-	20	-	-	-	-	-	0	20
East Fallowfield Twp MISC		13	9	1	5	1	1	1	1	1	5	0
TOTAL EDUs [1]		848	586	9	255	6	76	1	1	1	85	170
TOTAL FLOW (GPD) @ 225 GPD/EDU		190,800	131,850	2,025	57,375	1,350	17,100	225	225	225	19,125	38,250

[1] Does Not Include Existing Connections

Allocation (Planning) for WWTP Expansion = 269,107 GPD

APPENDIX E

1. PROJECT INFORMATION

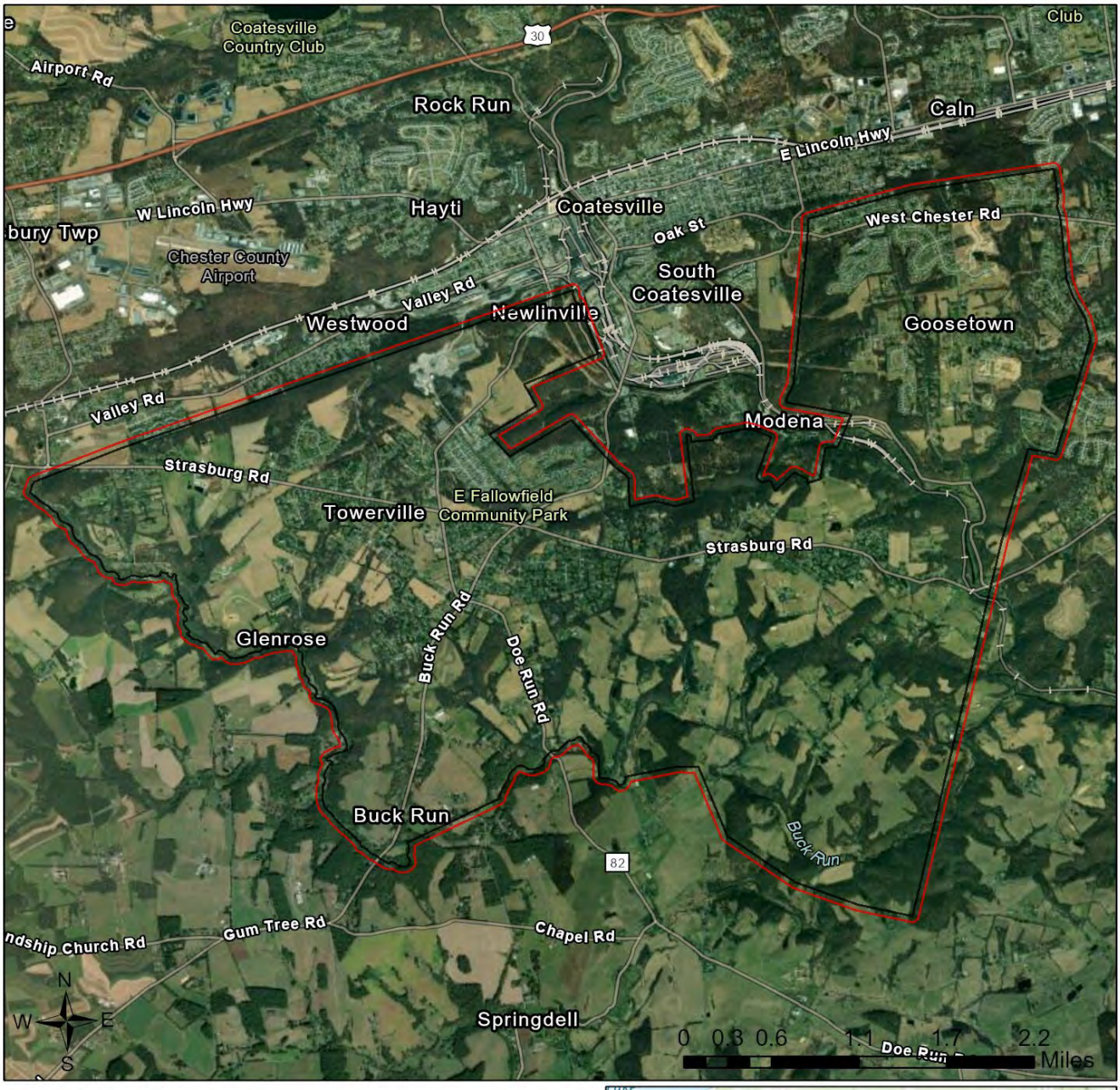
Project Name: **East Fallowfield Township Act 537 Plan Update**
Date of Review: **5/18/2022 05:03:43 PM**
Project Category: **Waste Transfer, Treatment, and Disposal, Liquid waste/Effluent, Sewage module/Act 537 plan**
Project Area: **10,010.10 acres**
County(s): **Chester**
Watersheds HUC 8: **Brandywine-Christina**
Watersheds HUC 12: **Beaver Creek; Buck Run; Doe Run; Sucker Run; Upper West Branch Brandywine Creek**
Decimal Degrees: **39.950725, -75.818479**
Degrees Minutes Seconds: **39° 57' 2.6115" N, 75° 49' 6.5258" W**

2. SEARCH RESULTS - LARGE PROJECT

Agency	Results	Response
PA Game Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Department of Conservation and Natural Resources	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
PA Fish and Boat Commission	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**
U.S. Fish and Wildlife Service	**Potential Impact**	**FURTHER REVIEW IS REQUIRED, See Agency Response**

Large Project. The project area is greater than 10 miles and/or 5,165 acres and therefore is categorized as a Large Project, and is not analyzed by the PNDI tool. Coordination is therefore required with the four jurisdictional agencies to determine if potential impacts to threatened and endangered and/or special concern species and resources within the project area. Please see the DEP Information section of the receipt if a PA Department of Environmental Protection Permit is required.

East Fallowfield Township Act 537 Plan Update

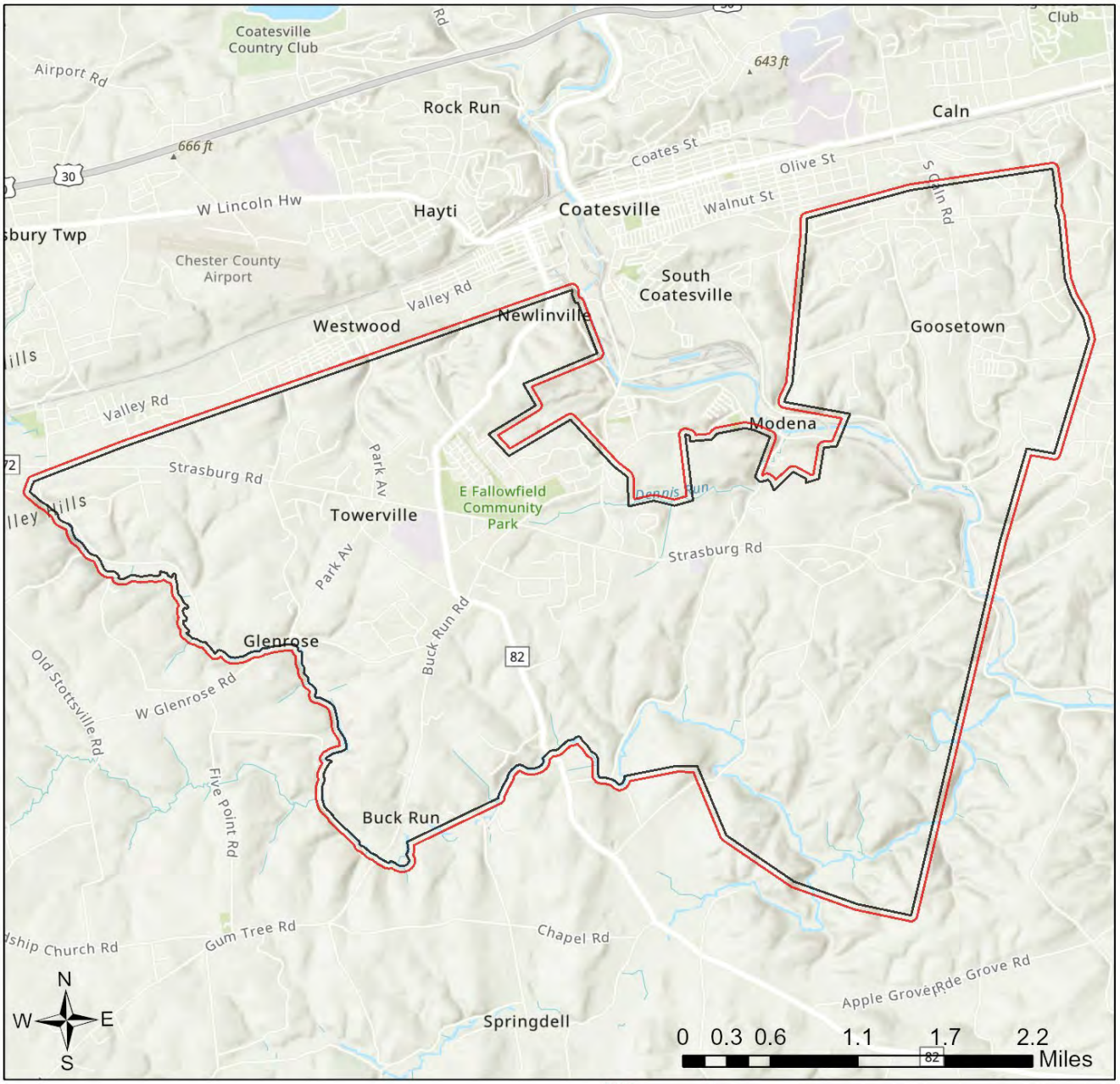


Buffered Project Boundary

Project Boundary

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

East Fallowfield Township Act 537 Plan Update



Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for two years** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Department of Conservation and Natural Resources

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

PA Fish and Boat Commission

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

U.S. Fish and Wildlife Service

RESPONSE:

Further review of this project is necessary to resolve the potential impact(s). Please send project information to this agency for review (see WHAT TO SEND).

WHAT TO SEND TO JURISDICTIONAL AGENCIES

If project information was requested by one or more of the agencies above, upload* or email the following information to the agency(s) (see AGENCY CONTACT INFORMATION). Instructions for uploading project materials can be found here. This option provides the applicant with the convenience of sending project materials to a single location accessible to all three state agencies (but not USFWS).
*If information was requested by USFWS, applicants must email, or mail, project information to IR1_ESPenn@fws.gov to initiate a review. USFWS will not accept uploaded project materials.

Check-list of Minimum Materials to be submitted:
✓ Project narrative with a description of the overall project, the work to be performed, current physical characteristics of the site and acreage to be impacted.
✓ A map with the project boundary and/or a basic site plan(particularly showing the relationship of the project to the physical features such as wetlands, streams, ponds, rock outcrops, etc.)
In addition to the materials listed above, USFWS REQUIRES the following
✓ **SIGNED** copy of a Final Project Environmental Review Receipt

The inclusion of the following information may expedite the review process.
____ Color photos keyed to the basic site plan (i.e. showing on the site plan where and in what direction each photo was taken and the date of the photos)
✓ Information about the presence and location of wetlands in the project area, and how this was determined (e.g., by a qualified wetlands biologist), if wetlands are present in the project area, provide project plans showing the location of all project features, as well as wetlands and streams.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. Two review options are available to permit applicants for handling PNDI coordination in conjunction with DEP's permit review process involving either T&E Species or species of special concern. Under sequential review, the permit applicant performs a PNDI screening and completes all coordination with the appropriate jurisdictional agencies prior to submitting the permit application. The applicant will include with its application, both a PNDI receipt and/or a clearance letter from the jurisdictional agency if the PNDI Receipt shows a Potential Impact to a species or the applicant chooses to obtain letters directly from the jurisdictional agencies. Under concurrent review, DEP, where feasible, will allow technical review of the permit to occur concurrently with the T&E species consultation with the jurisdictional agency. The applicant must still supply a copy of the PNDI Receipt with its permit application. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. The applicant and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at https://conservationexplorer.dcnr.pa.gov/content/resources.

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a preliminary screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources
Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552
Harrisburg, PA 17105-8552
Email: RA-HeritageReview@pa.gov

U.S. Fish and Wildlife Service
Pennsylvania Field Office
Endangered Species Section
110 Radnor Rd; Suite 101
State College, PA 16801
Email: IR1_ESPenn@fws.gov
NO Faxes Please

PA Fish and Boat Commission
Division of Environmental Services
595 E. Rolling Ridge Dr., Bellefonte, PA 16823
Email: RA-FBPACENOTIFY@pa.gov

PA Game Commission
Bureau of Wildlife Management
Division of Environmental Review
2001 Elmerton Avenue, Harrisburg, PA 17110-9797
Email: RA-PGC_PNDI@pa.gov
NO Faxes Please

7. PROJECT CONTACT INFORMATION

Name: DAVID M. PORTER
Company/Business Name: HERBERT E. MACCOMBIE, JR., P.E., CONSULTING ENGINEERS AND SURVEYORS, INC.
Address: P.O. Box 118
City, State, Zip: BROOMALL, PA 19008
Phone: (610) 356-9550 Fax: (610) 356-5032
Email: dporter@hemenginc.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

applicant/project proponent signature

5/18/22
date

SUPPLEMENTAL PROJECT NARRATIVE
FOR
ENVIRONMENTAL IMPACT COORDINATION

DESCRIPTION OF OVERALL PROJECT

An Act 537 Plan Update is being prepared at the request of East Fallowfield Township (Township) in order to address current and future planning needs. The intent of the Act 537 Plan Update is to be in substantial compliance with Act 537 entitled *The Pennsylvania Sewage Facilities Act, PA Code Title 25, Chapter 71,* in order to appropriately plan for the future needs of the Township and its residents. In addition, the tributary municipalities of the Pennsylvania American Water Company (PAWC) City of Coatesville, Chester County Wastewater Treatment Plant (WWTP) are required to complete Act 537 Planning to be consistent with the PAWC Regional Act 537 Plan and to provide for use of Post-Plant Expansion Capacity.

The Act 537 Plan Update will contain the requisite Environmental Checklist addressing the planning requirements necessary in order to provide public sanitary sewer service, as applicable, generally in the portion of the Township north of Strasburg Road, as well as continued use of On-lot Sewage Disposal Systems with a Sewage Management Program for the remainder of the Township, while evaluating other alternatives for adequate sewage disposal to meet the immediate and future needs of the Township and its residents.

WORK TO BE PERFORMED

The Act 537 Plan Update will identify and evaluate various aspects of alternatives in a prudent manner in order to solve the problems and adequately satisfy the sewage disposal needs identified in this plan. The alternatives considered and evaluated include the background and means by which public sewer service currently exists as well as the merits of providing future service to both residential and commercial development within the overall planning area considered, as well as considering continued use of individual on-lot sewage disposal systems (OLDS) or community on-lot disposal systems (COLDS) in areas where public sewage disposal is not viable. Implementation of a Sewage Management Program will be evaluated as a method of assuring proper long term operation and maintenance of individual OLDS and COLDS. As part of the Alternatives Analysis, the practicality, environmental impact, and cost effectiveness of the various methods of sewage disposal will be considered in determining the Selected Alternatives for different areas of the Township within this Plan. In addition to this Environmental Impact Coordination, other outside agencies and municipalities will be coordinated with, including the Chester County Planning Commission, the Chester County Health Department, the Pennsylvania Historic and Museum Commission (PHMC), Pennsylvania American Water Company (PAWC) and various adjacent municipalities.

PHYSICAL CHARACTERISTICS

East Fallowfield Township is located in Chester County, south of the City of Coatesville. The Township is bounded to the north by Sadsbury Township, Valley Township, the Borough of South Coatesville, the Borough of Modena, and Caln Township, bounded to the east by West Bradford Township and Newlin Township, bounded to the south by West Marlborough Township, and bounded to the west by Highland Township.

The Study Area lies within two major watersheds: the West Branch Brandywine Creek and the East Branch Brandywine Creek. The West Branch Brandywine Creek encompasses the large majority of the township and is comprised of several subwatersheds: Buck Run, Sucker Run, Dennis Run, Doe Run and the main stem of the West Branch Brandywine Creek. There is only one subwatershed of the East Branch Brandywine Creek within the township and that is the Valley Run watershed, which is tributary to Beaver Creek.

The Buck Run watershed is generally situated in the western, southwestern, and southern portions of the township generally south of Strasburg Road and is the largest watershed within the township. According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes) for the Buck Run. The Sucker Run watershed is generally situated within the northeasterly portion of the township north of Strasburg Road and along Doe Run Road (Route 82). According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The Dennis Run watershed is situated generally in the central and northcentral portions of the township extending from its westerly limit at Park Avenue to approximately Ramsey Road in the east and including areas from Ercildoun in the south to the boundary of the township with the boroughs of South Coatesville and Modena in the north. According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The main stem of West Branch Brandywine Creek watershed encompasses almost the entire eastern portion of the township extending in the north from about West Chester Road to the south just beyond Fairview Road where it meets the Buck Run watershed drainage divide. The western limit of the watershed is the drainage divide between the Dennis Run and Buck Run watersheds and the watershed extends to the municipal boundaries with the Borough of South Coatesville, Borough of Modena, West Bradford Township, and Newlin Township. According to PA Code, Chapter 93, the Water Quality Standard Classification for the West Branch Brandywine Creek in this portion of the township is WWF, MF (Warm Water Fishes, Migratory Fishes) with the exception of two unnamed tributaries. One of the tributaries generally flows from north to south along Misty Patch Road and the other flows from north/northeast to south from east of South Caln Road both joining prior to connecting with the West Branch Brandywine Creek in the vicinity of Mortonville Road and Sawmill Road. The unnamed tributary along Misty Patch Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of CWF, MF (Cold Water Fishes, Migratory Fishes). The unnamed tributary along South Caln Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of EV, MF (Exceptional Value, Migratory Fishes). Only a small portion of the township consists of the Doe Run watershed, which is situated in the southeasterly portion of the

township adjacent to the Buck Run. According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes).

The Valley Run watershed, which is part of the Beaver Creek watershed comprises the northeastern most portion of the township north of West Chester Road and is the only watershed that is not tributary to the West Branch Brandywine Creek in the Township. Valley Run is tributary to Beaver Creek, which is tributary to the East Branch Brandywine Creek, and according to PA Code, Chapter 93, the Water Quality Standard Classification is CWF, MF (Cold Water Fishes, Migratory Fishes).

According to National Wetlands Inventory mapping, the majority of the wetlands found within the township are located along the border of the township with Highland and West Marlborough Townships. These wetlands can be found on the banks of current waterways. Additional wetlands can be found on the banks of the West Branch Brandywine Creek located in the northeastern portion of the township and on the banks of the Dennis Run west of Youngsburg Road.

The study area contains a low elevation of approximately 240 located along the Buck Run on the border of East Fallowfield Township and Newlin Township. The highest elevation of approximately 635 can be found just north of Strasburg Road approximately half way between its intersections with Old Wilmington Road and Mount Carmel Road. The township consists of rolling hills, dense forest areas, and farmland.

All soils in the Study Area are either very or moderately limited with regards to In-ground Bed Sewage Disposal. The exception to this is a small area located southwest of South Forty Lane and north of Chelsey Drive and Wagner Lane, which is slightly limited.

Pertaining to the soil suitability for In-ground Trench Sewage Disposal, the Study Area ranges from slightly to moderately to very limited. The northeastern portion of the Study Area contains mostly moderately and very limited soil, with small pockets of slightly limited soil seen. The southern and northwestern portions of the Study Area contain mostly slightly limited soil suitability for in-ground trench sewage disposal; however, pockets of moderately and very limited soil suitability can be found. Finally, in the central portion of the Study Area south of Modena Borough there is a small pocket of slightly limited soil located north of Dennis Run. The remainder of this central portion of the Study Area contains mostly very limited soil suitability.

In the matter of the soil suitability for Sand Mound Sewage Disposal the Study Area as a whole ranges from slightly limited, to moderately limited, to very limited soil suitability. The vast majority of the Study Area is slightly limited; however, areas of moderately and very limited soil suitability can be found dispersed throughout the Study Area.

Finally, with regard to the soil suitability for Drip Irrigation Sewage Disposal, the Study Areas contains areas of very limited, moderately limited and slightly limited soil suitability. The vast majority of the area is slightly limited in this regard. Three notable areas of very limited soil suitability can be found bordering the West Branch of Brandywine

Creek; bordering Buck Run in the southern portion of the Study Area; and located in the portion of the Study Area just south of the Valley Township line close to the border of South Coatesville Borough.

AREA TO BE IMPACTED

The area to be impacted will be evaluated on a case-by-case basis as specific projects commence. Each specific project will need to address potential environmental impacts specifically related to that particular project, such as PNDI searches, wetlands delineation, general permits, and/or erosion and sediment pollution control and NPDES permitting, etc., as applicable. In general, extension of public sewer service within the township will likely be limited to areas north of Strasburg Road. In addition, the remaining areas of the township will likely be serviced by On-lot Sewage Disposal Systems under a Sewage Management Program administered by the township. Other methods of sewage disposal such as Community On-lot Disposal Systems (COLDS), package treatment plants for individual lot use, and holding tanks, will also be evaluated in the Act 537 Plan Update and may be recommended on a case-by-case basis.

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SEWER SERVICE AREAS

- Existing Service Area
- South Brandywine Middle School Project Sanitary Sewer Expansion Area

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012.
Topography Map from ESRI ArcGIS Map Service,
Copyright:© 2013 National Geographic Society, i-cubed.
http://goto.arcgisonline.com/maps/USA_Topo_Maps

N W E S

2,000 0 2,000 4,000
Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 1
USGS TOPOGRAPHIC BASE MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

NEWLINVILLE
HILLTOP MHP
STRASBERG HUNT
TOWERVILLE
CARRIAGE CREST
BROOK CROSSROADS
BRANFORD VILLAGE
STRUNKS CROSSROADS
DENNIS RUN
FAIRFIELD FARMS
GLENROSE
DOE RUN FARMS II
DOE RUN FARMS I
BRIGHTON MANOR
ERCILDOUN
ZELLS MHP
HEPHZIBAH
YOUNGSBURG
BUCK RUN
GLEN AT PROVIDENCE HILL
MANCHESTER FARMS
BRINTON STATION
FOX KNOLL
STONE CREEK
GREEN TREE
MENDENHALL
WELLINGTON HUNT

Dennis Run
West Branch Brandywine Creek
UNT to Dennis Run
UNT to Buck Run
Buck Run

WETLAND FEATURES
- NWI Wetlands

Hydric Soil Ratng
- Partially Hydric
- All Hydric

LEGEND
- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012. Hydric soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania. Wetlands are from USFWS, National Wetlands Inventory (NWI).

N W E S

2,000 0 2,000 4,000
Scale in Feet

Act 537 Sewage Facilities Plan East Fallowfield Township, Chester County, Pennsylvania

FIGURE 6
WETLANDS MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Sucker Run

Buck Run

Dennis Run

West Branch Brandywine Creek

Valley Run

Doe Run

Source: Road centerlines, tax parcels, watersheds, and hydrography are from Chester County GIS, dated 2012. Hydric soils are from U.S. Department of Agriculture, Natural Resources Conservation Service, 9/15/2014, Soil Survey Geographic (SSURGO) database for Chester County, Pennsylvania. Wetlands are from USFWS, National Wetlands Inventory (NWI).

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

WATER RESOURCE FEATURES

- Buck Run
- Dennis Run
- Doe Run
- Sucker Run
- Valley Run
- West Branch Brandywine Creek
- NWI Wetlands
- 100-Year Flood Zone

Hydric Soil Ratng

- Partially Hydric
- All Hydric

N W E S

2,000 0 2,000 4,000

Scale in Feet

Act 537 Sewage Facilities Plan East Fallowfield Township, Chester County, Pennsylvania

FIGURE 12
WATER RESOURCES MAP

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

COMMONWEALTH OF PENNSYLVANIA
PENNSYLVANIA GAME COMMISSION
2001 Elmerton Avenue
Harrisburg, PA 17110-9797
Wildlife Management
(717) 787-5529

May 24, 2022

Mr. David Porter
Herbert E. MacCombie, Jr. P.E., Consulting Engineers and Surveyors, Inc.
P.O. Box 118
Broomall, PA 19008
dporter@hemenginc.com

PNDI Receipt File: *project_receipt_east_fallowfield_township_759890_FINAL_1.pdf*
Re: East Fallowfield Township Act 537 Plan Update
Many Townships; Chester County, Pennsylvania

Dear Mr. Porter,

Thank you for submitting Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt *project_receipt_east_fallowfield_township_759890_FINAL_1.pdf* for review. The Pennsylvania Game Commission (PGC) screened this project for potential impacts to species and resources of concern under PGC responsibility, which includes birds and mammals only.

No Impact Anticipated

PNDI records indicate species or resources of concern are located within the vicinity of the project. However, based on the information you submitted concerning the nature of the project, the immediate location, and our detailed resource information, the PGC has determined that no impact is likely. Therefore, no further coordination with the PGC will be necessary for this project at this time.

This response represents the most up-to-date summary of the PNDI data files and is valid for two (2) years from the date of this letter. An absence of recorded information does not necessarily imply actual conditions on site. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered.

Should the proposed work continue beyond the period covered by this letter, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative and accurate map). If the proposed work has not changed and no additional information concerning listed species is found, the project will be cleared for PNDI requirements under this agency for two additional years.

This finding applies to impacts to birds and mammals only. To complete your review of state and federally-listed threatened and endangered species and species of special concern, please be sure that the U.S. Fish and Wildlife Service, the PA Department of Conservation and Natural Resources, and/or the PA Fish and Boat Commission have been contacted regarding this project as directed by the online PNDI ER Tool found at www.naturalheritage.state.pa.us.

Sincerely,

Halie Parker
Wildlife Biologist / Environmental Review
Bureau of Wildlife Management
Phone: 717-787-4250, Extension 73421
Fax: 717-787-6957
E-mail: halparker@pa.gov

A PNHP Partner

Pennsylvania Natural Heritage Program

HAP/hap

pennsylvania
DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

BUREAU OF FORESTRY

June 13, 2022

PNDI Number: 759890
Version: Final_1; 5/18/22

David Porter
Herbert E. MacCombie, Jr. P.E., Consulting Engineers and Surveyors, Inc.
P.O. Box 118
Broomall, PA 19008
Email: dporter@hemenginc.com (hard copy will not follow)

Re: East Fallowfield Township Act 537 Plan Update
Chester County, PA

Dear David Porter,

Thank you for the submission of the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Receipt Number **759890 (Final_1)** for review. PA Department of Conservation and Natural Resources screened this project for potential impacts to species and resources under DCNR's responsibility, which includes plants, terrestrial invertebrates, natural communities, and geologic features only.

PNDI records indicate that species under DCNR's jurisdiction are known to occur in the vicinity of the proposed project area. **Please see the attached table detailing species that may occur within the project area. Avoidance of suitable habitat is recommended and should be considered during the planning process as specific projects commence. Please obtain a PNDI receipt using the online PA Conservation Explorer tool for each subsequent project.**

This response represents the most up-to-date review of the PNDI data files and is valid for two (2) years only. If project plans change or more information on listed or proposed species becomes available, our determination may be reconsidered. Should the proposed work continue beyond the period covered by this letter and a permit has not been acquired, please resubmit the project to this agency as an "Update" (including an updated PNDI receipt, project narrative, description of project changes and accurate map). As a reminder, this finding applies to potential impacts under DCNR's jurisdiction only. Visit the PNHP website for directions on contacting the Commonwealth's other resource agencies for environmental review.

Should you have any questions or concerns, please contact Alexander Dogonniuck, Ecological Information Specialist, by phone (717-783-3913) or via email (c-adogonni@pa.gov).

Sincerely,

Greg Podniesinski

Greg Podniesinski, Section Chief
Natural Heritage Section

Scientific Name	Common Name	Current Status	Proposed Status	Survey Window	Suitable Habitat	Local Habitat
Ellisia nyctelea	Ellisia	PT	PT	Flowers in May – June	Damp, shady banks and rich, alluvial woods	Buck Run
Paronychia fastigiate var. nuttallii	Forked-chickweed	TU	PE	Flowers July – September	Open woods and edges, in dry rocky or sandy soils	Northeast Fallowfield Township
Stylosanthes biflora	Pencilflower	TU	PE	Flowers July – September	River banks, rocky or shaly slopes and sandy fields	Southwest Fallowfield Township
Trillium cernuum	Nodding Trillium	N	PT	Flowers April – May	Rich woods	Joy Fanning Easement
Carex haydenii	Cloud Sedge	TU	PT	Fruits mid-June – early August	Swamps and wet meadows or woods	Laurels Preserve
Chionanthus virginicus	Fringe-tree	N	PT	Flowers May; purple / black fruit in fall	Moist, open woods and woods edges, also cultivated	Laurels Preserve
Dichanthelium oligosanthes	Heller's Witchgrass	N	PT	Vernal terminal panicles May – early July, or late summer or early fall	Thickets, in loamy or clayey soils	Laurels Preserve
Carex brevior	Sedge	N	PT	Flowers / fruits May – June	Dry, open thickets, banks, fields and roadsides	Laurels Preserve

Pennsylvania Fish & Boat Commission
established 1866

Division of Environmental Services
Natural Diversity Section
595 E Rolling Ridge Dr.
Bellefonte, PA 16823
814-359-5237

June 2, 2022

IN REPLY REFER TO
SIR# 56217

Herbert E. MacCombie , Jr. P.E.
David Porter
P.O. Box 118
Broomall, Pennsylvania 19008

RE: Species Impact Review (SIR) – Rare, Candidate, Threatened and Endangered Species
PNDI Search No. 759890_1
East Fallowfield Township Act 537 Plan Update
CHESTER County: East Fallowfield Township

Dear David Porter:

This responds to your inquiry about a Pennsylvania Natural Diversity Inventory (PNDI) Internet Database search "potential conflict" or a threatened and endangered species impact review. These projects are screened for potential conflicts with rare, candidate, threatened or endangered species under Pennsylvania Fish & Boat Commission jurisdiction (fish, reptiles, amphibians, aquatic invertebrates only) using the Pennsylvania Natural Diversity Inventory (PNDI) database and our own files. These species of special concern are listed under the Endangered Species Act of 1973, the Wild Resource Conservation Act, and the Pennsylvania Fish & Boat Code (Chapter 75), or the Wildlife Code.

Except for occasional transient species, rare, candidate, threatened or endangered species under our jurisdiction are not known to exist in the vicinity of the project area. Therefore, no biological assessment or further consultation regarding rare species is needed with the Commission. Should project plans change, or if additional information on listed or proposed species becomes available, this determination may be reconsidered.

This response represents the most up-to-date summary of the PNDI data and our files and is valid for two (2) years from the date of this letter. An absence of recorded species information does not necessarily imply species absence. Our data files and the PNDI system are continuously being updated with species occurrence information. Should project plans change or additional information on listed or proposed species become available, this determination may be reconsidered, and consultation shall be re-initiated.

If you have any questions regarding this review, please contact Kathy Gipe at 814-359-5186 and refer to the SIR # 56217. Thank you for your cooperation and attention to this important matter of species conservation and habitat protection.

Sincerely,

Christopher A. Urban, Chief
Natural Diversity Section

CAU/KDG/dn

PNDI # 759890 **USFWS Project #** 2022-0060201

U.S. FISH AND WILDLIFE SERVICE

110 Radnor Road, Suite 101, State College, PA 16801

This responds to your inquiry about a PNDI Internet Database search that resulted in a potential conflict with a federally listed, proposed or candidate species.

PROJECT LOCATION INFORMATION

County: Chester

Township: East Fallowfield

MISC INFORMATION

Date received by FWS: May 18, 2022

☐ ACTIVE ☐ ARCHIVE

USFWS COMMENTS ☐ EMAILED ☐ MAILED

To: Dave Porter

Email: dporter@hemenginc.com

Affiliation: Herbert E. MacCombie Consulting Engineers & Surveyors, Inc.

SPECIFIC PROJECT East Fallowfield Township Act 537 Plan Update

○ Other than occasional transient species, no federally listed species under our jurisdiction is known or likely to occur in the project area. This determination is valid for two years. Should project plans change, or if additional information on listed species become available, this determination may be reconsidered.

◉ It appears there have been no changes in the project or on-site biological information; therefore, the agency's comments, as detailed in our letter of 7/29/15 remain unchanged.

○ We have already provided comments on this project (See PNDI Receipt); therefore, no further correspondence will be sent by this agency. If there is a change in the project, please re-screen the project on-line, and contact this office if the PNDI receipt directs you to do so.

The above determination is valid for two years from the date of this letter. In addition, this response relates only to federally listed, proposed, and candidate species under our jurisdiction, based on an office review of the proposed project's location and anticipated impacts. No field inspection of the project area has been conducted by this office. *Please reference the above PNDI # and USFWS Project # in any future correspondence regarding this project.*

This review was conducted by the biologist listed below. He/she can be contacted at 814-206-(Extension).

☐ Melinda Turner (x7449) ☐ Nicole Ranalli (x7455) ☑ Jennifer Kagel (x7451)

☐ Richard Novak (x7477) ☐ Robert Anderson (x7447) ☐ Pamela Shellenberger (x7459)

SIGNATURE: _____

Supervisor, Pennsylvania Field Office

APPENDIX F

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

July 13, 2020

CERTIFIED MAIL

Pennsylvania Historical and Museum Commission
Bureau of Historic Preservation
400 North Street, Second Floor
Harrisburg, PA 17120-0093

RE: Cultural Resource Notice
East Fallowfield Township, Chester County
Act 537 Plan Update

To Whom It May Concern:

An Act 537 Plan Update is being prepared at the request of East Fallowfield Township (Township), Chester County in order to provide public sanitary sewer service, as well as continued use of On-lot Sewage Disposal Systems with a Sewage Management Program for the remainder of the Township, while evaluating alternatives for adequate sewage disposal to meet the immediate and future needs of the Township and its residents. The Plan Update enhances the 1982 Act 537 Plan to address needs and proposed development in the northeastern, northwestern, and central portions of the Township as well as within the Township public sewer service area tributary to the Pennsylvania American Water Company (PAWC) Coatesville Wastewater Treatment Plant (WWTP) in the Borough of South Coatesville. The PAWC has service areas in the Township, and the Township is a Non-bulk customer of PAWC.

Section C of the PHMC Project Review Form identifies the requirement of PHMC Coordination. Please find attached for your reference a copy of the following documents:

- Completed Cultural Resource Notice
- Project Narrative
- USGS Site Location Map
- Historic Resources Map
- Historic Resources Inventory

We request a review for potential impact on historical and archaeological resources for this Act 537 Plan Update. Funding will be determined as specific projects undergo planning, design, and permitting in the future.

Please review this documentation and respond with any comments or concerns at your earliest convenience. Thank you for your cooperation in this matter.

Very Truly Yours,

David M. Porter, P.E.

Pennsylvania Historical & Museum Commission

PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on State and Federal Undertakings

SHPO USE ONLY	Reviewers: ____/____
DATE RECEIVED:	DATE DUE:
ER NUMBER:	HRSF: _____

REV: 06/2018

SECTION A: PROJECT NAME & LOCATION

Is this a new submittal? (•) YES ( ) NO OR ( ) This is additional information for ER Number:

Project Name: East Fallowfield Township Act 537 Official Plan | County: Chester | Municipality: East Fallowfield Township

Project Address: 2264 Strasburg Road | City/State/ Zip: East Fallowfield | PA | 19320

SECTION B: CONTACT INFORMATION & MAILING ADDRESS

Name: David Porter | Phone: (610) 356-9550

Company: Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc. | Fax: (610) 356-5032

Street/PO Box: PO Box 118 | Email: dporter@hemenginc.com

City/State/Zip: Broomall | PA | 19008

RECEIVED JUL 24 '20 Historic Preservation Office

SECTION C: PROJECT DESCRIPTION

This project is located on: (check all that apply) ☐ Federal property ☐ State property ☑ Municipal property ☑ Private property

List all federal and state agencies and programs providing funds, permits, licenses.	Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
	State	PADEP Bureau of Clean Water	

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☐ Construction ☐ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: 9990 +/- Total acres of earth disturbance: N.A.

Are there any buildings or structures within the project area? (•) Yes ( ) No Approximate age of buildings: See Attached

Does this project involve properties listed in or eligible for the National Register of Historic Places, or designated as historic by a local government?	Yes	No	Unsure	Name of historic property or historic districts	See Attached
	(•)	( )	( )		

Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

Attachments – Please include the following information with this form

- ☑ **Map** – 7.5' USGS quad showing project boundary and Area of Potential Effect
- ☑ **Description/Scope** – Describe the project, including any ground disturbance and previous land use
- ☑ **Site Plans/Drawings** – Indicate past and present land use, location and dates of buildings, and proposed improvements
- ☐ **Photographs** – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY)

- ☐ There are **NO HISTORIC PROPERTIES** in the Area of Potential Effect
- ☐ The project will have **NO EFFECT** on historic properties
- ☐ The project will have **NO ADVERSE EFFECTS** on historic properties:
- ☐ The project will have **NO ADVERSE EFFECTS WITH CONDITIONS** (see attached)
- ☐ **SHPO REQUESTS ADDITIONAL INFORMATION** (see attached)

SHPO REVIEWER: _____ **DATE:** _____

Pennsylvania Historical & Museum Commission

PROJECT REVIEW FORM

Request to Initiate SHPO Consultation on State and Federal Undertakings

SHPO USE ONLY	Reviewers: ___/___
DATE RECEIVED:	DATE DUE:
ER NUMBER:	HRSF: _____

REV: 06/2018

SECTION A: PROJECT NAME & LOCATION

Is this a new submittal? (•) YES ( ) NO OR ( ) This is additional information for ER Number:

Project Name: East Fallowfield Township Act 537 Official Plan | County: Chester | Municipality: East Fallowfield Township

Project Address: 2264 Strasburg Road | City/State/ Zip: East Fallowfield | PA | 19320

SECTION B: CONTACT INFORMATION & MAILING ADDRESS

Name	David Porter	Phone	(610) 356-9550
Company	Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc.	Fax	(610) 356-5032
Street/PO Box	PO Box 118	Email	dporter@hemenginc.com
City/State/Zip	Broomall PA 19008		

SECTION C: PROJECT DESCRIPTION

This project is located on: (check all that apply) ☐ Federal property ☐ State property ☑ Municipal property ☑ Private property

List all federal and state agencies and programs providing funds, permits, licenses.

Agency Type	Agency/Program/Permit Name	Project/Permit/Tracking Number (if applicable)
State	PADEP Bureau of Clean Water	

Proposed Work – Attach project description, scope of work, site plans, and/or drawings

Project includes (check all that apply): ☐ Construction ☐ Demolition ☐ Rehabilitation ☐ Disposition

Total acres of project area: 9990 +/- Total acres of earth disturbance: N.A.

Are there any buildings or structures within the project area? (•) Yes ( ) No Approximate age of buildings: See Attached

Does this project involve properties listed in or eligible for the National Register of Historic Places, or designated as historic by a local government?	Yes	No	Unsure	Name of historic property or historic districts
	(•)	( )	( )	See Attached

Please print and mail completed form and all attachments to:

PHMC
State Historic Preservation Office
400 North St.
Commonwealth Keystone Building, 2nd Floor
Harrisburg, PA 17120-0093

Attachments – Please include the following information with this form

- ☑ **Map** – 7.5' USGS quad showing project boundary and Area of Potential Effect
- ☑ **Description/Scope** – Describe the project, including any ground disturbance and previous land use
- ☑ **Site Plans/Drawings** – Indicate past and present land use, location and dates of buildings, and proposed improvements
- ☐ **Photographs** – Attach prints or digital photographs showing the project site, including images of all buildings and structures keyed to a site plan

SHPO DETERMINATION (SHPO USE ONLY)

- ☐ There are **NO HISTORIC PROPERTIES** in the Area of Potential Effect
- ☐ The project will have **NO EFFECT** on historic properties
- ☐ The project will have **NO ADVERSE EFFECTS** on historic properties:
- ☐ The project will have **NO ADVERSE EFFECTS WITH CONDITIONS** (see attached)
- ☐ **SHPO REQUESTS ADDITIONAL INFORMATION** (see attached)

SHPO REVIEWER: _____ **DATE:** _____

SUPPLEMENTAL PROJECT NARRATIVE
FOR
HISTORICAL AND ARCHAEOLOGICAL IMPACT COORDINATION

DESCRIPTION OF OVERALL PROJECT

An Act 537 Plan Update is being prepared at the request of East Fallowfield Township (Township) in order to address current and future planning needs. The intent of the Act 537 Plan Update is to be in substantial compliance with Act 537 entitled *The Pennsylvania Sewage Facilities Act, PA Code Title 25, Chapter 71,* in order to appropriately plan for the future needs of the Township and its residents. In addition, the tributary municipalities of the Pennsylvania American Water Company (PAWC) City of Coatesville, Chester County Wastewater Treatment Plant (WWTP) are required to complete Act 537 Planning to be consistent with the PAWC Regional Act 537 Plan and to provide for use of Post-Plant Expansion Capacity.

The Act 537 Plan Update will contain the requisite Historical Checklist addressing the planning requirements necessary in order to provide public sanitary sewer service, as applicable, generally in the portion of the Township north of Strasburg Road, as well as continued use of On-lot Sewage Disposal Systems with a Sewage Management Program for the remainder of the Township, while evaluating other alternatives for adequate sewage disposal to meet the immediate and future needs of the Township and its residents.

WORK TO BE PERFORMED

The Act 537 Plan Update will identify and evaluate various aspects of alternatives in a prudent manner in order to solve the problems and adequately satisfy the sewage disposal needs identified in this plan. The alternatives considered and evaluated include the background and means by which public sewer service currently exists as well as the merits of providing future service to both residential and commercial development within the overall planning area considered, as well as considering continued use of individual on-lot sewage disposal systems (OLDS) or community on-lot disposal systems (COLDS) in areas where public sewage disposal is not viable. Implementation of a Sewage Management Program will be evaluated as a method of assuring proper long term operation and maintenance of individual OLDS and COLDS. As part of the Alternatives Analysis, the practicality, environmental impact, and cost effectiveness of the various methods of sewage disposal will be considered in determining the Selected Alternatives for different areas of the Township within this Plan. In addition to this Environmental Impact Coordination, other outside agencies and municipalities will be coordinated with, including the Chester County Planning Commission, the Chester County Health Department, the Pennsylvania Historic and Museum Commission (PHMC), Pennsylvania American Water Company (PAWC) and various adjacent municipalities.

PHYSICAL CHARACTERISTICS

East Fallowfield Township is located in Chester County, south of the City of Coatesville. The Township is bounded to the north by Sadsbury Township, Valley Township, the Borough of South Coatesville, the Borough of Modena, and Caln Township, bounded to the east by West Bradford Township and Newlin Township, bounded to the south by West Marlborough Township, and bounded to the west by Highland Township.

The Study Area lies within two major watersheds: the West Branch Brandywine Creek and the East Branch Brandywine Creek. The West Branch Brandywine Creek encompasses the large majority of the township and is comprised of several subwatersheds: Buck Run, Sucker Run, Dennis Run, Doe Run and the main stem of the West Branch Brandywine Creek. There is only one subwatershed of the East Branch Brandywine Creek within the township and that is the Valley Run watershed, which is tributary to Beaver Creek.

The Buck Run watershed is generally situated in the western, southwestern, and southern portions of the township generally south of Strasburg Road and is the largest watershed within the township. According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes) for the Buck Run. The Sucker Run watershed is generally situated within the northeasterly portion of the township north of Strasburg Road and along Doe Run Road (Route 82). According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The Dennis Run watershed is situated generally in the central and northcentral portions of the township extending from its westerly limit at Park Avenue to approximately Ramsey Road in the east and including areas from Ercildoun in the south to the boundary of the township with the boroughs of South Coatesville and Modena in the north. According to PA Code, Chapter 93, the Water Quality Standard Classification is WWF, MF (Warm Water Fishes, Migratory Fishes). The main stem of West Branch Brandywine Creek watershed encompasses almost the entire eastern portion of the township extending in the north from about West Chester Road to the south just beyond Fairview Road where it meets the Buck Run watershed drainage divide. The western limit of the watershed is the drainage divide between the Dennis Run and Buck Run watersheds and the watershed extends to the municipal boundaries with the Borough of South Coatesville, Borough of Modena, West Bradford Township, and Newlin Township. According to PA Code, Chapter 93, the Water Quality Standard Classification for the West Branch Brandywine Creek in this portion of the township is WWF, MF (Warm Water Fishes, Migratory Fishes) with the exception of two unnamed tributaries. One of the tributaries generally flows from north to south along Misty Patch Road and the other flows from north/northeast to south from east of South Caln Road both joining prior to connecting with the West Branch Brandywine Creek in the vicinity of Mortonville Road and Sawmill Road. The unnamed tributary along Misty Patch Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of CWF, MF (Cold Water Fishes, Migratory Fishes). The unnamed tributary along South Caln Road, according to PA Code, Chapter 93, has a Water Quality Standard Classification of EV, MF (Exceptional Value, Migratory Fishes). Only a small portion of the township consists of the Doe Run watershed, which is situated in the southeasterly portion of the

township adjacent to the Buck Run. According to PA Code, Chapter 93, the Water Quality Standard Classification is TSF, MF (Trout Stocking, Migratory Fishes).

The Valley Run watershed, which is part of the Beaver Creek watershed comprises the northeastern most portion of the township north of West Chester Road and is the only watershed that is not tributary to the West Branch Brandywine Creek in the Township. Valley Run is tributary to Beaver Creek, which is tributary to the East Branch Brandywine Creek, and according to PA Code, Chapter 93, the Water Quality Standard Classification is CWF, MF (Cold Water Fishes, Migratory Fishes).

According to National Wetlands Inventory mapping, the majority of the wetlands found within the township are located along the border of the township with Highland and West Marlborough Townships. These wetlands can be found on the banks of current waterways. Additional wetlands can be found on the banks of the West Branch Brandywine Creek located in the northeastern portion of the township and on the banks of the Dennis Run west of Youngsburg Road.

The study area contains a low elevation of approximately 240 located along the Buck Run on the border of East Fallowfield Township and Newlin Township. The highest elevation of approximately 635 can be found just north of Strasburg Road approximately half way between its intersections with Old Wilmington Road and Mount Carmel Road. The township consists of rolling hills, dense forest areas, and farmland.

All soils in the Study Area are either very or moderately limited with regards to In-ground Bed Sewage Disposal. The exception to this is a small area located southwest of South Forty Lane and north of Chelsey Drive and Wagner Lane, which is slightly limited.

Pertaining to the soil suitability for In-ground Trench Sewage Disposal, the Study Area ranges from slightly to moderately to very limited. The northeastern portion of the Study Area contains mostly moderately and very limited soil, with small pockets of slightly limited soil seen. The southern and northwestern portions of the Study Area contain mostly slightly limited soil suitability for in-ground trench sewage disposal; however, pockets of moderately and very limited soil suitability can be found. Finally, in the central portion of the Study Area south of Modena Borough there is a small pocket of slightly limited soil located north of Dennis Run. The remainder of this central portion of the Study Area contains mostly very limited soil suitability.

In the matter of the soil suitability for Sand Mound Sewage Disposal the Study Area as a whole ranges from slightly limited, to moderately limited, to very limited soil suitability. The vast majority of the Study Area is slightly limited; however, areas of moderately and very limited soil suitability can be found dispersed throughout the Study Area.

Finally, with regard to the soil suitability for Drip Irrigation Sewage Disposal, the Study Areas contains areas of very limited, moderately limited and slightly limited soil suitability. The vast majority of the area is slightly limited in this regard. Three notable areas of very limited soil suitability can be found bordering the West Branch of Brandywine

Creek; bordering Buck Run in the southern portion of the Study Area; and located in the portion of the Study Area just south of the Valley Township line close to the border of South Coatesville Borough.

AREA TO BE IMPACTED

The areas to be impacted will be evaluated on a case-by-case basis as specific projects commence. Each specific project will need to address potential historical and archaeological impacts specifically related to that particular project. In general, extension of public sewer service within the township will likely be limited to areas along the Strasburg Road corridor. In addition, other general areas where there is potential for historical and archaeological impact are areas along Buck Run Road, Park Avenue, Frog Hollow Road, Doe Run Church Road, Fairview Road, Strode Avenue, and Doe Run Road. Those areas may be subject to extension of public sewer service if the needs arise. Otherwise these areas will be subject to continued use of On-lot Disposal Systems under a Sewage Management Program administered by the Township. Each specific project will need to address potential impacts specifically related to that particular project, such as PHMC coordination for historic and archaeological resources, PNDI searches, wetlands delineation, general permits, and/or erosion and sediment pollution control and NPDES permitting, etc., as applicable.

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

SEWER SERVICE AREAS

- Existing Service Area
- South Brandywine Middle School Project Sanitary Sewer Expansion Area

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Study Area Boundary
- Tax Parcels

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2012.
Topography Map from ESRI ArcGIS Map Service,
Copyright:© 2013 National Geographic Society, i-cubed.
http://goto.arcgisonline.com/maps/USA_Topo_Maps

N W E S

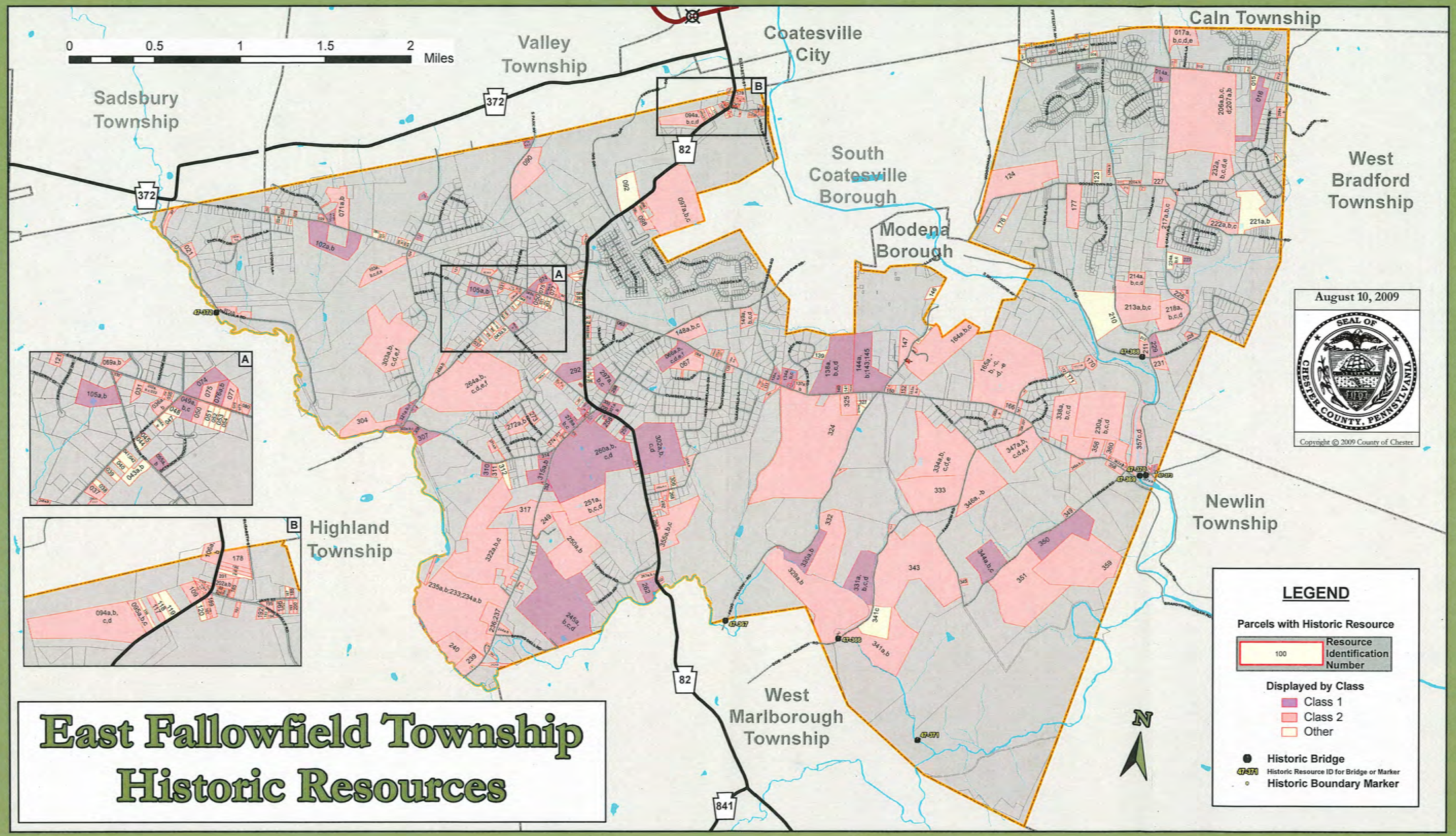
2,000 0 2,000 4,000

Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 1
USGS TOPOGRAPHIC BASE MAP

Map prepared by: GEODESY, INC. ~610.384.4578~



East Fallowfield Township Historic Resources

Presented by: Chester County Department of Computing and Information Services--Geographic Information Systems Division (DCIS-GIS);
Chester County Historic Preservation Network;
Chester County Department of Parks & Recreation; Municipal Historic Commissions; East Fallowfield Township Historical Commission

FIGURE 13a

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
001	47-1Q-1			1301	Cardinal	Dr	2.5	3	brickface	Neo-Col Reviv	c. 1950	single				3	1		
002	47-1Q-11.3			1404	West Chester	Rd	3.0	3	stucco	International	c. 1955	single				3	1		
003	47-1Q-3			1341	Robin	Rd	2.0	3	stucco	Neo-Col Reviv	c. 1940	single				3	1		
004	47-1Q-5			1407	Robin	Rd	1.0	4	stucco	Mod Ranch	c. 1955	single				3	1		
005	47-1R-21			1415	Cardinal	Dr	1.0	3	alum/stone	Wrightian	c. 1955	single				2	1		
006	47-1R-29			1510	Robin	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
007	47-1R-31			296	Cardinal	Dr	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		
008	47-1R-58			299	West Chester	Rd	2.0	2	brickface	Neo-Col Reviv	c. 1955	single				3	1		
009	47-1R-8			1601	Robin	Rd	2.5	3	stucco	Col Revive	c. 1930	single				3	1		
010	47-2-11			2085	West Chester	Rd	1.5	3	stoneface	Wrightian	c. 1940	single				2	1		
011	47-2-15			2201	West Chester	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
012	47-2-19			2235	West Chester	Rd	1.5	3	brickface	SplitLevel	c. 1955	single				3	1		
013	47-2-24.1			2365	West Chester	Rd	2.0	4	stucco	International	c. 1955	single				2	1		
014a, -b	47-2-26			715	South Caln	Rd	2.5	3	stone	Col Revival	c. 1930	single	R. Brognard Okie, architect		garage	1	1		
015	47-2-28			2310	West Chester	Rd	1.5	3	brickface	Cape Cod	c. 1940	single				3	1		
016	47-2-29			2320	West Chester	Rd	1.5	4	stone/alum	Col Revival	c. 1930	single	R. Brognard Okie, architect			1	1		
017a, -b, -c, -d, -e	47-2-3		Jeremiah Eldridge	512	South Caln	Rd	2.5	3	stucco	vernacular	1798	single	Robert Kennedy House		shd, sprghse, grg, pond	2	1		I-23/NR?
018	47-2-5		Barry Lepori	2007	West Chester	Rd	2.5	2	stone	4 Square	c. 1910	twin				2	1		
019	47-2-5.1		Mammarella	2015	West Chester	Rd	2.5	2	stone	4 Square	c. 1910	twin				2	1		
020	47-3-22		McGrail	14	Timucula	Rd			wood	trestle	1868	ruin	Pa RR Trestle Bridge			2	1		I-1/NR?
021	47-3-27		Stella Hammond	40	Timicula	Rd	2.5	3	asphalt/stucco	vernacular	c. 1830	single				2	1		
022	47-3-3			3305	Strasburg	Rd	1.5	2	stucco	Cape Cod	c. 1940	single				2	1		Towerville?
023a, -b, -c	47-3-30		Ronald Parrott	25	Wagners	Ln	2.5	4	aluminum	vernacular	c. 1830	single			garage, shed	2	1		
024	47-3-37			3280	Strasburg	Rd	1.5	4	stucco	ranch	c. 1950	single				3	1		
025	47-3-4			3275	Strasburg	Rd	1.5	2	brick	ranch	c. 1940	single				2	1		Towerville?
026a, -b	47-3-40			3257	Strasburg	Rd	1.5	3	brick	Cape Cod	c. 1940	single			garage	3	1		
027a, -b	47-3-46.2B		Greg Cunningham	78	Timicula	Rd	2.5	3	weatherboard	vernacular	1832	single	Jacob Taylor Farm		barn	2	1		I-2/NR?
028	47-3-7			3245	Strasburg	Rd	1.5	4	brick	Cape Cod	c. 1940	single				2	1		Towerville?
029	47-4-1		Morey Young	3205	Strasburg	Rd	2.5	2	aluminum	4 Square	1915	single				2	1		SRTH-1/NR?
030	47-4-100			2860	Strasburg	Rd	2.5	4	permastone	Gothic Revival	c. 1850	single				2	1		NR?
031	47-4-102		Crook, Siti M	2842	Strasburg	Rd	1.5	3	aluminum	Tudor Revival	c. 1930	single				2	1		Towerville?
032a, -b, -c	47-4-103		Robert Beggs	2834	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	c. 1870	twin			barn, crgshd	2	1		Towerville?
033	47-4-103		Robert Beggs	2828	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	c. 1870	twin				2	1		Towerville?
034	47-4-104			2820	Strasburg	Rd	1.5	3	aluminum	Bungalow	c. 1930	single				2	1		Towerville?
035	47-4-105			2806	Strasburg	Rd	2.5	3	aluminum	Gothic Revival	c. 1870	single				2	1		Towerville?
036a, -b	47-4-107.1		Raymond Fryberger	98	Park	Ave	2.5	3	aluminum	Gothic Revival	c. 1870	single			garage	2	1		
037	47-4-108			47	Park	Ave	2.0	3	aluminum	Col Revive	c. 1930	single	Sears Roebuck?			2	1		
038	47-4-109			51	Park	Ave	1.5	3	aluminum	Cape Cod	c. 1940	single				3	1		
039	47-4-112			63	Park	Ave	1.5	3	stoneface	Cape Cod	c. 1930	single				3	1		
040	47-4-114			71	Park	Ave	1.5	3	brickface	Tudor Revival	c. 1930	single				3	1		
041	47-4-115			75	Park	Ave	2.5	3	aluminum	Late 19th C	c. 1900	single				3	1		
042	47-4-115.1			41	Park	Ave	1.0	1	cementblck	vernacular	c. 1930	outbldg				3	1		post-1960 house
043a, -b	47-4-118		Mary LaMar	120	Wilmington	Rd	3.0	3	frame	vernacular	post1960	barn	Octagonal House Barn Ruin		barn ruins	3	1		
044	47-4-119			81	Park	Ave	1.0	2	permabrick	ranch	c. 1955	single				3	1		
045	47-4-120			80	Park	Ave	1.5	3	stucco	Neo-Cape Cod	c. 1955	single				3	1		
046a, -b	47-4-122		Larrine Holbrooke	95	Park	Ave	2.5	2	aluminum	Col Revival	c. 1930	single			garage	3	1		
047	47-4-123			97	Park	Ave	1.5	3	aluminum	Cape Cod	c. 1950	single				3	1		
048	47-4-124			99	Park	Ave	2.5	3	aluminum	Neo-Col Rev	c. 1950	single				3	1		
049a, -b, -c	47-4-125		Ronald Taggart	2722	Strasburg	Rd	3.5	5	stucco	Queen Anne	1890	single?	Harry deHaven House	yes	crghse,outbldg	1	1		SRTH-9
050	47-4-126			2700	Strasburg	Rd	2.0	3	stone	Col Revive	c. 1935	single				2	1		
051	47-4-128			2690	Strasburg	Rd	1.5	3	stoneface	Cape Cod	c. 1940	single				3	1		
052	47-4-129		Allen & Dolores Cook	2680	Strasburg	Rd	1.5	3	aluminum	Cape Cod	c. 1950	single				3	1		
053	47-4-130			2670	Strasburg	Rd	2.5	3	aluminum	Neo-Col Rev	c. 1940	single				3	1		
054	47-4-131			2660	Strasburg	Rd	1.5	3	stucco	Cape Cod	c. 1940	single				3	1		
055a, -b	47-4-138.1		David Padlock	115	Wilmington	Rd	2.0	8	stucco	Octagonal	1850	single	Lukens Pierce Octagonal House	yes	garage	1	1		I-7
056	47-4-14			3035	Strasburg	Rd	1.5	3	stnfac/stucco	ranch	c. 1940	single				3	1		
057	47-4-141			615	Doe Run	Rd	1.0	3	brickface	ranch	c. 1950	single				3	1		
058	47-4-142			625	Doe Run	Rd	1.0	3	stoneface	ranch	c. 1950	single				3	1		
059	47-4-143			635	Doe Run	Rd	1.0	3	stnfac/stco	ranch	c. 1950	single				2	1		
060	47-4-144			645	Doe Run	Rd	1.0	3	stucco	ranch	c. 1950	single				3	1		
061	47-4-15			3025	Strasburg	Rd	1.5	3	stone face	ranch	c. 1950	single				3	1		
062	47-4-151			695	Doe Run	Rd	2.5	3	aluminum	Gothic Revival	c. 1870	single				2	1		
063	47-4-153.1		David Zanis	2550	Strasburg	Rd	2.5	6	stucco	vernacular	1820	single	Drover's Inn	yes		1	1		SRTH-11; blt by/for Jesse Bentley
064	47-4-16			3015	Strasburg	Rd	1.5	4	stucco	Cape Cod	c. 1940	single				3	1		

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
065	47-4-17			215	Mt. Carmel	Rd	1.5	3	stnfac/stucco	Cape Cod	c. 1940	single				3	1		
066a, -b, -c, -d, -e, -f	47-4-171		Chester Ramsey	2464	Strasburg	Rd	2.5	5	stucco	vernacular	1823	single	Robert Wilson House	yes	barn remains, blcksmth ruin, tannry ruin, sprnghse,shed	1	1		Was 2460 Strasburg Rd?/SRTH-12
067	47-4-172		Merle Gerhart	2450	Strasburg	Rd	2.5	5?	stucco	vernacular	1810	single	David Wilson House			2	1		SRTH-13/NR?
068	47-4-172.1		Roy Zander	2440	Strasburg	Rd	1.0	2	log	vernacular	1810	single	David Wilson Cobbler Shop			2	1		SRTH-14/NR?
069a, -b	47-4-21.2A		David Brotman	2885	Strasburg	Rd	2.5	4	stucco/alum	vernacular	1826	single	McCorkle House		crghs, barn	2	1		SRTH-6/NR?
070a, -b, -c, -d, -e, -f	47-4-28.2		Donald Ficca	190	Mt. Carmel	Rd	2.5	2	stone	vernacular	1805	single	David Scott House	yes	privy, milkshed, sprghse, barn ruin, ruin	1	1		log addition, moved c. 1980 from Cochranville; was 180 Mt Carmel Rd/I-4
071a, -b	47-4-3			3155	Strasburg	Rd			weatherboard			barn			new house	2	1		NR?
072a, -b,-c, -d, -e, -f	47-4-3.4		Arnold Hertzog	3195	Strasburg	Rd	2.5	6	stucco	vernacular	1778	single	Philip Dougherty Tavern	yes	privy, ruin, barn ruin, milk house, spring house	1	1		was 3165 Strasburg Rd/SRTH-3
073a, -b, -c, -d	47-4-30		Genterra Corp	158	Park	Ave	2.5	3	stucco/stone	vernacular	1740	single	Thomas Scott House	yes	privy, 2sheds (springhouse across road)	1	1		I-5
074	47-4-38		Archie Shearer	2715	Strasburg	Rd	2.5	4	shgle/alum	Queen Anne	1890	single	Isaac Pawling House	yes		1	1		SRTH-8
075	47-4-39		Herman David	2705	Strasburg	Rd	1.5	3	weatherboard	Gothic Revival	c. 1900	crghse	Isaac Pawling House CrgHse			2	1		NR?
076a, -b	47-4-40		Jack Levengood	2685	Strasburg	Rd	2.5	3	aluminum	vernacular	c.1840	single	Jesse Bentley House		garage	1	1		SRTH-10/NR?
077	47-4-41		James Hook	2675	Strasburg	Rd	2.0	3	aluminum	Col Revive	c. 1930	single				2	1		Towerville?
078	47-4-42			2665	Strasburg	Rd	2.5	3	aluminum	Col Revive	c. 1930	single				2	1		Towerville?
079	47-4-43			2655	Strasburg	Rd	1.5	3	aluminum	A&C Shotgun	c. 1920	single	Sears Roebuck?			2	1		Towerville?
080	47-4-44			2645	Strasburg	Rd	2.0	3	alum/stnfce	Neo-Col Revive	c. 1945	single				2	1		Towerville?
081a, -b	47-4-48			590	Doe Run	Rd	1.5	2	brick/alum	A&C Bungalow	c. 1930	single			garage	3	1		
082	47-4-49			580	Doe Run	Rd	2.0	3	stucco	Early 20th C	c. 1920	store				2	1		Towerville?
083	47-4-50			570	Doe Run	Rd	1.5	3	stucco	Cape Cod	c. 1955	single				3	1		
084	47-4-52			560	Doe Run	Rd	2.5	3	stucco	Neo-Col Revive	c. 1950	single				3	1		
085	47-4-56			490	Doe Run	Rd	2.5	2	stucco	Late 19th C	c. 1890	single				3	1		
086	47-4-57			500	Doe Run	Rd	1.5	4	stucco/alum	Cape Cod	c. 1950	single				3	1		
087	47-4-58			480	Doe Run	Rd	2.5	3	stucco	vernacular	c. 1870	aptments				3	1		was a twin
088a, -b. -c. -d	47-4-6		Ruth Doutrich Corp	2	Mt. Carmel	Rd	2.5	5	stone	PA Farmhouse	1796	single	Edward Dougherty House	yes	barn w/conical pillars, wagon shed, springhouse	1	1		was 155 Mt Carmel Rd/I-3
089a, -b	47-4-62.5			204	Doe Run	Rd				Neo-Col Reviv	c. 1970	single			old silo, new house	2	1		
090	47-4-64			155	Park	Rd	1.0	1	stone			sprghse	Thomas Scott Spring House			2	1		goes w/47-4-30/NR?
091	47-4-7			3105	Strasburg	Rd	2.0	3	permstn/alum	Col Revive	c. 1930	single				3	1		
092	47-4-70			380	Doe Run	Rd	1.5	3	clapboard	bungalow	c. 1930	single				3	1		
093	47-4-8			3095	Strasburg	Rd	1.5	3	permstn/alum	Cape Cod	c. 1930	single				3	1		
094a, -b, -c, -d	47-4-80		Annette Pratte	170	Doe Run	Rd	2.5	5	stone	PA farmhouse	1770	single	Young Farm		springhouse, 2 tenant houses	2	1		Newlin?/was 220 Doe Run Rd/I-11
095a, -b, -c	47-4-81		Peter Salitrynski	162	Doe Run	Rd	2.0	3	stucco	mid-19th C	1850	single			2 sheds	2	1		Newlin?/modern add to front
096	47-4-85		James Sisk/Piersol	385	Doe Run	Rd	2.5	3	brick	Gothic Revival	c. 1860	single				2	1		
097a, -b, -c	47-4-85.2		James Sisk	325	Doe Run	Rd	2.5	3	stucco	vernacular	c. 1820	single			silo, barn	2	1		
098	47-4-86			387	Doe Run	Rd	1.5	4	brick	bungalow	c. 1940	single				2	1		
099a, -b	47-4-86.1		James Sisk	375	Doe Run	Rd	1.5	3	brick	bungalow	c. 1940	single			garage	3	1		Slated for Demolition, 2008
100	47-4-87			395	Doe Run	Rd	1.2	3	brick	Cape Cod	c. 1940	single				2	1		
101	47-4-9			3085	Strasburg	Rd	1.5	3	stnfac/stucco	ranch	c. 1940	single				3	1		
102a, -b	47-4-93		Weavers	3186	Strasburg	Rd	2.5	4	stucco	vernacular	1774	single	Philip Dougherty House	yes	barn	1	1		was 3100 Strasburg Rd/SRTH-2
103a, -b, -c, -d, -e	47-4-94		Dolores Daller	355	Mt. Carmel	Rd	2.0	3	fieldstone	vernacular	1740	single	Daniel McPeak House	yes	barn, corn crib, wagon shed, garage	2	1		SRTH-4
104	47-4-96-E		Faith Miss Bapt.Church	2960	Strasburg	Rd	1.0	3	vinyl	vernacular	c. 1860	religious	Mt. Carmel School			2	1		SRTH-5/NR?
105a, -b	47-4-99.11		Richard Johnson	20	Wilmington	Rd	3.0	5	stucco	Queen Anne	c. 1910	single	Asa Walton House	yes	barn	1	1		SRTH-7
106a, -b	47-4D-1			320	Doe Run	Rd	2.5	2	brick/wood	Queen Anne	c. 1900	single			carriage house	2	1		Newlin?
107	47-4D-13		Terry McDougal	135	Doe Run	Rd	2.0	2	brick	Queen Anne	c. 1900	twin				2	1		Newlin?
108	47-4D-14			125	Doe Run	Rd	2.0	2	brick	Queen Anne	c. 1900	twin				2	1		Newlin?
109	47-4D-3			140	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		also listed as 47-5A-7/Newlin?
110	47-4D-4			130	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
111	47-4D-5			120	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
112	47-4D-6			110	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row				2	1		Newlin?
113a, -b	47-4D-7		Gordon Egolf	100	Doe Run	Rd	2.0	3	stucco	mid 19th C	c. 1870	row			crg hse	2	1		Newlin?
114	47-4D-8			360	Doe Run	Rd	2.5	2	asphalt shngl	Late 19th C	c. 1890	single				2	1		Newlin?
115a, -b	47-4D-9			350	Doe Run	Rd	1.5	3	stucco	Early 20th C	c. 1930	single			crg hse	2	1		Newlin?
116	47-4H-1			160	Doe Run	Rd	1.5	2	wood	vernacular	c. 1840	single				3	1		Newlin?/Modern add to front

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
117	47-4H-3			156	Doe Run	Rd	1.0	3	brick	Early 20th C	c. 1920	com garage				2	1		Newlinville Potential Hist Dist?
118	47-4H-4			154	Doe Run	Rd	1.0	2	stucco	ranch	c. 1940	single				3	1		Newlin?
119	47-4H-5			152	Doe Run	Rd	1.5	3	stuc/wood	ranch	c. 1940	single				3	1		Newlin?
120	47-4H-6-E		Mennonites	145	Doe Run	Rd	1.5	3	aluminum			religious	Mennonite Church			3	1		Newlin?
121	47-4P-4		Thomas Phipps	2900	Strasburg	Rd	2.5	3	aluminum	Mid 19th C	c. 1860	single				2	1		was 2910 Strasburg/NR?
122	47-5-10			2415	Strasburg	Rd	1.5	3	brick/frame	Bungalow	c. 1920	single				2	1		
123	47-5-103		Michael Hillworth	1765	Goosetown	Rd	3.0	3	vinyl	vernacular	c. 1830	single				3	1		
124	47-5-109			1645	Goosetown	Rd	3.5	3	frame	vernacular	c. 1820	single				2	1		bankhouse
125a, -b, -c	47-5-112		Martin Farm	1500	West Chester	Rd	2.0	2	stone		c. 1800	ruin	Joseph Gladden House Ruin	yes	barn, silo ruins	1	1		I-24
126a, -b	47-5-117.1A			260	Misty Patch	Rd	2.5	3	stucco	vernacular	c. 1850	single			outbldg	2	1		
127a, -b	47-5-118			285	Misty Patch	Rd	2.5	4	weatherboard	vernacular	c. 1870	single			shed	2	1		
128a, -b, -c	47-5-12		Judy Johnston	2395	Strasburg	Rd	2.5	5	alum/stucco	Pa farmhouse	1796	single	Anthony Burton House		barn, privy	2	1		SRTH-15/NR?
129	47-5-125			100	Montgomery	Dr	2.5	4	frame	vernacular	c. 1880	single	Was barn to 47-5-12			2	1		Strasburg?
130a, -b, -c	47-5-13.2		Susan Thorington	2345	Strasburg	Rd	2.5	3	brick	Federal	1855	single	Robert Young House	yes	crghse, stable	1	1		SRTH-16
131	47-5-16			2370	Strasburg	Rd	2.5	5	stucco	Col Revival	c. 1930	single				2	1		
132	47-5-17			2360	Strasburg	Rd	2.0	3	stc/alum	Dtch Col Revive	c. 1925	single	Sears Roebuck?			2	1		
133	47-5-18			2350	Strasburg	Rd	1.5	3	aluminum	Cape Cod	c. 1930	single				2	1		
134a, -b, -c	47-5-23		Jack Alverez	2335	Strasburg	Rd	2.5	5	stucco/stone	Pa farmhouse	1816	single	White Horse Tavern	yes	crghse,garage	1	1		SRTH-17
135a, -b	47-5-24		Chris Rechenberg	2325	Strasburg	Rd	2.0	2	stucco/frame	vernacular	c. 1820	single	White Horse Tavern outbldg		garage	1	1		SRTH-18
136a, -b, -c	47-5-25		Edward Daniels	2315	Strasburg	Rd	2.5	4	stone/alum	vernacular	c. 1820	store	Robert Young Store	yes	2 outbldgs	1	1		SRTH-19
137a, -b	47-5-27		Albert Holbrook	2305	Strasburg	Rd	2.5	3	stucco	vernacular	c. 1820	single			stable	2	1		NR?
138a, -b, -c, -d	47-5-28		James Cochran	2275	Strasburg	Rd	2.5	3	stone	vernacular	1796	single	Rev. Joshua Vaughan House	yes	barn ruin, garage? Sprghse?	1	1		SRTH-22
139	47-5-28.19			32	Beck	Rd	2.0	3	alum	Gearyesque	c. 1960	single				3	1		
140	47-5-29			2265	Strasburg	Rd			stone			marker	Strasburg Rd Mile Stone			1	1		Strasburg?
141	47-5-30			2255	Strasburg	Rd	1.0	4	brickface	Calif Ranch	c. 1955	single				3	1		
142a, -b	47-5-31			2245	Strasburg	Rd	1.5	3	aluminum	Bungalow	c. 1930	single			garage	2	1		
143		Same parcel as #144a - b	Hepzibah Baptist Church	2237	Strasburg	Rd	2.5	5	aluminum	Greek Revive	c.1870	single	Hephzibah Church Parish Hse			1	1		SRTH-23/NR?
144a -b	47-5-32-E		Hepzibah Baptist Church	2237	Strasburg	Rd	2.5	3	stone	Gothic Revival	1900	religious	Hephzibah Baptist Church		cemetery	1	1		SRTH-23/NR?
145		Same parcel as #144a - b	Hepzibah Baptist Church	2237	Strasburg	Rd	1.0	8	stone	Octagonal	c.1860	vacant	Hephzibah Church School			1	1		SRTH-23/NR?
146	47-5-43			40	Hephzibah Hill	Rd			stone	ruin		vacant				3	1		
147	47-5-44		Arnold Young	360	Hephzibah Hill	Rd	3.0	2	stucco	vernacular	c. 1830	single				2	1		NR?
148a, -b, -c	47-5-5.1		Durand O'Meara	915	Buck Run	Rd	2.5	4	stucco/stone	vernacular	c. 1830	single	tavern		barn, silo	2	1		
149a, -b, -c, -d	47-5-5.5		Garth Monaghan	945	Buck Run	Rd	2.5	3	stone/stucco	PA farmhouse	1820	single	tannery		barn, tile silo, horse shed	2	1		NR? PHOTOS
150	47-5-54			2225	Strasburg	Rd	2.5	4	aluminum	Pa farmhouse	c. 1820	single				2	1		
151	47-5-54.1			305	Hephzibah Hill	Rd	2.0	3	aluminum	vernacular		garage	crghse/stable to 47-5-54			2	1		
152	47-5-56			2213	Strasburg	Rd	2.0	2	stucco	vernacular	c. 1850	single				2	1		
153a, -b, -c	47-5-58		David Vaughan	2209	Strasburg	Rd	2.5	3?	stucco	4 Square	1929	single	Beulah School		outbldg, shed	2	1		SRTH-24/NR?
154	47-5-62		Darlene Markel	355	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
155	47-5-63		John Matelyan	365	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
156	47-5-64		John Matelyan	375	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
157	47-5-65		Glenmil Alicea	385	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
158	47-5-66		John Matelyan	405	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
159	47-5-66.1			395	Hephzibah Hill	Rd	2.0	2	brick	Italianate	1895	row	Brandywine B&L Rowhouses	yes		1	1		I-15
160a, -b	47-5-67		Lawrence Hilton	425	Hephzibah Hill	Rd	2.5	2	stucco	4 Square	c. 1910	twin			garage	2	1		
161	47-5-67.1		Lawrence Hilton	435	Hephzibah Hill	Rd	2.5	2	stucco	4 Square	c. 1910	twin				2	1		
162	47-5-68		Donald Botkin	445	Hephzibah Hill	Rd	3.0	4	aluminum	Italianate	c. 1870	single				3	1		
163	47-5-69			455	Hephzibah Hill	Rd	2.0	2	aluminum	vernacular	c. 1900	single				3	1		
164a, -b, -c	47-5-70		Scott & Laurel Wybranski	101	Morning Star	Ln	2.5	3	stucco/stone	vernacular	1820	single			shop, new hse	2	1		2nd Empire 4 yrs old
165a, -b, -c, -d, -e	47-5-71		Dandear Farm	2177	Strasburg	Rd	2.5	3	stucco/stone	Gothic Revival	1820	single	John Mills Farm		barn, privy, wgnshd, sprnghse	2	1		was 2181 Strasburg Rd/SRTH-25/NR?
166	47-5-71.5			10	Mink Hollow	Rd	2.5	3	aluminum	Gothic Revival	c. 1860	single				2	1		
167	47-5-77			2167	Strasburg	Rd	2.5	2	alum/block	vernacular	c. 1900	garage				2	1		no hse
168	47-5-79		Alan Sinton	105	Mink Hollow	Rd	3.5	3	stucco	Greek Revival	c. 1840	single				2	1		
169a, -b	47-5-8		John Downing	2435	Strasburg	Rd	2.5	2	brick	4 Square	1915	single			garage	2	1		
170	47-5-80.1			205	Mink Hollow	Rd	2.5	3	stone/alum	vernacular	c. 1960	single				2	1		house
171	47-5-81		Lila Blatt	175	Mink Hollow	Rd			stone	ruin		single				3	1		
172	47-5-83			170	Mink Hollow	Rd	2.0	3	stucco	Col Revival	c. 1920	single				2	1		
173	47-5-84		Curt Stork	190	Mink Hollow	Rd	3.0	4	stucco/alum	vernacular	c. 1830	single				2	1		
174	47-5-84		Curt Stork	190	Mink Hollow	Rd	2.0	1	stucco/stone	vernacular	c. 1830	sprhse				2	1		
175a, -b	47-5-9		Kimberly Kiszely	2425	Strasburg	Rd	2.5	2	brick	4 Square	1915	single			garage	2	1		
176	47-5-94			1644	Goosetown	Rd	2.5	3	aluminum	vernacular	c. 1850	single				3	1		

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
177	47-5-98			1700	Goosetown	Rd	2.5	2	aluminum	vernacular	c. 1840	single				2	1		
178	47-5A-1			317	Doe Run	Ave	1.5	3	stucco	vernacular	c. 1860	single	Schoolhouse			2	1		aka 215 Strode Ave/Newlin?
179	47-5A-10			9	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
180	47-5A-11			11	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
181	47-5A-12			13	Newlinville	Rd	2.0	2	permastone	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
182	47-5A-13			15	Newlinville	Rd	2.0	2	aluminum	Late 19th C	1900	single	was part of Newlinvl Rd Row			2	1		Newlin?
183	47-5A-17			23	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	twin	was part of Newlinvl Rd Row			2	1		1 of row of 6/3 gone/Newlin?
184	47-5A-18			25	Newlinville	Rd	2.0	2	aluminum	Late 19th C	1900	twin	was part of Newlinvl Rd Row			2	1		1 of row of 6/3 gone/Newlin?
185	47-5A-19			27	Newlinville	Rd	1.5	3	asbestos shng	Bungalow	c. 1920	single				2	1		Newlin?
186	47-5A-2			325	Doe Run	Rd	2.0	2	alum	Dutch Col Rev	c. 1930	single				2	1		Newlin?
187	47-5A-25			5	Jane	St	1.5	3	asphalt brick	Bungalow	c. 1920	single				3	1		Newlin?
188	47-5A-26			3	Jane	St	2.5	3	synthetic	Late 19th C	1900	single				2	1		Newlin?
189	47-5A-28			115	Doe Run	Rd	2.5	2	brick	Gothic Revival	c. 1860	single				2	1		Newlin?
190	47-5A-3			335	Doe Run	Rd	2.0	3	alum	Col Revive	c. 1930	single				2	1		Newlin?
191	47-5A-31			34	Newlinville	Rd	2.5	3	brick	Gothic Revival	c. 1860	single				2	1		Newlin?
192	47-5A-32			36	Newlinville	Rd	2.5	3	aluminum	Gothic Revival	c. 1880	single				2	1		Newlin?
193	47-5A-33			38	Newlinville	Rd	1.5	2	aluminum	vernacular	c. 1900	single				3	1		Newlin?
194	47-5A-34			40	Newlinville	Rd	2.0	2	aluminum	Dtch Col Reviv	c. 1930	single				2	1		Newlin?
195	47-5A-35			35	Newlinville	Rd	2.0	3	stc/aluminum	vernacular	c. 1860	single				2	1		Newlin?
196	47-5A-37			8	Jane	St	1.5	2	aluminum	bungalow	c. 1910	single				2	1		Newlin?
197a, -b	47-5A-38			6	Jane	St	1.5	2	alum/wood	bungalow	c. 1910	single			outbldg	3	1		Newlin?
198	47-5A-4			345	Doe Run	Rd	1.5	2	stucco	Cape Cod	c. 1950	single				3	1		Newlin?
199	47-5A-40			4	Jane	St	1.5	3	asbestos shng	vernacular	c. 1860	single				2	1		Newlin?
200	47-5A-41			2	Jane	St	2.5	2	aluminum	Late 19th C	c. 1890	single				2	1		Newlin?
201	47-5A-5		Ann Ruczhak	355	Strode	Ave	2.5	3	brick	4 Square	c. 1910	single				2	1		Newlin?
202a, -b	47-5A-6			365	Doe Run	Rd	2.5	3	stucco	Late 19th C	c. 1880	single			stable	2	1		Newlin?
203	47-5A-8			3	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
204	47-5A-9			5	Newlinville	Rd	2.0	2	brick	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
205	47-5A-10			7	Newlinville	Rd	2.0	2	stucco	Late 19th C	1900	row				2	1		1 of row of 6/Newlin?
206a, -b, -c, -d	47-6-10		Ted Moser Developer	2140	West Chester	Rd	2.5	3	brickface	Gothic Revival	c. 1870	single			corncrib, sprghse, brn ruin	2	1		
207a, -b		Same parcel as #206a - d	Martin House	720	South Caln	Rd	2.0	6	stone/frame	Colonial Reviv	c. 1930	single	R. Brognard Okie, architect		guest hse	1	1		
208a, -b	47-6-11		Michael Thompson	1505	South Bailey	Rd	3.5	3	stucco	vernacular	c. 1840	single			outbldg	2	1		
209a, -b	47-6-12.34A		Robert West	1435	South Bailey	Rd	2.0	3	brick/stucco	Late 19th C	1911	single			cottage	3	1		remuddled, c. 1950
210	47-6-14			470	Mortonville	Rd			stone			vacant	ruins			3	1		
211	47-6-16		Dennis Falon	105	Mortonville	Rd	2.5	3	aluminum	vernacular	1863	single				2	1		I-25/NR?
212	47-6-17			540	Misty Patch	Rd	2.0	3	stucco	Mod Ranch	c. 1955	single				3	1		
213a, -b, -c	47-6-19			465	Misty Patch	Rd	2.5	5	stucco/alum	vernacular	c. 1820	single			barn, root cellar	2	1		
214a, -b, -c, -d	47-6-20		Wm. Malaney	435	Misty Patch	Rd	2.5	3	weatherboard	vernacular	c. 1840	single			barn,sprnghse, shed	2	1		was 345 Misty Patch Rd
215	47-6-21.1			1820	Goosetown	Rd	2.5	2	aluminum	vernacular	c. 1820	single				2	1		
216a, -b	47-6-24		Dona Sensenig	1850	Goosetown	Rd	1.5	3	stucco	vernacular	c. 1836	single	Little Washington School		outbldg	2	1		
217a, -b, -c	47-6-25.1			945	South Caln	Rd	2.5	3	brick	Late 19th C	c. 1880	single			barn, garage	2	1		
218a, -b, -c, -d	47-6-34		Charles Gilgore	1215	South Caln	Rd	1.5	3	stucco	Cape Cod	c. 1940	single			barn, silo, corn crib	2	1		
219a, -b	47-6-35			910	South Caln	Rd	2.5	3	stucco	vernacular	c. 1840	single			garage	2	1		
220a, -b	47-6-4		Frank Miller	1825	Goosetown	Rd	2.5	3	stucco	vernacular	c. 1850	single			garage	2	1		
221a, -b	47-6-48			250	Oaklyn	Rd	1.5	3	stucco	vernacular	c. 1910	shop			sprghse	3	1		post 1956 house
222a, -b, -c	47-6-49			200	Oaklyn	Rd	2.5	5	aluminum	PA farmhouse	c. 1800	single	Oaklyn Hollow Farm		barn, pond	2	1		
223	47-6-50		Jonathan Nutt	1065	South Caln	Rd			stone			cemetary	Black Civ Wr Vets Cem			1	1		NR?
224a, -b, -c	47-6-51		Thomas Maris	1060	South Caln	Rd	2.5	3	aluminum	Neo-Col Revive	c. 2000	single			ruins, garage	3	1		New Hse/old Foundation
225	47-6-52			1080	South Caln	Rd	2.5	2	stone/alum	vernacular	c. 1820	single				2	1		
226	47-6-53			1100	South Caln	Rd	2.5	3	aluminum	vernacular	c. 1900	single				2	1		
227	47-6-6		Donald Taylor	1875	Goosetown	Rd			stone		1842	ruin				2	1		Washngtn Meth Chrch ruin/was 1855 Goosetown Rd/I-26/NR?
228	47-6-61.3			97	Saw Mill	Rd	1.0	1	stone	vernacular	c. 1820	sprghse				2	1		NR?
229	47-6-62		Sandra Stowell	85	Saw Mill	Rd	2.5	4	stc/stn/log	vernacular	1800	single	Joshua Pusey House	yes		1	1		I-22
230a, -b, -c, -d	47-6-65		T. S. Wilson	109	Strasburg	Rd	3.5	2	stone	vernacular	1800	single	Joseph Filson House		barn, sprghse, rootcllr	2	1		log wing oldest sect.?/was 2119 Strasburg Rd/SRTH-31/NR?
231	47-6-67			80	Mortonville	Rd	2.5	1	stucco	vernacular	c. 1800	single				2	1		NR?

HR#	Tax Parcel#	Location	Owners name	Hse#	Street Name	Type	Hgt	By	Material	Style	Date	Use	Historical significance	NR	Other	Class	Y	N	Comments
232a, -b, -c, -d, -e	47-6-9		Harkins Farm	1375	South Bailey	Rd	3.5	2	stucco	vernacular	c. 1800	single			barn, sprghse, privy, sheds	2	1		was 1365 South Bailey Rd
233		Same parcel as #235a - b	Balmer Management	140	Buck Run	Rd			stone		c. 1810	sprghse?	Benjamin Fredd Farm			2	1		Was 220 Buck Run Rd/BR-8/NR?
234a, -b		Same parcel as #235a - b	Balmer Management	140	Buck Run	Rd	2.5	4	stone	vernacular	1811	single	Benjamin Fredd Farm		barn	2	1		Was 220 Buck Run Rd/BR-9/NR?
235a, -b	47-7-102			150	Buck Run	Rd	2.5	5	stucco	PA farmhouse	c. 1820	single				2	1		Was 220 Buck Run Rd/NR?
236	47-7-102.1		Richard Quillman	206	Buck Run	Rd	1.5	3	aluminum	Bungalow	c. 1935	single	Benjamin Fredd Farm		garage	2	1		BR-10/NR?
237		Same parcel as #236	Richard Quillman	200	Buck Run	Rd	1.5	3	aluminum	Bungalow	c. 1935	single	Benjamin Fredd Farm			2	1		Was Tx P #47-7-103/BR-10/NR?
238	47-7-104		Balmer Management	128	Buck Run	Rd	2.0	6	stucco	Italianate	1890	twin				2	1		twn hse under 1 ownr/BR-7/NR?
239	47-7-106			104	Buck Run	Rd	2.0	2	stucco	Italianate	1884	twin				2	1		
240	47-7-106.1		Peter Blauner	120	Buck Run	Rd	2.0	2	stucco	Italianate	1884	twin	David S. Young House			2	1		BR-4/NR?
241	47-7-107		Leon Wolfe	100	Buck Run	Rd	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		BR-1/NR?
242a, -b	47-7-114		George Bentley	115	Buck Run	Rd			steel/iron		1868	vacant	RR bridge		dam	2	1		BR-15/NR?
243	47-7-116		Ercildoun Farm corp	135	Buck Run	Rd	2.5	3	stucco/stone	vernacular	c. 1798	vacant	Caleb Phipps House?			2	1		BR-13/NR?
244a, -b	47-7-119		Dana Horner	205	Buck Run	Rd	2.5	3	stone/frame	vernacular	1852	single	Sunnyside Seminary		barn	2	1		BR-11/NR?
245a, -b, -c, -d	47-7-121		Greg & Caroline Bentley	50	Spring Dell	Rd	2.5	4	stone	vernacular	1810	single	John Bailey Farm	yes	barn, carriage house, springhouse	1	1		I-10
246a, -b	47-7-122		Brenda Nixon	265	Buck Run	Rd	2.5	2	aluminum	4 Square	c. 1910	single			garage	2	1		
247	47-7-126		Anderson	335	Buck Run	Rd	2.0	6	stucco		1890							1	BR-2/NR? Where is it?
248a, -b	47-7-13		Robert Beck	26	Park	Ave	2.5	3	aluminum	Gothic Revival	c. 1850	single			barn	2	1		listed as 47-4-113
249	47-7-131		Ercildoun Farm Corp	415	Buck Run	Rd	2.5	2	alumunium	vernacular	c. 1880	single				2	1		
250a	47-7-132			425	Buck Run	Rd	2.5	2	stone	vernacular	c. 1800?	ruin				2	1		
250b		Same parcel as #250a		425	Buck Run	Rd	2.0	5	stone/log	PA farmhouse	1833		Levi Walton House				1		I-9/NR? Damaged or destroyed by fire Nov, 2007
251a, -b, -c, -d	47-7-133		Robert Primus	475	Buck Run	Rd	2.5	3	alum/stone	vernacular	c.1850	single			sprghs, outbldg, barn fndatn	2	1		bankhouse
252	47-7-135		Anna Nixon	485	Buck Run	Rd	2.0	2	log/stucco		1835	single	Eli Hampton House	yes		1	1		E-1
253	47-7-136		Joshua Thompson	645	Buck Run	Rd	2.5	3	aluminum	Late 19th C	c. 1880	single	Jos. S. Walton Tenant House	yes		1	1		E-10
254a, -b, -c	47-7-137-E		Fallowfield Meeting	800	Doe Run	Rd	1.5	4	stucco	vernacular	1801	religious	Fallowfield Friends Meeting	yes	grge, crgshds	1	1		E-24
255a, -b		Same parcel as #254a - c	Fallowfield Meeting	800	Doe Run	Rd					1801	cemetery	Fallowfield Meeting Cemetery	yes	stuc/stn wall	1	1		E-24
256	47-7-138-E		Fallowfield Hist. Soc.	810	Doe Run	Rd	1.0	2	stucco	vernacular	1845	social	People's Hall	yes		1	1		E-25
257	47-7-140		Alvin Horning	814	Doe Run	Rd	2.5	9	stucco	Greek Revival	c. 1855	row	Joshua & George Lee Houses	yes		1	1		row w/1 owner; was a twin/E-26 & E-27
258	47-7-141		John Russell	840	Doe Run	Rd	2.5	2	stucco	vernacular	1830	single	John Butler House	yes		1	1		E-28
259	47-7-143		Daniel Washington	880	Doe Run	Rd	2.0	3	stucco	vernacular	1880		Jacob Carter House	yes		1	1		E-31
260a, -b, -c, -d	47-7-147		Jacelyn Colyer	942	Buck Run	Rd	2.5	7	stone	vernacular	1803	single	Thomas Welch House	yes	barn, wagn shed, sprghse	1	1		was 605 Buck Run Rd/E-9
261	47-7-147.1			940	Doe Run	Rd	2.5	2	weatherboard	DtchCol Reviv	c. 1925	twin	Labiack's Tavern			2	1		
262	47-7-149.1		Sean Coldren	1110	Doe Run	Rd	2.5	5	stone	Pa Farmhouse	1825	single	Martha Pennock House	yes		1	1		I-14
263a, -b, -c	47-7-149.1A			1100	Doe Run	Rd	3.0	4	stucco/stone	Federal	c. 1830	single			shed, barn ruin	2	1		
264a, -b, -c, -d, -e, -f	47-7-15		Dan/Erma Colyer	29	Park	Ave	3.5	4	stucco	vernacular	c. 1810	vacant			barn, wagonhouse, chicken house, small shed, springhouse	2	1		
265	47-7-157			1035	Doe Run	Rd	1.0	3	stucco	ranch	c. 1940	single				3	1		
266	47-7-158			1045	Doe Run	Rd	2.5	2	aluminum	4 Square	c. 1900	single				2	1		
267	47-7-161		Clarence Smith	26	Rokeby	Rd	2.5	2	aluminum	vernacular	c. 1810	single				2	1		
268	47-7-166			38	Rokeby	Rd	2.0	3	aluminum	Late 19th C	c. 1890	single				3	1		was a twin?
269	47-7-17.2			11	Park	Ave	1.0	3	weatherboard	cottage	c. 1920	single	Chapel	yes		1	1		GR-8
270	47-7-17.3		Ralph Showalter	7	Park	Ave	2.5	5	stucco/stone	vernacular	1825	single	George Passmore Cider Mill	yes		1	1		GR-7
271a, -b	47-7-19.1			209	Glenrose	Rd	3.5	3	stucco	Neo-Victorian	c. 1950	single			garage	2	1		Or remodl'd GthcRvive
272a, -b	47-7-20		William Lamond?	8	Edward	Dr	2.5	5	stucco	PA farmhouse	c. 1820	single			cemetery	2	1		
273	47-7-208		William Lamond	7	Edward	Dr	3.0	4	wood shingle	vernacular	c. 1920	single	Barn for 47-7-20			2	1		
274	47-7-22		Renate DiMarco	600	Buck Run	Rd	1.0	3	alum	ranch	1950	single		yes		2	1		E-5 [N/C]
275	47-7-22.1		St Joseph's House	630	Buck Run	Rd	1.5	3	stucco	ranch	1950	single		yes		2	1		E-8 [N/C]
276	47-7-22.2		St Joseph's House	620	Buck Run	Rd	1.5	3	stucco	ranch	1950	single		yes		2	1		E-7 [N/C]
277	47-7-22.3		James Cocca	610	Buck Run	Rd	1.0	3	alum	ranch	1950	single		yes		2	1		E-6 [N/C]; large post-1960 addition to front
278a, -b, -c	47-7-23		St Joseph's House	640	Buck Run	Rd	2.5	7	stucco	vernacular	1851	school	Ercildoun Academy	yes	2 outbldgs	1	1		E-11
279a, -b	47-7-24		V. Russell Young	660	Buck Run	Rd	2.0	3	aluminum	Mid 19th C	1855	single	Caleb Pierce House	yes	garage	1	1		E-12
280	47-7-25		Keith Newitt	670	Buck Run	Rd	2.5	5	aluminum	vernacular	1854	row	Lee, Pierce, Thompson Foundary	yes		1	1		E-13

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281	47-7-26		Kevin Busza	680	Buck Run	Rd	2.5	3	aluminum	vernacular	1854	row	Lee, Pierce, Thompson Foundary	yes		1	1		E-14
282	47-7-27		Patricia Scott	690	Buck Run	Rd	2.5	3	stucco	vernacular	1835	single	James Fulton Tenant House	yes		1	1		E-15
283a, -b	47-7-29		George Gossert	30	Loop	Rd	2.5	3	stucco	vernacular	1840	single	James Fulton Tenant House	yes	crghse	1	1		E-18
284	47-7-32			360	Wilmington	Rd	1.5	3	aluminum	Prairie	c. 1920	single				3	1		
285	47-7-34			310	Wilmington	Rd	2.0	2	stucco	Col Revive	c. 1940	single				2	1		
286	47-7-35			300	Wilmington	Rd	2.0	2	stucco	Col Revive	c. 1940	single				2	1		
287	47-7-36			290	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1940	single				2	1		
288	47-7-37			280	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1940	single				2	1		
289	47-7-38.2		David McClimans	40	Loop	Rd	2.5	7	stucco	vernacular	c. 1806	single	James Fulton House	yes		1	1		E-16; aka Thomas Heslip House?
290a, -b	47-7-41			236	Wilmington	Rd	2.0	2	aluminum	Col Revive	c. 1930	single			garage	3	1		
291a, -b	47-7-46		Bruce Wrigley	215	Wilmington	Rd	2.5	5	brick	Gothic Revival	c. 1860	single			new crghse	2	1		
292	47-7-47		Church of Christ	700	Doe Run	Rd					1894	religious	cemetery	yes		1	1		E-19-B
293	47-7-48-E		Christ Disciple Church	750	Doe Run	Rd	2.0	4	aluminum	vernacular	1894	religious	Christ Disciple Church	yes		1	1		E-19-A
294	47-7-51			727	Doe Run	Rd	1.5	3	brickface	CpCd/Tdr Rev	c. 1930	single				3	1		
295	47-7-51.1			725	Doe Run	Rd	1.5	2	stucco	Cape Cod	c. 1950	single				3	1		
296	47-7-52		Walter Pluck	735	Doe Run	Rd			stucco	Cape Cod	c. 1930	single				3	1		
297a, -b, -c	47-7-53.4-E		House of His Creation	720	Buck Run	Rd	2.5	5	vinyl	Italianate	1865	religious	James Cooper House	yes	barn, garage	1	1		E-20
298	47-7-55.2		John Callahan	715	Buck Run	Rd	2.5	4	stucco	vernacular	1798	single	George Welsh House	yes		1	1		E-21
299	47-7-56		James Petro	805	Doe Run	Rd	2.5	7	stucco/alum	vernacular	1818	store	Gideon Pierce House & Store	yes		1	1		was 803 Doe Run Rd/E-23
300	47-7-56.1		Ann O'Donnell	705	Buck Run	Rd	?	?	??	ranch	1956	single		yes		1	1		E-22 [N/C] NEED PHOTO!!!
301a, -b	47-7-57		Edward Tracey	849	Doe Run	Rd	2.5	3	aluminum	Greek Revival	1855	single	Gideon Pierce House	yes	barn	1	1		E-29
302a, -b, -c, -d	47-7-58		Thomas Quinn	855	Doe Run	Rd	2.5	4	stone	vernacular	1793	single	John Wentz House	yes	barn, sprhse, wgnshd	1	1		La Mancha/I-12
303a, -b, -c, -d, -e, -f	47-7-6.3D			447	Mt. Carmel	Rd	2.5	5	aluminum	Pa farmhouse	c. 1810	single			tenant hse, ruin w/2 silos, barn, corncrib, garage	2	1		NR?
304	47-7-6.9		Pam Bastings	2	Park	Ave			stone			retain wall	wall associated w/dam?			2			Glen Rose?
305a, -b, -c	47-7-62		Floyd Thompson	19	Rokeby	Rd	2.5	2	weatherboard	vernacular	c. 1830	single	Ida Jones House		privy, sprnghs	2	1		NR?
306	47-7-66			39	Rokeby	Rd	1.5	3	stucco	Cape Cod	c. 1950	single				3	1		
307	47-7-67		Joseph Stonelake	300	Glenrose	Rd	2.5	3	aluminum	vernacular	1840	single	James Newlin tenant house	yes		1	1		GR-1
308	47-7-67.1		George Anthony	306	Glenrose	Rd	2.0	4	stucco	vernacular	1883	single	Joseph Brinton	yes		1	1		GR-2
309a, -b, -c	47-7-67.2		Arthur Johnson	310	Glenrose	Rd	2.5	4	stucco/stone	vernacular	1810	single	George Passmore House	yes	barn, corncrib	1	1		GR-3
310	47-7-73.1		Edmund Thayer	222	Glenrose	Rd	2.5	4	stucco/stone	vernacular	1830	single	Mansel Passmore House	yes		1	1		I-8
311	47-7-74			220	Glenrose	Rd	2.5	3	brick	Tudor Revival	c. 1920	single				2	1		
312	47-7-75			212	Glenrose	Rd	2.5	2	asphalt brick	early 20th C	c. 1900	vacant				3	1		
313	47-7-6.9		Pam Bastings	2	Park	Ave			stone			ruin	Thomas Truman Grist Mill Dam			2	1		Glen Rose?
314	47-7-81		David Hindman	40	Glenrose	Rd	2.5	5	stucco	vernacular	1841	single	Joseph Walton House	yes		1	1		E-4
315a, -b	47-7-82		Martha Pennington	520	Buck Run	Rd	1.5	4	brick/shingle	vernacular	1899	single	Ercildoun School	yes	outbldg	1	1		E-3
316a, -b	47-7-83		Joseph Kovalovich	510	Buck Run	Rd	2.5	3	aluminum	Gothic Revival	1852	single	Rachel Walton House	yes	barn	1	1		E-2
317	47-7-84.1		Arthur Polk	470	Buck Run	Rd	2.5	6	aluminum	Greek Revival	c. 1840	single				2	1		
318	47-7-9		Kristen Voigtsberger	16	Park	Ave	3.5	3	log/stone	vernacular	1805	single	George Passmore Cobbler Shop	yes		1	1		GR-6
319		Same parcel as #318	Kristen Voigtsberger	16	Park	Ave	1.0	1	log	vernacular	1805	single	Smoke house			1	1		Glen Rose?
320	47-7-9.1		Jill Beech	6	Park	Ave	2.5	3	alum/stucco	vernacular	1775	single	Thomas Truman Grist Mill	yes		1	1		GR-4
321a, -b, -c	47-7-9.2		Jill Beech	8	Park	Ave	2.5	5	stucco/stone	PA farmhouse	1836	single	James Newlin House	yes	crghse,sprnghse	1	1		GR-5
322a, -b, -c	47-7-96		Balmer Management	710	Buck Run	Rd	2.5	5	stone/alum	Pa farmhouse	c. 1840	single			sprnghs & barn ruins	2	1		
323	47-7-98		Balmer Management		Buck Run	Rd			stone/earth		1868		Embankment			2	1		BR-3/NR?
324	47-8-10.2		Richard & Char-Ann Ireland	110	Frog Hollow	Rd			stone			wall	retaining wall along Strasburg Rd.			2	1		
325	47-8-11-E		Coatesville Area SD	2254	Strasburg	Rd	1.5	24	stone	Col Revival	c. 1935	school	E. Fallowfield Elem Sch/WPA			2	1		NR?
326a, -b	47-8-12			20	Frog Hollow	Rd	1.5	3	alum	vernacular	c. 1950	single			garage	3	1		
327	47-8-13			14	Frog Hollow	Rd	1.0	2	alum	vernacular	c. 1950	single				3	1		
328	47-8-14		Albert Sardella	135	Frog Hollow	Rd	2.5	4	stucco	vernacular	1857	single				2	1		deed search done
329a, -b	47-8-15.1			3600	Doe Run Church	Rd	2.5	4	stone/stucco	vernacular	c. 1800	single	maybe associated w/Powell Family		crghse	2	1		
330a, -b	47-8-15.3		Daniel Snyder	175	Frog Hollow	Rd	2.5	5	stucco/stone	PA farmhouse	1796	single	John Powell House	yes	new barn	1	1		was Hephzibah Hill Rd/1-16
331a, -b, -c, -d	47-8-15.4		Arthur DeLeo	3480	Doe Run Church	Rd	2.5	5	stone	vernacular	1794	single	I. Powell Farm	yes	sprghse, shed, chckn hse	1	1		was Dupont Rd/1-17
332	47-8-15.4A			165	Frog Hollow	Rd	2.5	3	aluminum	vernacular	c. 1850	single				2	1		

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333	47-8-17			3440	Doe Run Church	Rd	2.5	3	stucco	vernacular	c. 1830	single				2	1		
334a, -b, -c, -d, -e	47-8-18		Anne Thornington	3350	Doe Run Church	Rd	2.5	4	stone	vernacular	1820	single	John Jordan Jr. House		barn, hrsbrn, ofc, sprnghse	2	1		
335a, -b	47-8-19.33		Clarence Rhoades	2176	Strasburg	Rd	2.0	3	stucco/stone	Bungalow	c. 1920	single			barn	2	1		
336		Same parcel as #337	Doe Run Pres. Church	3104	Doe Run Church	Rd	2.5	3	aluminum	Gothic Revival	c. 1850	single	Doe Run Prsby Parsonage			2	1		was 3100 Doe Run Church Rd/Strasburg?
337	47-8-20-E		Doe Run Pres. Church	3104	Doe Run Church	Rd	1.5	3	stone	vernacular	1821	religious	Doe Run Presbyterian Church			2	1		SRTH-26/NR?
338a, -b, -c, -d	47-8-21		Real Estate Finders LLC	2133	Strasburg	Rd	2.5	3	stc/aluminum	Greek Revival	1840	single	James Wilson House		barn, garage, sprnghse	2	1		was 2135 Strasburg Rd/SRTH-29/NR?
339a, -b	47-8-21.1		Warren Steinacker	2145	Strasburg	Rd	2.5	2	stucco/alum	vernacular	1840	single	James Wilson Tenant House		garage	2	1		SRTH-27/NR?
340a, -b	47-8-22			3470	Doe Run Church	Rd	2.5	6	stc/alum	vernacular	c. 1850	single			sprghse	2	1		"Murder House"/Gothic Revivalized
341a, -b	47-8-23.3		Elkins/BR Land&CattleCo	3575	Doe Run Church	Rd	2.5	5	frame/stone	vernacular	c. 1980	single	associated with 47-8-15.1		barn, sheds	2	1		New garage/residence w/old stone
342	47-8-23.4			3580	Doe Run Church	Rd	2.5	3	stucco	vernacular	c. 1800	single				2	1		
343	47-8-23.7			775	Doe Run Church	Rd			stone			ruin				2	1		
344a, -b, -c	47-8-29		Debra Rush	400	Fairview	Rd	2.5	5	stone	PA farmhouse	1819	single	John Hanna Farm	yes	barn, sheds	1	1		I-21
345	47-8-29.1		Debra Rush	600	Fairview	Rd	1.5	2	stucco	vernacular	1840	single	Fairview Schoolhouse			2	1		was 400 Fairview Rd
346a, -b	47-8-30		Anthony Jenks	3355	Doe Run Church	Rd	2.5	4	stucco	vernacular	c. 1820	single			barn	2	1		
347a, -b, -c, -d, -e, -f	47-8-31.3		Charles Coyne	3111	Doe Run Church	Rd	2.5	4	stucco	vernacular	1750	single	John Filson House		sprghse, barn, silo, wagonshed,chickenhse	2	1		SRTH-28/NR?
348a, -b, -c	47-8-32		Harry Rowe	2132	Strasburg	Rd	2.5	3	aluminum	Gothic Revival	c. 1860	single			barn,shed	2	1		Mortonville?
349	47-8-33.1		Bissinger	230	Fairview	Rd	3.0	3	stucco	vernacular	1800	single	Thomas Worth House		attached mill	2	1		I-19/NR?
350	47-8-34		Roger Mustalish	255	Fairview	Rd	1.5	2	stone	vernacular	1845	single	Robert Steen House	yes		1	1		was 2255 Fairview Rd/I-20
351	47-8-35		Edward Fitts	355	Fairview	Rd			stone			ruin	Pyle Farm Barn Ruins			2	1		
352	47-8-36.1		Thomas Rehill	1115	Doe Run	Rd	3.5	2	stone	vernacular	1798		Isaac Pennock House			2	1		I-28/NR?
353a, -b	47-8-4		Chembry LLC	59	Rokeby	Rd	2.5	3	aluminum	vernacular	c. 1890	single			crghse	2	1		
354	47-8-6		David Jones	2340	Strasburg	Rd	2.5	4	aluminum	Gothic Revival	1840	single	Ephraim Lilly House			2	1		SRTH-21/NR?
355a, -b, -c	47-8-8		Jeffrey Seder	1055	Doe Run	Rd	2.5	4	stucco/stone	vernacular	1820	single	Daniel Lukens House		sprghse, barn	2	1		I-13/NR?
356	47-9-1		Russell Schaible	2131	Strasburg	Rd	2.5	6	log/stucco	vernacular	1810	single	Henry Marsh House			2	1		SRTH-30/NR?
357a, -b	47-9-13		Brandywine Outfitters	2100	Strasburg	Rd	2.0	5	stone	vernacular	1767	vacant	Thomas Hayes Mill Ruin		ftbrdge	2	1		SRTH-34/NR?
358	47-9-14		George Shaver	110	Fairview	Rd	2.5	2	brick	Queen Anne	1920	single	Hugh Moore House			2	1		SRTH-32/NR?
359	47-9-17		Edward Fitts	118	Brandywine Creek	Rd	2.5	3	aluminum	4Square	c. 1920	single	Elvin House			2	1		
360	47-9-2.1			2125	Strasburg	Rd	2.0	3	stucco	International	c. 1920	commercial				2	1		Mortonville?
361	47-9-3		James Rodgers	2121	Strasburg	Rd	1.5	4	asbestos	vernacular	c. 1900	single				2	1		Mortonville?
362a, -b	47-9-4		Theodore Wilson	2117	Strasburg	Rd	2.5	4	aluminum	mid 19th C	c. 1870	twin			garage	2	1		twin hse w/1 owner/was 2119 Strasburg Rd/Mortonville?
363	47-9-5		James McBride	2115	Strasburg	Rd	2.5	2	vinyl	mid 19th C	c. 1860	single				2	1		Mortonville?
364	47-9-8			505	Mortonville	Rd	2.0	4	stucco	vernacular	c. 1800	commercial				2	1		Mortonville?
365	47-9-9		John Harper	2097	Strasburg	Rd	3.0	4	stucco	vernacular	1849	residential	Thomas Worth Hse/Mortonville Htl	yes		1	1		Apts/SRTH-35
366					Doe Run Church	Rd			stone	arched		bridge	Doe Run Church Rd Bridge			2	1		No Tax # on Map
367					Frog Hollow	Rd			wood	covered		bridge	Speakman Bridge #1	yes		1	1		No Tax # on Map
368					Mortonville	Rd			stone	arched		bridge	Mortonville Road Bridge at Goosetown			2	1		No Tax # on Map
369			PennDot		Strasburg	Rd		4	stone	arched	1826	bridge	Mortonville Bridge	yes		1	1		No Tax # on Map/SRTH 33
370			PennDot		Strasburg	Rd		1	stone	arched	c.1800	bridge	Mortonville Mill Race Bridge	yes		1	1		No Tax # on Map
371					The Laurels				wood	covered		bridge	Mary Ann Pyle Bridge	yes		1			No Tax # on Map/AKA Speakman Bridge #2
372					Timicula	Rd			steel/iron	RR Bridge		bridge				2	1		In Township?
373			Efallowfield&Newlin		Strasburg	Rd			stone			boundary marker	Marker between Nelwin & E. Fallowfield Townships			2			Strasburg?

Pennsylvania State Historic Preservation Office
PENNSYLVANIA HISTORICAL AND MUSEUM COMMISSION

May 26, 2022

David Porter
Herbert E. MacCombie, Jr., P.E.
495 Highland Boulevard, Suite 109
Coatesville PA 19320

RE: ER Project # 2022PR02257.001, East Fallowfield Township Act 537 Official Plan Update, Department of Environmental Protection, West Marlborough Township, Chester County

Dear David Porter:

Thank you for submitting information concerning the above referenced project. The Pennsylvania State Historic Preservation Office (PA SHPO) reviews projects in accordance with state and federal laws. Section 106 of the National Historic Preservation Act of 1966, and the implementing regulations (36 CFR Part 800) of the Advisory Council on Historic Preservation, is the primary federal legislation. The Environmental Rights amendment, Article 1, Section 27 of the Pennsylvania Constitution and the Pennsylvania History Code, 37 Pa. Cons. Stat. Section 500 et seq. (1988) is the primary state legislation. These laws include consideration of the project's potential effects on both historic and archaeological resources.

Above Ground Resources
SHPO Sends Comments - Environmental Review - SHPO Sends Above Ground Comments

Thank you for notifying our office of this upcoming township wide project. We look forward to consultation on a project by project basis when more detailed information becomes available. This will allow us to provide comments on the potential to affect historic properties.

For questions concerning above ground resources, please contact Barbara Frederick at bafrederic@pa.gov.

Archaeological Resources
SHPO Sends Comments - Environmental Review - SHPO Sends Archaeo Comments

Thank you for notifying our office of this upcoming township wide project. There are multiple archaeological sites within the proposed study area that could be impacted by project activities. We look forward to consultation on a project by project basis when more detailed information becomes available. This will allow us to provide comments on the potential to affect historic properties.

For questions concerning archaeological resources, please contact Casey Hanson at

chanson@pa.gov.

Sincerely,

Emma Diehl
Environmental Review Division Manager

APPENDIX G

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

SENT VIA ELECTRONIC MAIL ONLY

November 19, 2020

Mr. Dave Porter, P.E.
Herbert MacCombie, Jr., P.E.
Consulting Engineers & Surveyors, Inc.
P.O. Box 118
Broomall, PA 19008

Re: Act 537, Sewage Facilities Planning
East Fallowfield Township Park Restroom Facility
DEP Code No. 1-15918-259-X
East Fallowfield Township, Chester County

Dear Mr. Porter:

This letter is in reference to your application for Sewage Facilities Planning Modules for the construction of a prefabricated restroom facility. The project is located at 900 and 908 Buck Run Road in East Fallowfield Township, Chester County.

The project will be connected to the Pennsylvania American Water Company collection system and will generate 225 gallons of sewage per day to be treated at the Pennsylvania American Water Company – Coatesville Wastewater Treatment Facility.

This project does not meet the definition of a subdivision under the Pennsylvania Sewage Facilities Act. Therefore, no planning modules are required to be submitted to the Department of Environmental Protection (DEP).

If you have any questions or concerns, please contact me at 484.250.5182.

Sincerely,

Kelly A. Sweeney
Sewage Planning Specialist 2
Clean Water

cc: Chester County Planning Commission (via email)
Chester County Health Department (via email)
Chester County Conservation District (via email)
East Fallowfield Township (via email)
Mr. DeBalko (via email)
Mr. Kelly (via email)
Planning Section
Re 30

Pennsylvania Department of Environmental Protection
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428

NOV 17 2000

Southeast Regional Office

610-832-6130
Fax 610-832-6133

Martha Frid, Secretary
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, PA 19320

Re: Planning Module for Land Development
Robins Cove Subdivision aka MISTY PATCH
Code No. 1-15918-159-3H
APS Id. 330938, Site Id. 538479
East Fallowfield Township, Chester County

Dear Ms. Frid:

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of 53 single-family dwellings on 64.4 acres. This project is located on the southwest corner of Misty Patch and Goosetown Roads, in East Fallowfield Township, Chester County.

This project will be connected to the City of Coatesville Authority collection system and will generate 13,900 gallons of sewage per day to be treated at the City of Coatesville Authority Wastewater Treatment Facility.

Planning approval is also granted through this revision for two municipally owned sewage pumping stations. Pump station no. 1 will be located adjacent to lots 49 & 50 and will have average design flows of 14,437.5 gallons per day. This pump station will convey sewage flows from lots 5 through 22, lots 25 to 53, and 9 existing houses along Misty Patch Road to a sanitary manhole to be located at the intersection of Devonshire Drive and Ridgeway Lane. Pump Station No. 2 will be located near the intersection of Devonshire Drive and Goosetown Road and will have average design flows of 16,275 gallons per day. This pump station will convey sewage flows from pump station no. 1, lots 1 through 4 and lots 23 and 24 to the City of Coatesville via a 4 inch diameter force main to be installed along West Chester Road, parallel to the Brinton Station Subdivision's force main.

The City of Coatesville Authority must secure a Department permit for the construction and operation of the proposed sewage pumping station. The Authority should review the enclosed Sewage Pumping Station Guidance before submitting its Part II Permit Application. The Department

NOV 17 2000

recommends certain minimum peaking factors for pumping stations based on their proposed design flows. Individual pumps must be capable of handling peak instantaneous flows without employing the backup pump. Detailed justification must be submitted with permit applications for proposals that use alternate design standards from the enclosed guidance.

The Department has determined that there are mapped wetlands within your proposed development. You are hereby notified that an encroachment permit under Title 25, Chapter 105, of the Rules and Regulations of the Department must be obtained from the Department prior to any construction which will encroach on wetlands.

If you have any questions, please feel free to contact Elizabeth Mahoney of our office at 610-832-6079.

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

cc: Chester County Planning Commission
Chester County Health Department
Weiss Properties, Inc.
Mr. Duerr
City of Coatesville Authority
Ms. Mahoney
Ms. Moore
Ms. Grant
Planning Section
Re 30

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401

Southeast Regional Office

Phone: 484-250-5970
Fax: 484-250-5971

JAN 2 5 2005

Ms. Denise Miller, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Planning Module for Land Development
Harkins Property Subdivision
Code No. 1-15918-194-3J
APS Id. 512445, Site Id. 553983
East Fallowfield Township
Chester County

Dear Ms. Miller:

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of a 21 lot residential subdivision. This project is located on the northeast corner of South Caln Road and Goosetown Road, in East Fallowfield Township, Chester County.

This project will be connected to the East Fallowfield Township collection system and will generate 5,513 gallons of sewage per day to be treated at the Pennsylvania American Water Company Wastewater Treatment Facility.

Capacity for this project is provided consistent with the Pennsylvania American Water Company's Chapter 94 Wasteload Management Plan. Specifically, this project is allocated 3 connections prior to the expansion of the East End Trunk Line. Pennsylvania American Water Company is responsible to notify each municipality when the expansion has been completed. Once the expansion of the East End Trunk Line is completed, the allocations for this project under the current CMP are 2005-3 connections, 2006-8 connections, 2007-8 connections, and 2008-2 connections. East Fallowfield Township must assure that building and occupancy permits are issued consistent with Pennsylvania American Water Company's Connection Management Plan.

Planning approval is also granted through this revision for a sewage pumping station and a force main, which will convey sewage flows from 21 dwellings in the Harkins Property Subdivision (5,513 gpd) and 72 dwellings in the Ridgecrest Subdivision (18,900 gpd) to the existing gravity sewer line in Goosetown Road that is tributary to the Robins Cove Regional Pump Station. The proposed

JAN 2 5 2005

pumping station will be located along South Caln Road and will have average design flows of 24,413 gallons per day. East Fallowfield Township or the Pennsylvania American Water Company must secure a Department permit for the construction and operation of the proposed sewage pumping station.

Please review the enclosed Sewage Pumping Station Guidance before submitting your Part II Permit Application. The Department recommends a minimum peaking factor of 4.1 for pumping stations with this proposed design flow. Individual pumps must be capable of handling peak instantaneous flows without employing the backup pump. Detailed justification must be submitted with permit applications for proposals that use alternate design standards from the enclosed guidance.

This revision also provides for the expansion of the Robins Cove Pump Station No. 2 from an annual average flow of 139,401 gallons per day to 163,814 gallons per day. East Fallowfield Township or the Pennsylvania American Water Company must secure an amendment to their existing Department permits for the expansion of the Robins Cove Pump Station and the related force main.

The Department has determined that there will be encroachments on mapped wetland areas from non-sewage related construction activities in the proposed development area. You are hereby notified that an encroachment permit under Chapter 105 must be obtained from the Department prior to any construction that will encroach on wetlands.

If you have any questions, please feel free to contact Donna Ulan Smith of our office at 484-250-5179.

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

cc: Chester County Planning Commission
Chester County Health Department
Mr. Dennis Satnick, Sequoia Partneers
American Water Services, Inc.
Pennsylvania American Water Company
Donna Ulan Smith
Ms. Moore
Planning Section
Re 30

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401

March 10, 2004

Southeast Regional Office

484-250-5970
Fax 484-250-5971

Ms. Martha Frid, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Planning Module for Land Development
Thompson Homes Subdivision - North
Code No. 1-15918-207-3I
APS Id. 498237, Site Id. 622837
East Fallowfield Township
Chester County

Dear Ms. Frid,

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of a 27 lot residential subdivision on 41.62 acres. This project is located north of West Caln Road, between South Caln Road and Jonathan Street, in East Fallowfield Township, Chester County.

This project will be connected to the East Fallowfield Township/Pennsylvania American Water Company collection system and will generate 7,100 gallons of sewage per day to be treated at the Pennsylvania American Water Company's Coatesville Wastewater Treatment Facility.

This revision also provides for the construction of a pump station and force main which will tie into the collection system of the Thompson Home Subdivision–South project, for the upgrade and expansion of a portion of the East End Trunk Line in the City of Coatesville between Manhole Nos.16 and 18, and for the expansion of the Robins Cove Pump Station No. 2 from an average annual flow of 37,000 gallons per day to 44,100 gallons per day.

East Fallowfield Township must secure a Department permit for the construction and operation of the Thompson Homes–North Pump Station. In order to provide for the expanded flows, East Fallowfield Township must also secure amendments to their existing Department permits for the Thompson Home–South collection system and the Robins Cove Pump Station No. 2 and the related force main.

An Equal Opportunity Employer

The Pennsylvania American Water Company secure a Department permit or permit amendment for the construction and operation of the upgraded and expanded East End Trunk Line.

Capacity for this project is provided consistent with the Pennsylvania American Water Company Chapter 94 Wasteload Management Plan.

If you have any questions, please feel free to contact John M. Veneziale of our office at 484-250-5175.

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

cc: Chester County Planning Commission
Chester County Health Department
John Thompson
Thompson Homes, Inc.
American Water Services, Inc.
Pennsylvania American Water Company
John M. Veneziale
Ms. Moore
Planning Section
Re 30

Pennsylvania Department of Environmental Protection

2 East Main Street
Norristown, PA 19401

Southeast Regional Office

SEP 09 2004

Phone: 484-250-5970
Fax: 484-250-5971

Ms. Martha Frid, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Planning Module for Land Development
Providence Hill Subdivision & CARDINAL DR AREA
Code No. 1-15918-211-3IJ
APS Id. 512457, Site Id. 631504
East Fallowfield Township, Chester County

Dear Ms. Frid:

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of 218 residential lots on 108 acres. The subdivision consists of 136 single family dwellings, 81 townhouses, and an existing dwelling. This project is located on West Chester Road, in East Fallowfield Township, Chester County.

This project will be connected to the East Fallowfield Township collection system and will generate 50,138 gallons of sewage per day to be treated at the Pennsylvania American Water Company Coatesville Wastewater Treatment Facility.

Capacity for this project is provided consistent with the Pennsylvania American Water Company's Chapter 94 Wasteload Management Plan. Specifically, this project is allocated 20 connections until the East End Trunk Line expansion is completed. Pennsylvania American Water Company is responsible to notify each municipality when the expansion has been completed. Once the expansion of the East End Trunk Line is completed, the allocations for this project under the current CMP are 2004 to 2005-20 connections, 2006-30 connections, 2007-50 connections, and 2008-50 connections. East Fallowfield Township must assure that building and occupancy permits are issued consistent with Pennsylvania American Water Company's Connection Management Plan.

Planning approval is also granted through this revision for a sewage pumping station and a force main, which will convey sewage flows from 158 dwellings (77 single family dwelling units and 81 townhouses for a total of 34,388 gpd) in the development to a proposed gravity sewer line in the subdivision that will follow along Misty Patch Road to the Robins Cove Regional Pump Station. In addition, the East Fallowfield Township is requesting capacity in the proposed new pump station for

SEP 09 2004

Ms. Martha Frid, Secretary -2-

65 existing houses (17,063 gpd) located on West Chester Road and Cardinal Drive. The proposed pumping station will be located along West Chester Road and will have average design flows of 51,450 gallons per day. East Fallowfield Township or the Pennsylvania American Water Company must secure a Department permit for the construction and operation of the proposed sewage pumping station.

Please review the enclosed Sewage Pumping Station Guidance before submitting your Part II Permit Application. The Department recommends a minimum peaking factor of 4.0 for pumping stations with this proposed design flow. Individual pumps must be capable of handling peak instantaneous flows without employing the backup pump. Detailed justification must be submitted with permit applications for proposals that use alternate design standards from the enclosed guidance.

This revision also provides for the expansion of the Robins Cove Pump Station No. 2 from an annual average flow of 72,200 gallons per day to 139,401 gallons per day, which provided for the capacity for all 218 units from the Providence Hill Subdivision and the 65 units of the West Chester Road and Cardinal Drive Area. East Fallow field Township or the Pennsylvania American Water Company must secure an amendment to their existing Department permits for the Robins Cove Pump Station and the related force main.

The Department has determined that there will be encroachments on mapped wetland areas from non-sewage related construction activities in the proposed development area. You are hereby notified that an encroachment permit under Chapter 105 must be obtained from the Department prior to any construction that will encroach on wetlands.

If you have any questions, please feel free to contact Donna Ulan Smith of our office at 484-250-5179.

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

cc: Chester County Planning Commission
Chester County Health Department
Mr. Jonathan Penders - Rouse Chamberlin LTD
E. B. Walsh & Associates, Inc.
Pennsylvania American Water Company
Ms. Ulan Smith
Ms. Moore
Planning Section
Re 30

Pennsylvania Department of Environmental Protection
2 East Main Street
Norristown, PA 19401

MAY 0 4 2004

Southeast Regional Office

484-250-5970
Fax 484-250-5971

Ms. Martha Frid, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Planning Module for Land Development
Mendenhall Subdivision
Code No. 1-15918-208-3I
APS Id. 501154, Site Id. 625840
East Fallowfield Township
Chester County

Dear Ms. Frid:

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of a 74 lot residential subdivision on 104.48 acres. This project is located on the southeast corner of Oaklyn and Caln Mortonville Roads, in East Fallowfield Township, Chester County.

This project will be connected to the Pennsylvania American Water Company collection system and will generate 19,425 gallons of sewage per day to be treated at the Pennsylvania American Water Company City of Coatesville Wastewater Treatment Facility.

Planning approval is also granted through this revision for a sewage pumping station and force main, which will convey sewage flows from the proposed Mendenhall Subdivision to Manhole G1 in Goosetown Road. The pumping station will be located east of South Caln Road and south of Abdala Lane and will have average design flows of 19,425 gallons per day. Pennsylvania American Water Company must secure a Department permit for the construction and operation of the proposed sewage pumping station.

Please review the enclosed Sewage Pumping Station Guidance before submitting your Part II Permit Application. The Department recommends a minimum peaking factor of 4.2 for pumping stations with this proposed design flow. Individual pumps must be capable of handling peak instantaneous flows without employing the backup pump. Detailed justification must be submitted with permit applications for proposals that use alternate design standards from the enclosed guidance.

This revision also provides for the expansion of the Robins Cove Pump Station No. 2 from an annual average flow of 52,775 gallons per day to 72,200 gallons per day. East Fallowfield Township must secure amendments to their existing Department permits for the Robins Cove Pump Station and the related force main.

Capacity for this project is provided consistent with the Pennsylvania American Water Company Chapter 94 Wasteload Management Plan.

Information submitted with the planning module indicates that East Fallowfield Township intends to transfer ownership of the Township's collection and conveyance system to Pennsylvania American Water Company. Alternatives regarding ownership, operation, and maintenance of the collection and conveyance system will be evaluated by East Fallowfield Township in a pending Act 537 plan update revision. If planning approval is adopted by the Township and approved by the Department for the proposed transfer of sewerage facilities, Pennsylvania American Water Company must submit transfer applications to the Department for all permitted facilities within East Fallowfield Township.

This approval is conditioned as follows:

1. Construction of the proposed subdivision must be coordinated with the upgrade and expansion of the East End Interceptor in the City of Coatesville between Manhole Nos. 16 and 18. Use and occupancy permits for the Mendenhall Subdivision may not be issued by East Fallowfield Township until the upgrade and expansion of this portion of the East End Interceptor is completed.

If you have any questions, please feel free to contact Kelly Sweeney of our office at 484-250-5182.

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

Enclosure: Pump Station Guidance

cc: Chester County Planning Commission
Chester County Health Department
Mr. Stancato
D.L. Howell & Associates, Inc.
Pennsylvania American Water Company
Ms. Sweeney
Mr. Grella
Ms. Moore
Planning Section
Re 30

Pennsylvania Department of Environmental Protection
Lee Park, Suite 6010
555 North Lane
Conshohocken, PA 19428

Southeast Regional Office

610-832-6130
Fax 610-832-6133

SEP 05 2003

Ms. Martha Frid, Secretary
East Fallowfield Township
2264 Strasburg Road
Coatesville, PA 19320

Re: Planning Module for Land Development
Thompson Homes Subdivision (SOUTH)
Code No. 1-15918-196-3H
APS Id. 495467, Site Id. 622837
East Fallowfield Township, Chester County

Dear Ms. Frid:

Approval is hereby granted by the Department of Environmental Protection for the above referenced revision to the East Fallowfield Township Official Sewage Facilities Plan. In accordance with the Pennsylvania Sewage Facilities Act and Title 25, Chapter 71 of the Department's Rules and Regulations, East Fallowfield Township is responsible for implementing this revision as per the approved planning module.

This revision provides for adequate sewage facilities planning to permit the development of a 112 lot residential subdivision on 98.6 acres. This project is located on the southeast corner of Misty Patch and West Chester Roads, in East Fallowfield Township, Chester County.

This project will be connected to the East Fallowfield Township/Pennsylvania American Water Company collection system and will generate 29,400 gallons of sewage per day to be treated at the Pennsylvania American Water Company Wastewater Treatment Facility.

This revision also provides for the upgrade and expansion of a portion of the East End Trunk Line in the City of Coatesville between manholes designated as Nos.16 and 18, for the expansion of the Robins Cove Pump Station No. 2 from an average annual flow of 13,900 gallons per day to 37,000 gallons per day, and for the expansion of the Robins Cove force main from 4 inches in diameter to 8 inches in diameter. SHOULD BE 45,663gpd

East Fallowfield Township must secure an amendment to their Department permit for the construction and operation of the expanded Robins Cove Pump Station No. 2 and the related force main. The Pennsylvania American Water Company must also secure a Department permit or permit amendment for the construction and operation of the upgraded and expanded East End Trunk Line.

Capacity for this project is provided consistent with the Pennsylvania American Water Company Chapter 94 Wasteload Management Plan.

Information submitted with the approved planning modules indicates that East Fallowfield Township intends to transfer ownership of the Township's collection and conveyance system to Pennsylvania American Water Company. Alternatives regarding ownership, operation, and maintenance of the collection and conveyance system will be evaluated by East Fallowfield Township in a pending Act 537 plan update revision. If planning approval is adopted by the Township and approved by the Department for the proposed transfer of sewerage facilities, Pennsylvania American Water Company must submit transfer applications to the Department for all permitted facilities within the Township.

The Department has determined that there are mapped wetlands within your proposed development. You are hereby notified that an encroachment permit under Title 25, Chapter 105, of the Rules and Regulations of the Department must be obtained from the Department prior to any construction that will encroach on wetlands.

If you have any questions, please feel free to contact John M. Veneziale of our office at 610-832-6078

Sincerely,

James Newbold, P.E.
Regional Manager
Water Management

cc: Chester County Planning Commission
Chester County Health Department
City of Coatesville
Thompson Properties, Inc.
Trilogy Investments, LLC
American Commonwealth Management Services Co., Inc.
Pennsylvania American Water Company
Mr. Veneziale
Ms. Moore
Planning Section
Re 30

APPENDIX H

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

ERCILDOUN AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	16,750	$ 60.00	$ 1,005,000.00
	SUBTOTAL	L.F.	**16,750**	**$ 60.00**	**$ 1,005,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	50	$ 3,500.00	$ 175,000.00
	SUBTOTAL	EA.	**50**	**$ 3,500.00**	**$ 175,000.00**
3	4" C-900 - Force Main	L.F.	4,425	$ 50.00	$ 221,250.00
	SUBTOTAL	L.F.	**4,425**	**$ 50.00**	**$ 221,250.00**
4	Forcemain Air Release Valve Manhole	EA.	2	$ 4,000.00	$ 8,000.00
	SUBTOTAL	EA.	**2**	**$ 4,000.00**	**$ 8,000.00**
5	Low Pressure Sewer	L.F.	850	$ 30.00	$ 25,500.00
	SUBTOTAL	L.F.	**850**	**$ 30.00**	**$ 25,500.00**
6	Low Pressure Sewer Main Flusing Manhole	EA.	2	$ 350.00	$ 700.00
	SUBTOTAL	EA.	**2**	$ 350.00	**$ 700.00**
7	Tie in to Existing Pump Station				
	Branford PS #1	EA.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	EA.	**1**	**$ 5,000.00**	**$ 5,000.00**
8	Testing	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**
9	Sanitary Lateral Wyes - 8"x4"	EA.	140	$ 150.00	$ 21,000.00
	SUBTOTAL	EA.	**140**	**$ 150.00**	**$ 21,000.00**
10	Sanitary Laterals - 4" SDR-35 PVC	L.F.	3,500	$ 40.00	$ 140,000.00
	SUBTOTAL	L.F.	**3,500**	**$ 40.00**	**$ 140,000.00**
11	Pump Stations				
	Strasburg Road PS	L.S.	1	$ 350,000.00	$ 350,000.00
	Cumberland Drive PS	L.S.	1	$ 350,000.00	$ 350,000.00
	SUBTOTAL	L.S.	**2**	**$ 350,000.00**	**$ 700,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 20,000.00	$ 20,000.00
	SUBTOTAL	L.S.	**1**	**$ 20,000.00**	**$ 20,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**

SUBTOTAL	**$**	**2,331,450.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**116,572.50**
5% FIELD SURVEY	**$**	**116,572.50**
5% ENGINEERING DESIGN	**$**	**116,572.50**
5% INSPECTIONS	**$**	**116,572.50**
10% CONTINGENCY	**$**	**233,145.00**
TOTAL	**$**	**3,030,885.00**
EDUs to be Serviced =		**140**
Cost per EDU =	**$**	**21,649.18**
PAWC (Bonafide) =	**$**	**1,400,000.00**
EFT =	**$**	**1,630,885.00**
Cost per EDU =	**$**	**11,649.18**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

DOE RUN FARMS AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	13,400	$ 60.00	$ 804,000.00
	SUBTOTAL	L.F.	**13,400**	**$ 60.00**	**$ 804,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	40	$ 3,500.00	$ 140,000.00
	SUBTOTAL	EA.	**40**	**$ 3,500.00**	**$ 140,000.00**
3	4" C-900 - Force Main	L.F.	1,300	$ 50.00	$ 65,000.00
	SUBTOTAL	L.F.	**1,300**	**$ 50.00**	**$ 65,000.00**
4	Low Pressure Sewer	L.F.	3,450	$ 30.00	$ 103,500.00
	SUBTOTAL	L.F.	**3,450**	**$ 30.00**	**$ 103,500.00**
5	Low Pressure Sewer Main Flusing Manhole	EA.	2	$ 350.00	$ 700.00
	SUBTOTAL	EA.	**2**	$ 350.00	**$ 700.00**
6	Testing	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**
7	Sanitary Lateral Wyes - 8"x4"	EA.	143	$ 150.00	$ 21,450.00
	SUBTOTAL	EA.	**143**	**$ 150.00**	**$ 21,450.00**
8	Sanitary Laterals - 4" SDR-35 PVC	L.F.	3,575	$ 40.00	$ 143,000.00
	SUBTOTAL	L.F.	**3,575**	**$ 40.00**	**$ 143,000.00**
9	Pump Stations				
	Youngsburg PS	L.S.	1	$ 350,000.00	$ 350,000.00
	SUBTOTAL	L.S.	**1**	**$ 350,000.00**	**$ 350,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 20,000.00	$ 20,000.00
	SUBTOTAL	L.S.	**1**	**$ 20,000.00**	**$ 20,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**

SUBTOTAL	**$**	**1,657,650.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**82,882.50**
5% FIELD SURVEY	**$**	**82,882.50**
5% ENGINEERING DESIGN	**$**	**82,882.50**
5% INSPECTIONS	**$**	**82,882.50**
10% CONTINGENCY	**$**	**165,765.00**
TOTAL	**$**	**2,154,945.00**
EDUs to be Serviced =		**143**
Cost per EDU =	**$**	**15,069.55**
PAWC (Bonafide) =	**$**	**1,430,000.00**
EFT =	**$**	**724,945.00**
Cost per EDU =	**$**	**5,069.55**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

ERCILDOUN AREA
(Serving Doe Run Farms Area First)

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	16,750	$ 60.00	$ 1,005,000.00
	SUBTOTAL	L.F.	**16,750**	**$ 60.00**	**$ 1,005,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	50	$ 3,500.00	$ 175,000.00
	SUBTOTAL	EA.	**50**	**$ 3,500.00**	**$ 175,000.00**
3	4" C-900 - Force Main	L.F.	1,425	$ 50.00	$ 71,250.00
	SUBTOTAL	L.F.	**1,425**	**$ 50.00**	**$ 71,250.00**
4	Low Pressure Sewer	L.F.	850	$ 30.00	$ 25,500.00
	SUBTOTAL	L.F.	**850**	**$ 30.00**	**$ 25,500.00**
5	Low Pressure Sewer Main Flusing Manhole	EA.	2	$ 350.00	$ 700.00
	SUBTOTAL	EA.	**2**	$ 350.00	**$ 700.00**
6	Testing	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**
7	Sanitary Lateral Wyes - 8"x4"	EA.	140	$ 150.00	$ 21,000.00
	SUBTOTAL	EA.	**140**	**$ 150.00**	**$ 21,000.00**
8	Sanitary Laterals - 4" SDR-35 PVC	L.F.	3,500	$ 40.00	$ 140,000.00
	SUBTOTAL	L.F.	**3,500**	**$ 40.00**	**$ 140,000.00**
9	Pump Stations				
	Cumberland Drive PS	L.S.	1	$ 350,000.00	$ 350,000.00
	SUBTOTAL	L.S.	**1**	**$ 350,000.00**	**$ 350,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 20,000.00	$ 20,000.00
	SUBTOTAL	L.S.	**1**	**$ 20,000.00**	**$ 20,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**

SUBTOTAL	**$**	**1,818,450.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**90,922.50**
5% FIELD SURVEY	**$**	**90,922.50**
5% ENGINEERING DESIGN	**$**	**90,922.50**
5% INSPECTIONS	**$**	**90,922.50**
10% CONTINGENCY	**$**	**181,845.00**
TOTAL	**$**	**2,363,985.00**
EDUs to be Serviced =		**140**
Cost per EDU =	**$**	**16,885.61**
PAWC (Bonafide) =	**$**	**1,400,000.00**
EFT =	**$**	**963,985.00**
Cost per EDU =	**$**	**6,885.61**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

DOE RUN FARMS AREA
(Serving this Area First)

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	13,400	$ 60.00	$ 804,000.00
	SUBTOTAL	L.F.	**13,400**	**$ 60.00**	**$ 804,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	40	$ 3,500.00	$ 140,000.00
	SUBTOTAL	EA.	**40**	**$ 3,500.00**	**$ 140,000.00**
3	4" C-900 - Force Main	L.F.	4,300	$ 50.00	$ 215,000.00
	SUBTOTAL	L.F.	**4,300**	**$ 50.00**	**$ 215,000.00**
4	Forcemain Air Release Valve Manhole	EA.	2	$ 4,000.00	$ 8,000.00
	SUBTOTAL	EA.	**2**	**$ 4,000.00**	**$ 8,000.00**
5	Low Pressure Sewer	L.F.	3,450	$ 30.00	$ 103,500.00
	SUBTOTAL	L.F.	**3,450**	**$ 30.00**	**$ 103,500.00**
6	Low Pressure Sewer Main Flusing Manhole	EA.	2	$ 350.00	$ 700.00
	SUBTOTAL	EA.	**2**	$ 350.00	**$ 700.00**
7	Tie in to Existing Pump Station				
	Branford PS #1	EA.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	EA.	**1**	**$ 5,000.00**	**$ 5,000.00**
8	Testing	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**
9	Sanitary Lateral Wyes - 8"x4"	EA.	143	$ 150.00	$ 21,450.00
	SUBTOTAL	EA.	**143**	**$ 150.00**	**$ 21,450.00**
10	Sanitary Laterals - 4" SDR-35 PVC	L.F.	3,575	$ 40.00	$ 143,000.00
	SUBTOTAL	L.F.	**3,575**	**$ 40.00**	**$ 143,000.00**
11	Pump Stations				
	Strasburg Road PS	L.S.	1	$ 350,000.00	$ 350,000.00
	Youngsburg PS	L.S.	1	$ 350,000.00	$ 350,000.00
	SUBTOTAL	L.S.	**2**	**$ 350,000.00**	**$ 700,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 20,000.00	$ 20,000.00
	SUBTOTAL	L.S.	**1**	**$ 20,000.00**	**$ 20,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**

SUBTOTAL	**$**	**2,170,650.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**108,532.50**
5% FIELD SURVEY	**$**	**108,532.50**
5% ENGINEERING DESIGN	**$**	**108,532.50**
5% INSPECTIONS	**$**	**108,532.50**
10% CONTINGENCY	**$**	**217,065.00**
TOTAL	**$**	**2,821,845.00**
EDUs to be Serviced =		**143**
Cost per EDU =	**$**	**19,733.18**
PAWC (Bonafide) =	**$**	**1,430,000.00**
EFT =	**$**	**1,391,845.00**
Cost per EDU =	**$**	**9,733.18**

CONCEPTUAL ALTERNATE PUMP STATION LOCATION FOR ERCILDOUN PS #2 AND/OR DOE RUN FARMS PS #1

CONCEPTUAL ERCILDOUN AREA PUMP STATION #2

CONCEPTUAL ERCILDOUN SERVICE AREA

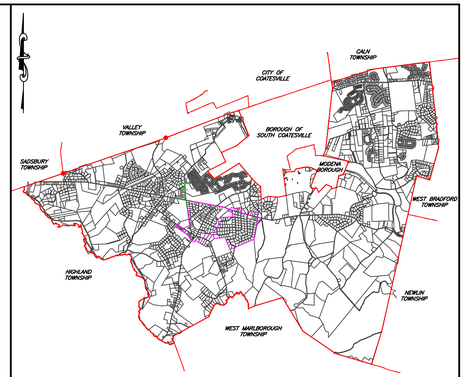
CONCEPTUAL DOE RUN FARMS SERVICE AREA

CONCEPTUAL DOE RUN FARMS AREA PUMP STATION #1

CONCEPTUAL ERCILDOUN AREA PUMP STATION #1

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL AREA OF LOW-PRESSURE SEWER



LOCATION MAP

SCALE 1"=6,000'

NOTES:

1. PARCELS, MUNICIPAL BOUNDARIES, BUILDING OUTLINES, AND HYDROGRAPHY TAKEN FROM CHESTER COUNTY GIS.
2. TOPOGRAPHY AND ROAD BREAKLINES TAKEN FROM PASDA LiDAR FOR EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA.
3. PASDA LiDAR IS TIED TO NAD83 HORIZONTAL DATUM, NAVD88 VERTICAL DATUM, PENNSYLVANIA STATE PLANE SOUTH (FOOT) COORDINATES.

0 300' 600'

SCALE 1"= 300'

REVISION	DATE

ERCILDOUN & DOE RUN FARMS AREAS

CONCEPTUAL PUBLIC SEWER EXTENSION

FOR

ACT 537 PLAN UPDATE

FOR

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — MAY 20, 2022

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

May 20, 2022 2:40 PM

CONCEPTUAL ALTERNATE PUMP STATION LOCATION FOR ERCILDOUN PS #2 AND/OR DOE RUN FARMS PS #1

CONCEPTUAL ERCILDOUN AREA PUMP STATION #2

CONCEPTUAL ERCILDOUN SERVICE AREA

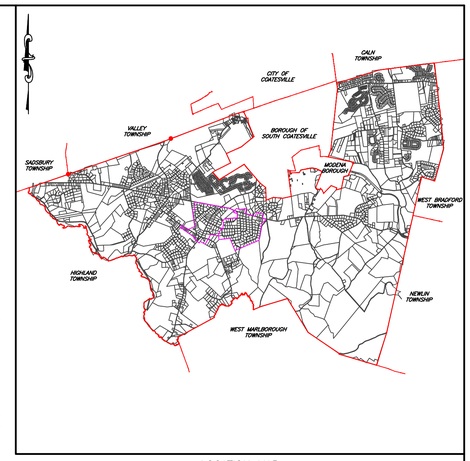
CONCEPTUAL DOE RUN FARMS SERVICE AREA

CONCEPTUAL DOE RUN FARMS AREA PUMP STATION #1

CONCEPTUAL ERCILDOUN AREA PUMP STATION #1

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL AREA OF LOW-PRESSURE SEWER



LOCATION MAP

SCALE 1"=6,000'

NOTES:

1. PARCELS, MUNICIPAL BOUNDARIES, BUILDING OUTLINES, AND HYDROGRAPHY TAKEN FROM CHESTER COUNTY GIS.
2. TOPOGRAPHY AND ROAD BREAKLINES TAKEN FROM PASDA LiDAR FOR EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA.
3. PASDA LiDAR IS TIED TO NAD83 HORIZONTAL DATUM, NAVD88 VERTICAL DATUM, PENNSYLVANIA STATE PLANE SOUTH (FOOT) COORDINATES.

0 300' 600'

SCALE 1"= 300'

REVISION	DATE

ERCILDOUN & DOE RUN FARMS AREAS
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

August 13, 2019 4:13 PM

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

MOUNT CARMEL AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

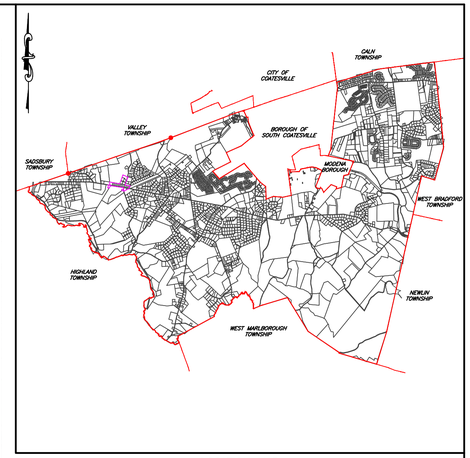
Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	2,550	$ 60.00	$ 153,000.00
	SUBTOTAL	L.F.	**2,550**	**$ 60.00**	**$ 153,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	8	$ 3,500.00	$ 28,000.00
	SUBTOTAL	EA.	**8**	**$ 3,500.00**	**$ 28,000.00**
3	Tie in to Existing Pump Station				
	Strasbury Hunt PS #1	EA.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	EA.	**1**	**$ 5,000.00**	**$ 5,000.00**
4	Testing	L.S.	1	$ 1,000.00	$ 1,000.00
	SUBTOTAL	L.S.	**1**	**$ 1,000.00**	**$ 1,000.00**
5	Sanitary Lateral Wyes - 8"x4"	EA.	25	$ 150.00	$ 3,750.00
	SUBTOTAL	EA.	**25**	$ 150.00	**$ 3,750.00**
6	Sanitary Laterals - 4" SDR-35 PVC	L.F.	625	$ 40.00	$ 25,000.00
	SUBTOTAL	L.F.	**625**	**$ 40.00**	**$ 25,000.00**
B	**SITE**				
1	Maintenance & Protection of Traffic	L.S.	1	$ 10,000.00	$ 10,000.00
	SUBTOTAL	L.S.	**1**	**$ 10,000.00**	**$ 10,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 2,000.00	$ 2,000.00
	SUBTOTAL	L.S.	**1**	**$ 2,000.00**	**$ 2,000.00**

SUBTOTAL	**$**	**227,750.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**11,387.50**
5% FIELD SURVEY	**$**	**11,387.50**
5% ENGINEERING DESIGN	**$**	**11,387.50**
5% INSPECTIONS	**$**	**11,387.50**
10% CONTINGENCY	**$**	**22,775.00**
TOTAL	**$**	**296,075.00**
EDUs to be Serviced =		**24**
Cost per EDU =	**$**	**12,336.46**
PAWC (Bonafide) =	**$**	**240,000.00**
EFT =	**$**	**56,075.00**
Cost per EDU =	**$**	**2,336.46**

VALLEY TOWNSHIP

EXISTING PAWC STRASBURG PUMP STATION #1

CONCEPTUAL MOUNT CARAMEL SERVICE AREA



LOCATION MAP

SCALE 1"=6,000'

NOTES:

1. PARCELS, MUNICIPAL BOUNDARIES, BUILDING OUTLINES, AND HYDROGRAPHY TAKEN FROM CHESTER COUNTY GIS.
2. TOPOGRAPHY AND ROAD BREAKLINES TAKEN FROM PASDA LiDAR FOR EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA.
3. PASDA LiDAR IS TIED TO NAD83 HORIZONTAL DATUM, NAVD88 VERTICAL DATUM, PENNSYLVANIA STATE PLANE SOUTH (FOOT) COORDINATES.

0 200' 400'

SCALE 1"= 200'

REVISION	DATE

MOUNT CARMEL AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — MAY 20, 2022

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

May 20, 2022 1:59 PM

CONCEPTUAL MOUNT CARAMEL SERVICE AREA

EXISTING PAWC STRASBURG PUMP STATION #1

VALLEY TOWNSHIP

OLD WILMINGTON RD

STRASBURG RD

SCOTT FARM DR

MOUNT CARMEL RD

QUINT CARMEL RD

KNOLL RD

STONE LA

SHORT DR

WINDY HILL RD

ELIZABETH DR

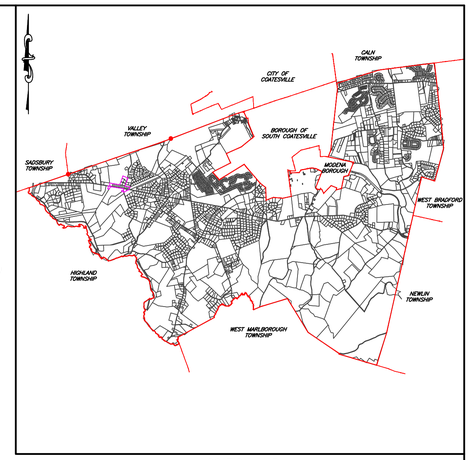
REBECCA LA

PRINCE EDWARD DR

REGENCY CI

CROWN LA

QUEEN LA



LOCATION MAP

SCALE 1"=6,000'

NOTES:

1. PARCELS, MUNICIPAL BOUNDARIES, BUILDING OUTLINES, AND HYDROGRAPHY TAKEN FROM CHESTER COUNTY GIS.
2. TOPOGRAPHY AND ROAD BREAKLINES TAKEN FROM PASDA LiDAR FOR EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA.
3. PASDA LiDAR IS TIED TO NAD83 HORIZONTAL DATUM, NAVD88 VERTICAL DATUM, PENNSYLVANIA STATE PLANE SOUTH (FOOT) COORDINATES.

0 200' 400'

SCALE 1"= 200'

REVISION	DATE

MOUNT CARMEL AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

August 13, 2019 4:20 PM

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

STOTTSVILLE AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	4,110	$ 60.00	$ 246,600.00
	SUBTOTAL	L.F.	**4,110**	**$ 60.00**	**$ 246,600.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	15	$ 3,500.00	$ 52,500.00
	SUBTOTAL	EA.	**15**	**$ 3,500.00**	**$ 52,500.00**
3	Tie in to Existing Manhole	EA.	1	$ 1,500.00	$ 1,500.00
	SUBTOTAL	EA.	**1**	**$ 1,500.00**	**$ 1,500.00**
4	Testing	L.S.	1	$ 1,500.00	$ 1,500.00
	SUBTOTAL	L.S.	**1**	**$ 1,500.00**	**$ 1,500.00**
5	Sanitary Lateral Wyes - 8"x4"	EA.	32	$ 150.00	$ 4,800.00
	SUBTOTAL	EA.	**32**	$ 150.00	**$ 4,800.00**
6	Sanitary Laterals - 4" SDR-35 PVC	L.F.	800	$ 40.00	$ 32,000.00
	SUBTOTAL	L.F.	**800**	**$ 40.00**	**$ 32,000.00**
B	**SITE**				
1	Maintenance & Protection of Traffic	L.S.	1	$ 15,000.00	$ 15,000.00
	SUBTOTAL	L.S.	**1**	**$ 15,000.00**	**$ 15,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 3,000.00	$ 3,000.00
	SUBTOTAL	L.S.	**1**	**$ 3,000.00**	**$ 3,000.00**

SUBTOTAL	**$**	**356,900.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**17,845.00**
5% FIELD SURVEY	**$**	**17,845.00**
5% ENGINEERING DESIGN	**$**	**17,845.00**
5% INSPECTIONS	**$**	**17,845.00**
10% CONTINGENCY	**$**	**35,690.00**
TOTAL	**$**	**463,970.00**
EDUs to be Serviced =		**32**
Cost per EDU =	**$**	**14,499.06**
PAWC (Bonafide) =	**$**	**320,000.00**
EFT =	**$**	**143,970.00**
Cost per EDU =	**$**	**4,499.06**

CONCEPTUAL
STOTTSVILLE
SERVICE AREA

EXISTING PAWC
STOTTSVILLE PUMP STATION
IN SADSBURY TOWNSHIP

SADSBURY TOWNSHIP

VALLEY TOWNSHIP

HIGHLAND TOWNSHIP

OLD WILMINGTON RD

STRASBURG RD

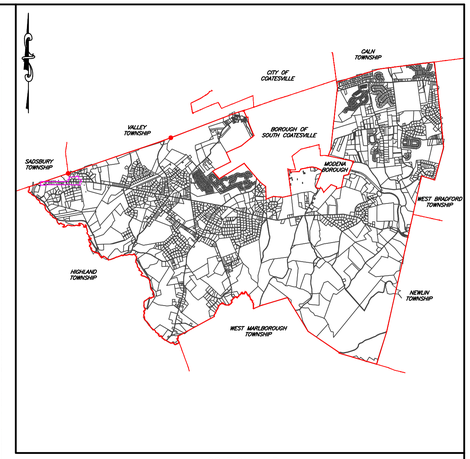
SOUTH FORTY LA

WAGNERS LA

CHELSEA DR

EVANS LA

TIMASHA RD



LOCATION MAP
SCALE 1"=6,000'

NOTES:

1. PARCELS, MUNICIPAL BOUNDARIES, BUILDING OUTLINES, AND HYDROGRAPHY TAKEN FROM CHESTER COUNTY GIS.
2. TOPOGRAPHY AND ROAD BREAKLINES TAKEN FROM PASDA LiDAR FOR EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA.
3. PASDA LiDAR IS TIED TO NAD83 HORIZONTAL DATUM, NAVD88 VERTICAL DATUM, PENNSYLVANIA STATE PLANE SOUTH (FOOT) COORDINATES.

0 200' 400'
SCALE 1"= 200'

REVISION	DATE

STOTTSVILLE AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — MAY 20, 2022

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

May 20, 2022 1:48 PM

CONCEPTUAL STOTTSVILLE SERVICE AREA

EXISTING PAWC STOTTSVILLE PUMP STATION IN SADSBURY TOWNSHIP

VALLEY TOWNSHIP

SADSBURY TOWNSHIP

HIGHLAND TOWNSHIP

OLD WILMINGTON RD

STRASBURG RD

SOUTH FORTY LA

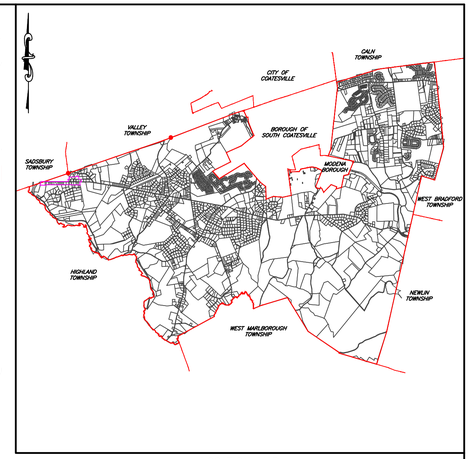
WAGNERS LA

CHELSEY DR

DYERS LA

TIMACULA RD

SAN



LOCATION MAP

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0 200' 400'

SCALE 1"= 200'

REVISION	DATE

STOTTSVILLE AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

August 13, 2019 2:54 PM

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

SOUTH BRANDYWINE MIDDLE SCHOOL AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	7,050	$ 60.00	$ 423,000.00
	SUBTOTAL	L.F.	**7,050**	**$ 60.00**	**$ 423,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	30	$ 3,500.00	$ 105,000.00
	SUBTOTAL	EA.	**30**	**$ 3,500.00**	**$ 105,000.00**
3	Tie in to Existing Manhole	EA.	1	$ 1,500.00	$ 1,500.00
	SUBTOTAL	EA.	**1**	**$ 1,500.00**	**$ 1,500.00**
4	4" C-900 - Force Main	L.F.	1,250	$ 50.00	$ 62,500.00
	SUBTOTAL	L.F.	**1,250**	**$ 50.00**	**$ 62,500.00**
5	Testing	L.S.	1	$ 2,500.00	$ 2,500.00
	SUBTOTAL	L.S.	**1**	**$ 2,500.00**	**$ 2,500.00**
6	Sanitary Lateral Wyes - 8"x4"	EA.	59	$ 150.00	$ 8,850.00
	SUBTOTAL	EA.	**59**	**$ 150.00**	**$ 8,850.00**
7	Sanitary Laterals - 4" SDR-35 PVC	L.F.	1,475	$ 40.00	$ 59,000.00
	SUBTOTAL	L.F.	**1,475**	**$ 40.00**	**$ 59,000.00**
8	Pump Stations				
	Doe Run Road PS	L.S.	1	$ 750,000.00	$ 750,000.00
	SUBTOTAL	L.S.	**1**	**$ 750,000.00**	**$ 750,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 10,000.00	$ 10,000.00
	SUBTOTAL	L.S.	**1**	**$ 10,000.00**	**$ 10,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	SUBTOTAL	L.S.	**1**	**$ 5,000.00**	**$ 5,000.00**

SUBTOTAL	**$**	**1,427,350.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**71,367.50**
5% FIELD SURVEY	**$**	**71,367.50**
5% ENGINEERING DESIGN	**$**	**71,367.50**
5% INSPECTIONS	**$**	**71,367.50**
10% CONTINGENCY	**$**	**142,735.00**
TOTAL	**$**	**1,855,555.00**

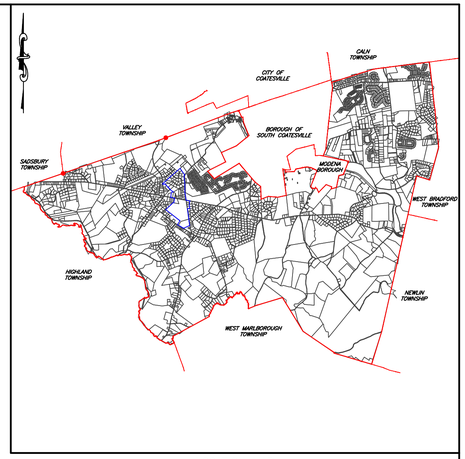
* SBMS accounts for 38 of the 96 EDUs
(8,350 gpd @ 225 gpd/EDU)

***EDUs to be Serviced =**		**96**
Cost per EDU =	**$**	**19,328.70**
PAWC (Bonafide) =	**$**	**960,000.00**
EFT =	**$**	**895,555.00**
Cost per EDU =	**$**	**9,328.70**

CONNECTION TO EXISTING PAWC SANITARY SEWER

CONCEPTUAL SOUTH BRANDYWINE MIDDLE SCHOOL AREA PUMP STATION

CONCEPTUAL SOUTH BRANDYWINE MIDDLE SCHOOL SERVICE AREA



LOCATION MAP

SCALE 1"=6,000'

NOTES:

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0 200' 400'

SCALE 1"= 200'

REVISION	DATE
REVISED TO INCLUDE FUTURE TOWNSHIP BUILDING PROPERTY	10/27/23

SOUTH BRANDYWINE MIDDLE SCHOOL AREA CONCEPTUAL PUBLIC SEWER EXTENSION

FOR

ACT 537 PLAN UPDATE

FOR

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

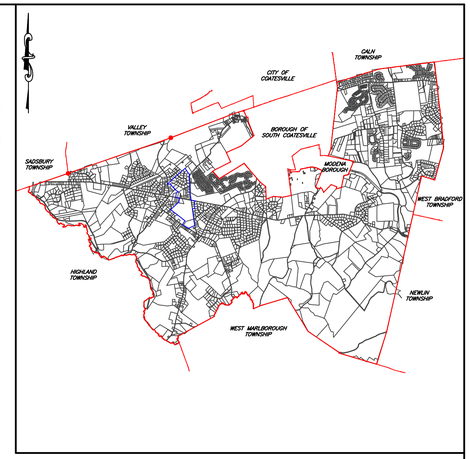
SHEET 1 OF 1

October 27, 2023 3:17 PM

CONNECTION TO EXISTING PAWC SANITARY SEWER

CONCEPTUAL SOUTH BRANDYWINE MIDDLE SCHOOL AREA PUMP STATION

CONCEPTUAL SOUTH BRANDYWINE MIDDLE SCHOOL SERVICE AREA



LOCATION MAP

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0 200' 400'

SCALE 1"= 200'

REVISION	DATE
REVISED TO INCLUDE FUTURE TOWNSHIP BUILDING PROPERTY	10/27/23

SOUTH BRANDYWINE MIDDLE SCHOOL AREA CONCEPTUAL PUBLIC SEWER EXTENSION

FOR

ACT 537 PLAN UPDATE

FOR

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

October 27, 2023 3:47 PM

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

CONSTRUCTION COST ESTIMATE

HEPHZIBAH HILL & HIGH MEADOWS AREA

Act 537 Plan Update
East Fallowfield Township, Chester County, PA

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**SANITARY SEWER**				
1	8" SDR-35 - PVC	L.F.	14,600	$ 60.00	$ 876,000.00
	SUBTOTAL	L.F.	**14,600**	**$ 60.00**	**$ 876,000.00**
2	Sanitary Manhole (w/Frame & Cover)	EA.	60	$ 3,500.00	$ 210,000.00
	SUBTOTAL	EA.	**60**	**$ 3,500.00**	**$ 210,000.00**
3	4" C-900 - Force Main				
	Mink Hollow Road	L.F.	3,650	$ 50.00	$ 182,500.00
	Strasburg Road	L.F.	8,625	$ 50.00	$ 431,250.00
	SUBTOTAL	L.F.	**12,275**	**$ 50.00**	**$ 182,500.00**
4	Forcemain Air Release Valve Manhole	EA.	5	$ 4,000.00	$ 20,000.00
	SUBTOTAL	EA.	**5**	**$ 4,000.00**	**$ 20,000.00**
5	Low Pressure Sewer				
	Hephzibah Hill Area	L.F.	4,850	$ 30.00	$ 145,500.00
	High Meadows Area	L.F.	3,275	$ 30.00	$ 98,250.00
	SUBTOTAL	L.F.	**8,125**	**$ 30.00**	**$ 243,750.00**
6	Low Pressure Sewer Main Flusing Manhole	EA.	6	$ 350.00	$ 2,100.00
	SUBTOTAL	EA.	**6**	$ 350.00	**$ 2,100.00**
7	Low Pressure Sewer Air Release Valve Manhole	EA.	2	$ 3,500.00	$ 7,000.00
	SUBTOTAL	EA.	**2**	$ 3,500.00	**$ 7,000.00**
8	Testing	L.S.	1	$ 10,000.00	$ 10,000.00
	SUBTOTAL	L.S.	**1**	**$ 10,000.00**	**$ 10,000.00**
9	Sanitary Lateral Wyes - 8"x4"	EA.	139	$ 150.00	$ 20,850.00
	SUBTOTAL	EA.	**139**	**$ 150.00**	**$ 20,850.00**
10	Sanitary Laterals - 4" SDR-35 PVC	L.F.	3,475	$ 40.00	$ 139,000.00
	SUBTOTAL	L.F.	**3,475**	**$ 40.00**	**$ 139,000.00**
11	Pump Stations				
	Mink Hollow Road PS	L.S.	1	$ 350,000.00	$ 350,000.00
	Doe Run Church Road PS	L.S.	1	$ 350,000.00	$ 350,000.00
	SUBTOTAL	L.S.	**2**	**$ 350,000.00**	**$ 700,000.00**

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

B	SITE				
1	Maintenance & Protection of Traffic	L.S.	1	$ 25,000.00	$ 25,000.00
	SUBTOTAL	L.S.	**1**	**$ 25,000.00**	**$ 25,000.00**
2	Erosion & Sedimentation Control	L.S.	1	$ 8,000.00	$ 8,000.00
	SUBTOTAL	L.S.	**1**	**$ 8,000.00**	**$ 8,000.00**

SUBTOTAL	**$**	**2,444,200.00**
5% FINANCING, LEGAL, EASEMENT ACQUISITION	**$**	**122,210.00**
5% FIELD SURVEY	**$**	**122,210.00**
5% ENGINEERING DESIGN	**$**	**122,210.00**
5% INSPECTIONS	**$**	**122,210.00**
10% CONTINGENCY	**$**	**244,420.00**
TOTAL	**$**	**3,177,460.00**
EDUs to be Serviced =		**139**
Cost per EDU =	**$**	**22,859.42**
PAWC (Bonafide) =	**$**	**1,390,000.00**
EFT =	**$**	**1,787,460.00**
Cost per EDU =	**$**	**12,859.42**

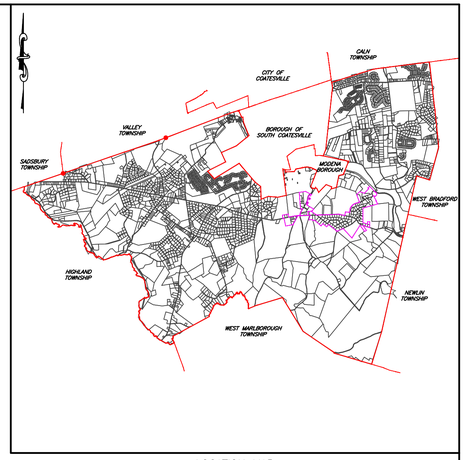
CONCEPTUAL HEPHZIBAH AREA PUMP STATION #1

CONCEPTUAL HEPHZIBAH SERVICE AREA

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL HEPHZIBAH AREA PUMP STATION #2



LOCATION MAP

SCALE 1"=6,000'

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0 300' 600'

SCALE 1"= 300'

REVISION	DATE

HEPHZIBAH AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — MAY 20, 2022

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

May 20, 2022 3:15 PM

CONCEPTUAL HEPHZIBAH AREA PUMP STATION #1

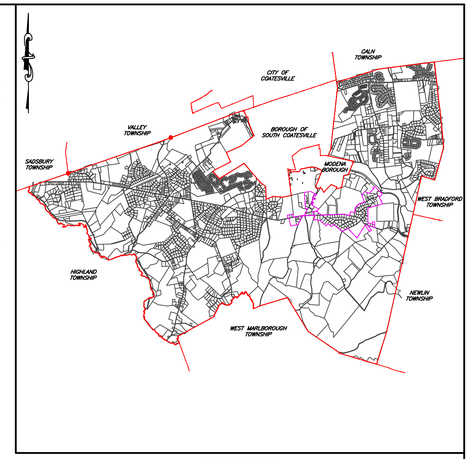
CONCEPTUAL HEPHZIBAH SERVICE AREA

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL AREA OF LOW-PRESSURE SEWER

CONCEPTUAL HEPHZIBAH AREA PUMP STATION #2

LYONS RD
MINK HOLLOW RD
CARLIN DR
SYCAMORE LA
STRASBURG RD
MORNING STAR LA
HIDDEN FOREST DR
HEPHZIBAH HILL RD
ROLAND RD
MCKINLEY LA
LOE RUN CHURCH RD
RAMSEY RD
FROG HOLLOW RD
OLD KENNETT RD



LOCATION MAP
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SCALE 1"= 300'

REVISION	DATE

HEPHZIBAH AREA
CONCEPTUAL PUBLIC SEWER EXTENSION
FOR
ACT 537 PLAN UPDATE
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY

EAST FALLOWFIELD TOWNSHIP — CHESTER COUNTY, PA

AS NOTED — AUGUST 13, 2019

HERBERT E. MacCOMBIE, JR., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P.O. BOX 118
BROOMALL, PA. 19008

SHEET 1 OF 1

August 13, 2019 4:35 PM

Mount Carmel Community On-Lot Cost Estimate (Drip Dispersion Alternative)

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	25	$ 154.00	$ 3,850.00
	Subtotal	**EA.**	**25**	**$ 154.00**	**$ 3,850.00**
2.	Sanitary Laterals - 4" SDR-35 PVC	L.F.	625	$ 42.00	$ 26,250.00
	Subtotal	**L.F.**	**625**	**$ 42.00**	**$ 26,250.00**
3.	8" SDR-35-PVC	L.F.	2550	$ 62.00	$ 158,100.00
	Subtotal	**L.F.**	**2550**	**$ 62.00**	**$ 158,100.00**
4.	Testing	L.S.	1	$ 1,000.00	$ 1,000.00
	Subtotal	**L.S.**	**1**	**$ 1,000.00**	**$ 1,000.00**
5.	Sanitary Manhole (w/ frame & cover)	EA.	9	$ 3,600.00	$ 32,400.00
	Subtotal	**EA.**	**9**	**$ 3,600.00**	**$ 32,400.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	1100	$ 20.00	$ 22,000.00
	Subtotal	**L.F.**	**1100**	**$ 20.00**	**$ 22,000.00**
2.	WWTP	L.S.	1	$ 250,000.00	$ 250,000.00
	Subtotal	**L.S.**	**1**	**$ 250,000.00**	**$ 250,000.00**
3.	Land Acquisition for Disposal Area	L.S.	1	$ 80,000.00	$ 80,000.00
	Subtotal	**L.S.**	**1**	**$ 80,000.00**	**$ 80,000.00**
4.	Tree Removal	L.S.	1	$ 3,000.00	$ 3,000.00
	Subtotal	**L.S.**	**1**	**$ 3,000.00**	**$ 3,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 10,300.00	$ 10,300.00
	Subtotal	**L.S.**	**1**	**$ 10,300.00**	**$ 10,300.00**
2.	Erosion & Sedimentation Control	L.S.	1	$ 5,000.00	$ 5,000.00
	Subtotal	**L.S.**	**1**	**$ 5,000.00**	**$ 5,000.00**

Subtotal	**$**	**591,900.00**
5% Financing, Legal, Easment Acquisition	**$**	**29,595.00**
5% Field Survey	**$**	**29,595.00**
5% Engineering Design	**$**	**29,595.00**
5% Inspections	**$**	**29,595.00**
10% Contingency	**$**	**59,190.00**
Total	**$**	**769,470.00**

EDU's to be Serviced =		**25**
Cost per EDU =	**$**	**30,778.80**

Mount Carmel Community On-Lot Cost Estimate (In Ground Tench)

Item	Description	Unit	Quantity	Unit Cost	Total cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	25	$ 154.00	$ 3,850.00
	Subtotal	**EA.**	**25**	**$ 154.00**	**$ 3,850.00**
2.	Sanitary Laterals - 4" SDR-35 PVC	L.F.	625	$ 42.00	$ 26,250.00
	Subtotal	**L.F.**	**625**	**$ 42.00**	**$ 26,250.00**
3.	8" SDR-35-PVC	L.F.	2550	$ 62.00	$ 158,100.00
	Subtotal	**L.F.**	**2550**	**$ 62.00**	**$ 158,100.00**
4.	Testing	L.S.	1	$ 1,000.00	$ 1,000.00
	Subtotal	**L.S.**	**1**	**$ 1,000.00**	**$ 1,000.00**
5.	Sanitary Manhole (w/ frame & cover)	EA.	9	$ 3,600.00	$ 32,400.00
	Subtotal	**EA.**	**9**	**$ 3,600.00**	**$ 32,400.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	1100	$ 20.00	$ 22,000.00
	Subtotal	**L.F.**	**1100**	**$ 20.00**	**$ 22,000.00**
2.	WWTP	L.S.	1	$ 200,000.00	$ 200,000.00
	Subtotal	**L.S.**	**1**	**$ 200,000.00**	**$ 200,000.00**
3.	Land Acquisition for Disposal Area	L.S.	1	$ 25,000.00	$ 25,000.00
	Subtotal	**L.S.**	**1**	**$ 25,000.00**	**$ 25,000.00**
4.	Tree Removal	L.S.	1	$ 3,000.00	$ 3,000.00
	Subtotal	**L.S.**	**1**	**$ 3,000.00**	**$ 3,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 10,300.00	$ 10,300.00
	Subtotal	**L.S.**	**1**	**$ 10,300.00**	**$ 10,300.00**
2.	Erosion & Sedimentation control	L.S.	1	$ 5,000.00	$ 5,000.00
	Subtotal	**L.S.**	**1**	**$ 5,000.00**	**$ 5,000.00**

Subtotal	**$**	**486,900.00**
5% Financing, Legal, Easement Acquisition	**$**	**24,345.00**
5% Field Survey	**$**	**24,345.00**
5% Engineering Design	**$**	**24,345.00**
5% Inspections	**$**	**24,345.00**
10% Contingency	**$**	**48,690.00**
Total	**$**	**632,970.00**

EDU's to be Serviced =		**25**
Cost per EDU =	**$**	**25,318.80**

Existing Pump Station Location

Proposed Drip Irrigation Field 73,000 sq.ft.

Proposed Trench Area 109,500 sq.ft.

Short DR

Knoll RD

Windy Hill RD

Mount Carmel RD

Strasburg RD

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Tax Parcels
- Service Area Alt2

ALTERNATIVE ANALYSIS FEATURES

- Existing Pump Station

Proposed Disposal Areas

- Drip Irrigation
- In-Ground Trench

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2022.

200 0 200 400

Scale in Feet

Act 537 Sewage Facilities Plan East Fallowfield Township, Chester County, Pennsylvania

ALTERNATIVES ANALYSIS MOUNT CARMEL AREA

South Brandywine Middle School Community On-Lot Cost Estimate (Drip Dispersion Alternative)

Item	Description	Unit	Quantity	Unit Price	Total Cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	59	$ 154.00	$ 9,086.00
	Subtotal	**EA.**	**59**	**$ 154.00**	**$ 9,086.00**
2.	Sanitary Laterals - 4" SDR-35-PVC	L.F.	1475	$ 42.00	$ 61,950.00
	Subtotal	**L.F.**	**1475**	**$ 42.00**	**$ 61,950.00**
3.	8" SDR-35 PVC	L.F.	7050	$ 62.00	$ 437,100.00
	Subtotal	**L.F.**	**7050**	**$ 62.00**	**$ 437,100.00**
4.	Testing	L.S.	1	$ 3,000.00	$ 3,000.00
	Subtotal	**L.S.**	**1**	**$ 3,000.00**	**$ 3,000.00**
5.	Sanitary Manhole (w/ frame & cover)	EA.	30	$ 3,600.00	$ 108,000.00
	Subtotal	**EA.**	**30**	**$ 3,600.00**	**$ 108,000.00**
6.	Tie Into Existing Manhole	EA.	1	$ 1,600.00	$ 1,600.00
	Subtotal	**EA.**	**1**	**$ 1,600.00**	**$ 1,600.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	1500	$ 20.00	$ 30,000.00
	Subtotal	**L.F.**	**1500**	**$ 20.00**	**$ 30,000.00**
2.	WWTP	L.S.	1	$ 900,000.00	$ 900,000.00
	Subtotal	**L.S.**	**1**	**$ 900,000.00**	**$ 900,000.00**
3.	Land Acquisition for Disposal Area	L.S.	1	$ 250,000.00	$ 250,000.00
	Subtotal	**L.S.**	**1**	**$ 250,000.00**	**$ 250,000.00**
4.	Tree Removal	L.S.	1	$ 31,000.00	$ 31,000.00
	Subtotal	**L.S.**	**1**	**$ 31,000.00**	**$ 31,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 15,000.00	$ 15,000.00
	Subtotal	**L.S.**	**1**	**$ 15,000.00**	**$ 15,000.00**
2.	Erosion & Sedimentation Control	L.S.	1	$ 5,400.00	$ 5,400.00
	Subtotal	**L.S.**	**1**	**$ 5,400.00**	**$ 5,400.00**

Subtotal	**$**	**1,852,136.00**
5% Financing, Legal, Easement Acquisition	**$**	**92,606.80**
5% Field Survey	**$**	**92,606.80**
5% Engineering Design	**$**	**92,606.80**
5% Inspections	**$**	**92,606.80**
10% Contingency	**$**	**185,213.60**
Total	**$**	**2,407,776.80**

*SBMS accounts for 38 of the 96 EDU's
8,350 gpd @ 225 gpd/EDU

EDU's to be Serviced = 96
Cost per EDU = $ 25,081.01

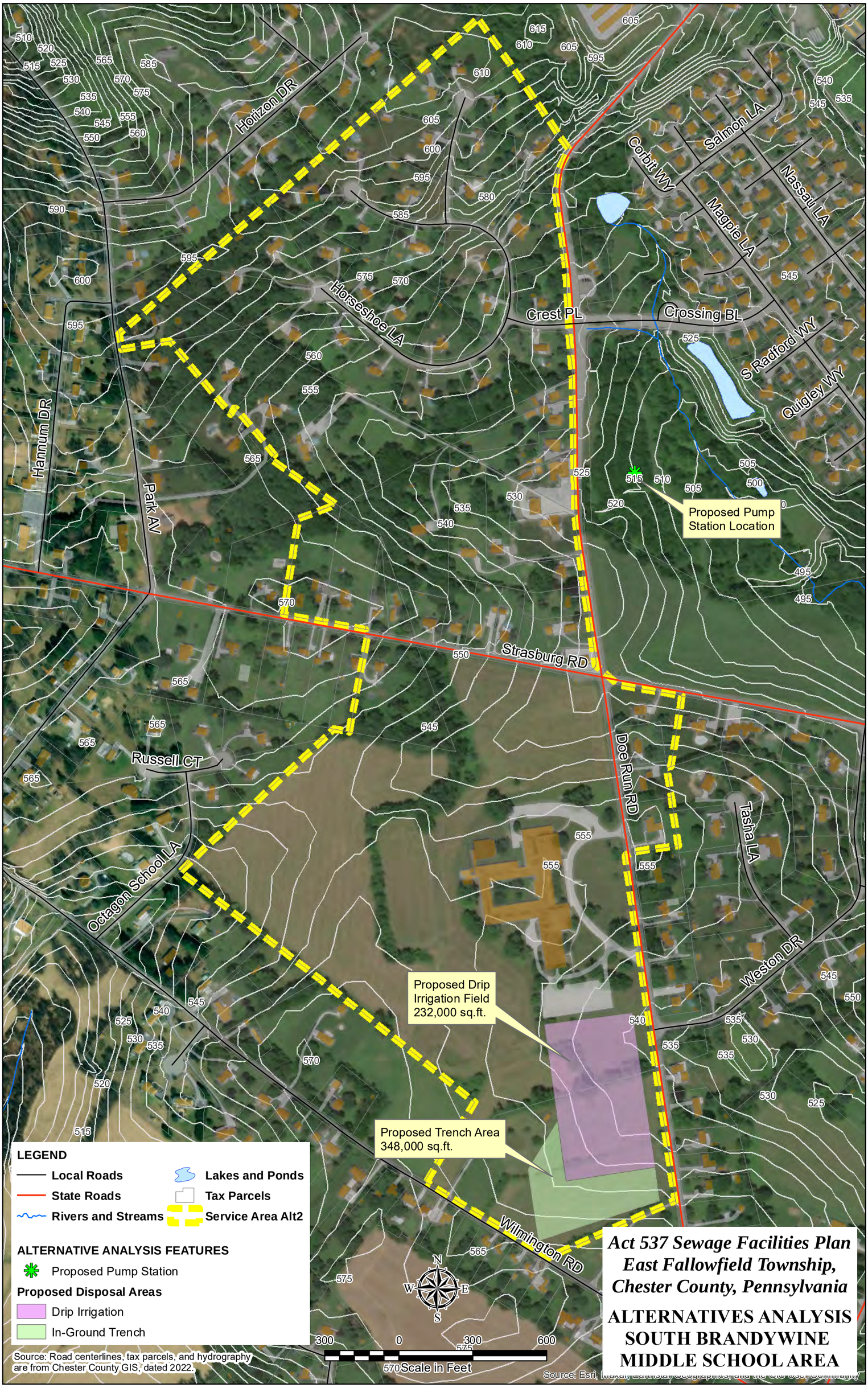
South Brandywine Middle School Community On-Lot Cost Estimate(In Ground Trench)

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	59	$ 154.00	$ 9,086.00
	Subtotal	**EA.**	**59**	**$ 154.00**	**$ 9,086.00**
2.	Sanitary Laterals - 4" SDR-35-PVC	L.F.	1475	$ 42.00	$ 61,950.00
	Subtotal	**L.F.**	**1475**	**$ 42.00**	**$ 61,950.00**
3.	8" SDR-35 PVC	L.F.	7050	$ 62.00	$ 437,100.00
	Subtotal	**L.F.**	**7050**	**$ 62.00**	**$ 437,100.00**
4.	Testing	L.S.	1	$ 3,000.00	$ 3,000.00
	Subtotal	**L.S.**	**1**	**$ 3,000.00**	**$ 3,000.00**
5.	Sanitary Manhole (w/ frame & cover)	EA.	30	$ 3,600.00	$ 108,000.00
	Subtotal	**EA.**	**30**	**$ 3,600.00**	**$ 108,000.00**
6.	Tie Into Existing Manhole	EA.	1	$ 1,600.00	$ 1,600.00
	Subtotal	**EA.**	1	**$ 1,600.00**	**$ 1,600.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	1500	$ 20.00	$ 30,000.00
	Subtotal	**L.F.**	**1500**	**$ 20.00**	**$ 30,000.00**
2.	WWTP	L.S.	1	$ 775,000.00	$ 775,000.00
	Subtotal	**L.S.**	**1**	**$ 775,000.00**	**$ 775,000.00**
3.	Land Acquisition for Dispoal Area	L.S.	1	$ 80,000.00	$ 80,000.00
	Subtotal	**L.S.**	**1**	**$ 80,000.00**	**$ 80,000.00**
4.	Tree Removal	L.S.	1	$ 78,000.00	$ 78,000.00
	Subtotal	**L.S.**	**1**	**$ 78,000.00**	**$ 78,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 15,000.00	$ 15,000.00
	Subtotal	**L.S.**	**1**	**$ 15,000.00**	**$ 15,000.00**
2.	Erosion & Sedimentation Control	L.S.	1	$ 5,400.00	$ 5,400.00
	Subtotal	**L.S.**	**1**	**$ 5,400.00**	**$ 5,400.00**

Subtotal	**$**	**1,604,136.00**
5% Financing, Legal, Easement Acquisition	**$**	**80,206.80**
5% Field Survey	**$**	**80,206.80**
5% Engineering Design	**$**	**80,206.80**
5% Inspections	**$**	**80,206.80**
10% Contingency	**$**	**160,413.60**
Total	**$**	**2,085,376.80**

* SBMS accounts for 38 of the 96 EDU's
8,350 gpd @ 225 gpd/EDU

EDU's to be Serviced =		**96**
Cost per EDU =	**$**	**21,722.68**


Horizon DR
Corbit WY
Salmon LA
Nassau LA
Magpie LA
Crest PL
Crossing BL
Horseshoe LA
S Radford WY
Quigley WY
Hannum DR
Park AV
Proposed Pump Station Location
Strasburg RD
Russell CT
Doe Run RD
Tasha LA
Octagon School LA
Weston DR
Proposed Drip Irrigation Field 232,000 sq.ft.
Proposed Trench Area 348,000 sq.ft.
Wilmington RD
LEGEND
Local Roads
State Roads
Rivers and Streams
Lakes and Ponds
Tax Parcels
Service Area Alt2
ALTERNATIVE ANALYSIS FEATURES
Proposed Pump Station
Proposed Disposal Areas
Drip Irrigation
In-Ground Trench
Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2022.
300 0 300 600
Scale in Feet
Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania
ALTERNATIVES ANALYSIS
SOUTH BRANDYWINE
MIDDLE SCHOOL AREA
Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

Stottsville Community On-Lot Cost Estimate (Drip Dispersion Alternative)

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	32	$ 154.00	$ 4,928.00
	Subtotal	**EA.**	**32**	**$ 154.00**	**$ 4,928.00**
2.	Sanitary Laterals - 4" SDR-35 PVC	L.F.	800	$ 42.00	$ 33,600.00
	Subtotal	**L.F.**	**800**	**$ 42.00**	**$ 33,600.00**
3.	8" SDR-35-PVC	L.F.	4110	$ 62.00	$ 254,820.00
	Subtotal	**L.F.**	**4110**	**$ 62.00**	**$ 254,820.00**
4.	Testing	L.S.	1	$ 1,540.00	$ 1,540.00
	Subtotal	**L.S.**	**1**	**$ 1,540.00**	**$ 1,540.00**
5.	Sanitary Manhole (w/ frame and cover)	EA.	18	$ 3,600.00	$ 64,800.00
	Subtotal	**EA.**	**18**	**$ 3,600.00**	**$ 64,800.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	700	$ 20.00	$ 14,000.00
	Subtotal	**L.F.**	**700**	**$ 20.00**	**$ 14,000.00**
2.	WWTP	L.S.	1	$ 385,000.00	$ 385,000.00
	Subtotal	**L.S.**	**1**	**$ 385,000.00**	**$ 385,000.00**
3.	Land Acquisition for Disposal Area	L.S.	1	$ 100,000.00	$ 100,000.00
	Subtotal	**L.S.**	**1**	**$ 100,000.00**	**$ 100,000.00**
4.	Tree Removal	L.S.	1	$ 24,000.00	$ 24,000.00
	Subtotal	**L.S.**	**1**	**$ 24,000.00**	**$ 24,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 19,200.00	$ 19,200.00
	Subtotal	**L.S.**	**1**	**$ 19,200.00**	**$ 19,200.00**
2.	Erosion & Sedimentation Control	**L.S.**	1	$ 6,400.00	$ 6,400.00
	Subtotal	**L.S.**	**1**	**$ 6,400.00**	**$ 6,400.00**

Subtotal	**$**	**908,288.00**
5% Financing, Legal, Easement Acquisition	**$**	**45,414.40**
5% Field Survey	**$**	**45,414.40**
5% Engineering Design	**$**	**45,414.40**
5% Inspections	**$**	**45,414.40**
10% Contingency	**$**	**90,828.80**
Total	**$**	**1,180,774.40**

EDU's to be Serviced =		**32**
Cost per EDU =	**$**	**36,899.20**

Stottsville Community On-Lot Cost Estimate (In Ground Trench)

Item	Description	Unit	Quantity	Unit Cost	Total Cost
A	**Sanitary Sewer (Collection)**				
1.	Sanitary Lateral Wyes - 8" x 4"	EA.	32	$ 154.00	$ 4,928.00
	Subtotal	**EA.**	**32**	**$ 154.00**	**$ 4,928.00**
2.	Sanitary Laterals - 4" SDR 35 PVC	L.F.	800	$ 42.00	$ 33,600.00
	Subtotal	**L.F.**	**800**	**$ 42.00**	**$ 33,600.00**
3.	8" SDR-35-PVC	L.F.	4110	$ 62.00	$ 254,820.00
	Subtotal	**L.F.**	**4110**	**$ 62.00**	**$ 254,820.00**
4.	Testing	L.S.	1	$ 1,540.00	$ 1,540.00
	Subtotal	**L.S.**	**1**	**$ 1,540.00**	**$ 1,540.00**
5.	Sanitary Manhole (w/ frame and cover)	EA.	18	$ 3,600.00	$ 64,800.00
	Subtotal	**EA.**	**18**	**$ 3,600.00**	**$ 64,800.00**
B	**Pump Station / Force Main (Conveyance) & WWTP (Treatment)**				
1.	1.5" Force Main PVC	L.F.	700	$ 20.00	$ 14,000.00
	Subtotal	**L.F.**	**700**	**$ 20.00**	**$ 14,000.00**
2.	WWTP	L.S.	1	$ 300,000.00	$ 300,000.00
	Subtotal	**L.S.**	**1**	**$ 300,000.00**	**$ 300,000.00**
3.	Land Acquisition for Disposal Area	L.S.	1	$ 33,000.00	$ 33,000.00
	Subtotal	**L.S.**	**1**	**$ 33,000.00**	**$ 33,000.00**
4.	Tree Removal	L.S.	1	$ 33,000.00	$ 33,000.00
	Subtotal	**L.S.**	**1**	**$ 33,000.00**	**$ 33,000.00**
C	**Site**				
1.	Maintenance & Protection of Traffic	L.S.	1	$ 19,200.00	$ 19,200.00
	Subtotal	**L.S.**	**1**	**$ 19,200.00**	**$ 19,200.00**
2.	Erosion & Sedimentation Control	L.S.	1	$ 6,400.00	$ 6,400.00
	Subtotal	**L.S.**	**1**	**$ 6,400.00**	**$ 6,400.00**

Subtotal	**$**	**765,288.00**
5% Financing, Legal, Easement Acquisition	**$**	**38,264.40**
5% Field Survey	**$**	**38,264.40**
5% Engineering Design	**$**	**38,264.40**
5% Inspections	**$**	**38,264.40**
10% Contingency	**$**	**76,528.80**
Total	**$**	**994,874.40**

EDU's to be Serviced =		**32**
Cost per EDU =	**$**	**31,089.83**

Valley Township

Sadsbury Township

East Fallowfield Township

Old Wilmington RD

Strasburg RD

South Forty LA

Wagner LA

Lyons LA

Chelsey DR

Timaeula RD

Existing Pump Station Location

Proposed Drip Irrigation Field 93,000 sq.ft.

Proposed Trench Area 139,500 sq.ft.

LEGEND

- Local Roads
- State Roads
- Rivers and Streams
- Lakes and Ponds
- Tax Parcels
- Service Area Alt.

ALTERNATIVE ANALYSIS FEATURES

- Existing Pump Station

Proposed Disposal Areas

- Drip Irrigation
- In-Ground Trench

Source: Road centerlines, tax parcels, and hydrography are from Chester County GIS, dated 2022.

N W E S

300 0 300 600

Scale in Feet

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

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

ALTERNATIVES ANALYSIS
STOTSVILLE AREA

APPENDIX I

MODEL
HOLDING TANK ORDINANCE

BE IT ENACTED AND ORDAINED by the _____ (Supervisors) (Council members) _____ of _____ (Township) (Borough) _____ of _____ County, Pennsylvania, and it is hereby enacted and ordained as follows:

Section 1. Purposes. The purpose of this Ordinance is to establish procedures for the use and maintenance of existing and new holding tanks designed to receive and retain sewage whether from residential or commercial uses. It is hereby declared that the enactment of this Ordinance is necessary for the protection, benefit and preservation of the health, safety and welfare of the inhabitants of this municipality.

Section 2. Definitions. Unless the context specifically and clearly indicates otherwise, the meaning of terms used in this Ordinance shall be as follows:

A. "Agency" shall mean _____ (Supervisors) (Council members) _____ of _____ Township, _____ County, Pennsylvania.

B. "Holding Tank" shall mean a watertight receptacle, whether permanent or temporary, which receives and retains sewage conveyed by a water carrying system and is designed and constructed to facilitate the ultimate disposal of the sewage at another site.

C. "Improved Property" shall mean any property within the Township upon which there is erected a structure intended for continuous or periodic habitation, occupancy or use by human beings or animals and from which structure sewage shall or may be discharged.

D. "Owner" shall mean any person vested with ownership, legal or equitable, sole or partial, of any property located in the Township.

E. "Person" shall mean any individual, partnership, company, association, corporation or other group or entity.

F. "Sewage" shall mean any substance that contains any of the waste products or excrement or other discharge from the bodies of human beings or animals and any noxious or deleterious substance being harmful or inimical to the public health, or to animal or aquatic life or to the use of water for domestic water supply or for recreation or any substance which constitutes pollution under the Clean Stream Law (35 PS §§ 691.1-691.1001).

G. "Municipality" shall mean _____ (Township) (Borough) _____, _____` County, Pennsylvania.

Section 3. Right and privileges granted. That the Agency is hereby authorized and empowered to undertake within the Township the control and methods of holding tank use, sewage disposal and sewage collection and transportation thereof.

Section 4. Rules and Regulations. That the Agency is hereby authorized and empowered to adopt such rules and regulations concerning sewage which it may deem necessary from time to time to effect the purposes herein.

Section 5. Rules and Regulations to be in Conformity with Applicable Law. All such rules and regulations adopted by the Agency shall be in conformity with the provisions herein, all other ordinances of the Township, and all applicable laws, and applicable rules and regulations of administrative agencies of the Commonwealth of Pennsylvania.

Section 6. Rates and Charges. The Agency shall have the right and power to fix, alter, charge and collect rates, assessments, and other charges in the area served by its facilities at reasonable and uniform rates as authorized by applicable law.

Section 7. Exclusiveness of Rights and Privileges.

A. The collection and transportation of all sewage from any improved property utilizing a holding tank shall be done solely by or under the direction and control of the Agency, and the disposal thereof shall be made only at such site or sites as may be approved by the Department of Environmental Protection of the Commonwealth of Pennsylvania.

B. The Agency will receive, review and retain pumping receipts from permitted holding tanks.

C. The Agency will complete and retain annual inspection reports for each permitted holding tank.

Section 8. Duties of Improved Property Owner. The owner of an improved property that utilizes a holding tank shall:

A. Maintain the holding tank in conformance with this or any ordinance of this Township, the provisions of any applicable law, and the rules and regulations of the Agency and any administrative agency of the Commonwealth of Pennsylvania.

B. Permit only the Agency or its agent to inspect holding tanks on an annual basis.

C. Permit only the Agency or its agent to collect, transport, and dispose of the contents therein.

Section 9. Violations. Any person who violates any provisions of Section 8, shall, upon conviction thereof by summary proceedings, be sentenced to pay a fine of not less than Five-hundred ($500.00) dollars and not more

than Five Thousand ($5,000.00) dollars and no cents, and in default of said fine and costs of undergo imprisonment in the county prison for a period not in excess of 90 days.

Section 10. Abatement of Nuisances. In addition to any other remedies provided in this ordinance, any violation of Section 8 above shall constitute a nuisance and shall be abated by the municipality or the Agency by either seeking mitigation of the nuisance or appropriate equitable or legal relief from a court of competent jurisdiction.

Section 11. Repeal. All ordinances or resolutions or parts of ordinances or resolutions, insofar as they are inconsistent herewith, be and the same are hereby repealed.

Section 12. Severability. If any sentence, clause, section or part of this ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections, or parts of this ordinance. It is hereby declared as the intent of the (appropriate formal title of the legislative body of the municipality) (Board of Supervisors of the Township) that this ordinance would have been adopted has such constitutional, illegal or invalid sentence, clause, section or part thereof not been included therein.

Section 13. Effective Date. This ordinance shall become effective five (5) days after its adoption.

ENACTED AND ORDAINED into an ordinance this _____ day of _____ A.D., 20____, by the _____ (Council members) _____ (Supervisors) _____ of the _____ (Borough) (Township) _____ of _____ County in Lawful Session duly assembled.

(Council members) (Supervisors) OF
THE (Township) (Borough) OF

_____

_____

_____

CERTIFICATION OF ADOPTION

I hereby certify the foregoing to be an exact copy of an ordinance adopted by the (Supervisors) (Council members) of the _____ (Township) (Borough) , _____ County, Pennsylvania, at a regular meeting of the Board on _____.

_____ Secretary

APPENDIX J

EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY, PENNSYLVANIA

ORDINANCE NO. ____ OF 2022
ON-LOT SEWAGE MANAGEMENT PROGRAM ORDINANCE

AN ORDINANCE ESTABLISHING A SEWAGE MANAGEMENT PROGRAM FOR INDIVIDUAL AND COMMUNITY ON-LOT SEWAGE DISPOSAL SYSTEMS WITHIN EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA

Section I. Short Title: Introduction; Purpose

A. This ordinance shall be known any may be cited as **"An On-Lot Sewage Management Program Ordinance for East Fallowfield Township."**

B. In accordance with municipal codes, the Clean Streams Law (Act of June 27, 1937, P.L. 1987, No. 394 as amended, 35 P.S. §§691.1 to 691.1001), and the Pennsylvania Sewage Facilities Act (Act of January 24, 1966, P.L. 1535 as amended, 35 P.S. §750.1 *et seq.* known as Act 537), it is the power and the duty of Township to provide for adequate sewage treatment facilities and for the protection of the public health by preventing the discharge of untreated or inadequately treated sewage. The Act 537 Official Sewage Facilities Plan Update for East Fallowfield Township indicates that it is necessary to formulate and implement a sewage management program to effectively prevent and abate water pollution and hazards to the public health caused by improper treatment and disposal of sewage.

C. The purpose of this ordinance is to provide for the regulation, inspection, maintenance and rehabilitation of on-lot sewage disposal systems; to educate owners and operators of individual and community on-lot sewage disposal systems within the Township with regard to proper means and frequency of operation and maintenance of such facilities; to further permit intervention in situations which may constitute a public nuisance or hazard to the public health; and to establish penalties and appeal procedures necessary for the proper administration of a sewage management program.

Section II. Definitions

A. "Authorized Agent" shall mean a sewage enforcement officer, employee of the Township, professional engineer, plumbing inspector, or any other qualified or licensed person with demonstrated knowledge and experience regarding Individual and Community On-Lot Sewer System design, operation, and maintenance who is authorized to function within specified limits as an agent of East Fallowfield Township to administer or enforce the provisions of this ordinance.

B. "Board" shall mean the Board of Supervisors, of East Fallowfield Township, Chester County, Pennsylvania.

C. "Community Sewage System" shall mean any system, whether publicly or privately owned, for the collection of sewage from two or more lots, and the treatment and/or disposal of the sewage on one or more lots or at any other site.

D. "Department" shall mean the Department of Environmental Protection of the Commonwealth of Pennsylvania (DEP).

E. "Individual Sewage System" shall mean a system of piping, tanks or other facilities serving a single lot and collecting and disposing of sewage in whole or in part into the soil or into any waters of this Commonwealth.

F. "Malfunction" shall mean a condition which occurs when an on-lot sewage disposal system discharges sewage onto the surface of the ground, into ground waters of this Commonwealth, into surface waters of this Commonwealth, backs up into a building connected to the system or in any manner causes a nuisance or hazard to the public health or pollution of ground or surface water or contamination of public or private drinking water wells. Systems shall be considered to be malfunctioning if any condition noted above occurs for any length of time during any period of the year.

G. "Official Sewage Facilities Plan" shall mean a comprehensive plan for the provision of adequate sewage disposal systems, adopted by the Township Board of Supervisors, and approved by the Pennsylvania Department of Environmental Protection, pursuant to the Pennsylvania Sewage Facilities Act.

H. "On-lot Sewage Disposal System" shall mean any system for disposal of domestic sewage involving pretreatment and subsequent disposal of the clarified sewage into a subsurface soil absorption area or retaining tank; this term includes both individual sewage systems and community sewage systems.

I. "Person" shall mean any individual, association, public or private corporation for profit or not for profit, partnership, firm, trust, estate, department, board, bureau of agency of the Commonwealth, political subdivision, municipality, district, authority, or any other legal entity whatsoever which is recognized by law as the subject of rights and duties. Whenever used in any clause prescribing and imposing a penalty or imposing a fine or imprisonment, the term person shall include the members of an association, partnership or firm and the officers of any local agency or municipal, public or private corporation for profit or not for profit.

J. "Rehabilitation" shall mean work done to modify, alter, repair, enlarge or replace an existing on-lot sewage disposal system.

K. "Sewage" shall mean any substance that contains any of the waste products or excrement or other discharge from the bodies of human beings or animals and any noxious or deleterious substances being harmful or inimical to the public health, or to animal or aquatic life, or to the use of water for domestic water supply or for recreation or which constitutes pollution under the Act of June 22, 1937 (P.L. 1987, No. 394), known as "The Clean Streams Law," as amended.

L. "Sewage Enforcement Office (SEO)" shall mean a person certified by DEP who is employed by the Township. Such person is authorized to conduct investigations and inspections, review permit applications, issue or deny permits and do all other activities as may be provided for such person in the Sewage Facilities Act, the rules and regulations promulgated thereunder and this or any other ordinance adopted by the Township.

M. "Sewage Management District" shall mean any area or areas of the Township designated in the Official Sewage Facilities Plan adopted by the Township Board of Supervisors as an area for which a Sewage Management program is to be implemented.

N. "Sewage Management Program" shall mean a comprehensive set of legal and administrative requirements encompassing the requirements of this ordinance, the Sewage Facilities Act, the Clean Streams Law, the regulations promulgated thereunder, and such other requirements adopted by the Township to effectively enforce and administer this ordinance.

O. "Subdivision" shall mean the division or redivision of a lot, tract, or other parcel of land into two or more lots, tracts, parcels, or other divisions of land, including changes in existing lot lines. The enumerating of lots shall include as a lot that portion of the original tract or tracts remaining after other lots have been subdivided therefrom.

P. "Township" shall mean the township of East Fallowfield, Chester County, Pennsylvania.

Q. For the purposes of this ordinance, any term which is not defined herein shall have that meaning attributed to it under the Sewage Facilities Act and Regulations promulgated thereto.

Section III. Applicability

A. From the effective date of this ordinance, its provisions shall apply in any portion of the Township identified in the Official Sewage Facilities Plan as a sewage management district. Within such as area or areas, the provisions of this ordinance shall apply to all persons owning any property serviced by an on-lot sewage disposal system and to all persons installing or rehabilitating on-lot sewage disposal systems.

Section IV. Permit Requirements

A. No person shall install, construct or request bid proposals for construction, or alter an individual sewage system or community sewage system or construct or request bid proposals for construction or install or occupy any building or structure for which an individual sewage system or community sewage system is to be installed without first obtaining a permit from the sewage enforcement officer which permit shall indicate that the site and the plans and specifications of such system are in compliance with the provisions of the Clean Streams Law (35 P.S. §§691.1-691.1001) and the Pennsylvania Sewage Facilities Act (35 P.S. 750.1 *et seq.*) and the regulations adopted pursuant to those Acts.

B. No system or structure designed to provide individual or community sewage disposal shall be covered from view until approval to cover the same has been given by a sewage enforcement officer. If 72 hours have elapsed, excepting Sundays and Holidays, since the sewage enforcement office issuing the permit received notification of completion of construction, the applicant may cover said system or structure unless permission has been specifically refused by the sewage enforcement officer.

C. Applicants for sewage permits may be required to notify the sewage enforcement officer of the schedule for construction of the permitted on-lot sewage disposal system so that inspection(s) in addition to the final inspection required by the Sewage Facilities Act may be scheduled and performed by a sewage enforcement officer.

D. No building or occupancy permit shall be issued for a new building which will contain sewage generating facilities until a valid sewage permit has been obtained from a sewage enforcement officer.

E. No building or occupancy permit shall be issued and no work shall begin on any alteration or conversion of any existing structure, if said alteration or conversion will result in the increase or potential increase in sewage flows from the structure, until either the structure's owner receives a permit for alteration or replacement of the existing sewage disposal system or until the structure's owner and the appropriate officials of the Township receive written notification from a sewage enforcement officer that such a permit will not be required. The sewage enforcement officer shall determine whether the proposed alteration or conversion of the structure will result in increased sewage flows.

F. Sewage permits may be issued only by a sewage enforcement officer employed by the Chester County Health Department.

Section V. Inspections

A. Any on-lot sewage disposal system may be inspected by an authorized agent at any reasonable time as of the effective date of this ordinance.

B. Such inspection may include a physical tour of the property, the taking of samples from surface water, wells, other groundwater sources, the sampling of the contents of the sewage disposal system itself and/or the introduction of a traceable substance into the interior plumbing of the structure served to ascertain the path and ultimate destination of wastewater generated in the structure.

C. An authorized agent shall have the right to enter upon land for the purposes of inspections described in this section.

D. An initial inspection shall be conducted by an authorized agent within one year of the effective date of this ordinance for the purpose of determining the type and functional status of each sewage disposal system in the sewage management district. A written report shall be furnished to the owner of each property inspected and a copy of said report shall be maintained in the Township records.

E. A schedule of routine inspections may be established to assure the proper functioning of the sewage systems in the sewage management district.

F. An authorized agent shall inspect systems known to be, or alleged to be, malfunctioning. Should said inspections reveal that the system is indeed malfunctioning, the authorized agent shall order action to be taken to correct the malfunction. If total correction cannot be done in accordance with the regulations of DEP including, but not limited to, those outlined in Chapter 73 of Title 25 of Pennsylvania Code or, is not technically or financially feasible in the opinion of the authorized agent and a representative of DEP; then action by the property owner to mitigate the malfunction shall be required.

G. If there arises a geographic area where numerous on-lot sewage disposal systems are malfunctioning, a resolution of these area wide problems may necessitate detailed planning and a revision to the portion of the Sewage Facilities Plan pertaining to areas affected by such malfunctions. If a DEP authorized Official Sewage Facilities Plan Revision has been undertaken, repair or replacement of individual malfunctioning sewage disposal systems within the area affected by the revision may be delayed, pending the outcome of the plan revision process. However, immediate corrective action will be compelled whenever a malfunction, as determined by Township officials and/or DEP, represents a serious public health or environmental threat.

Section VI. Operation

A. Only normal domestic wastes shall be discharged into any on-lot sewage disposal system. The following shall not be discharged into the system.

1. Industrial waste.

2. Automobile oil and other non-domestic oil.

3. Toxic or hazardous substances or chemicals, including but not limited to, pesticides, disinfectants (excluding household cleaners), acids, paints, paint thinners, herbicides, gasoline, and other solvents.

4. Clean surface or groundwater, including water from roof or cellar drains, springs, basement sump pumps and french drains.

Section VII. Maintenance

A. Each person owning a building served by an on-lot sewage disposal system which contains a septic tank shall have the septic tank pumped by a qualified pumper/hauler within six months of the effective date of this ordinance. Thereafter that person shall have the tank pumped at least once every three years or whenever an inspection reveals that the septic tank is filled with solids or with scum in excess of 1/3 of the liquid depth of the tank. Receipts from the pumper/hauler shall be submitted to the Township within the prescribed six month and three-year pumping periods.

B. The required pumping frequency may be increased at the discretion of an authorized agent if the septic tank is undersized, if solids buildup in the tank is above average, if the hydraulic load on the system increases significantly above average, if a garbage grinder is used in the building, if the system malfunctions or for other good cause shown. If any person can prove that such person's septic tank had been pumped within three years of the six-month anniversary of the effective date of this ordinance, then that person's initial required pumping may be delayed to conform to the general three-year frequency requirement except where an inspection reveals a need for more frequent pumping frequencies.

C. Any person owning a property served by a septic tank shall submit, with each required pumping receipt, a written statement, from the pumper/hauler or from any other qualified individual acceptable to the Township, that the baffles in the septic tank have been inspected and found to be in good working order. Any person whose septic tank baffles are determined to require repair or replacement shall first contact a sewage enforcement officer for approval of the necessary repair.

D. Any person owning or building served by an on-lot sewage disposal system which contains an aerobic treatment tank shall follow the operation and maintenance recommendations of the equipment manufacturer. A copy of the manufacturer's recommendations and a copy of the service agreement shall be submitted to the Township within six months of the effective date of this ordinance. Thereafter, service receipts shall be submitted to the Township at the intervals specified by the manufacturer's recommendations. In no case may the service or pumping intervals for aerobic treatment tanks exceed those required for septic tanks.

E. Additional maintenance activity may be required as needed including, but not necessarily limited to, cleaning and unclogging of piping, servicing and the repair of mechanical equipment, leveling of distribution boxes, tanks and lines, removal of obstructing roots or trees, the diversion of surface water away from the disposal area, etc.

Section VIII. System Rehabilitation

A. No person shall operate or maintain an on-lot sewage disposal system in such a manner that it malfunctions. All liquid wastes, including kitchen and laundry wastes and water softener backwash, shall be discharged to a treatment tank. No sewage system shall discharge untreated or partially treated sewage to the surface of the ground or into the waters of the Commonwealth unless a permit for such discharge has been obtained from DEP.

B. A written notice of violation shall be issued to any person who is the owner of any property which is found to be served by a malfunctioning on-lot sewage disposal system or which is discharging sewage without a permit.

C. Within seven (7) days of notification by the Township that a malfunction has been identified, the property owner shall make application to the sewage enforcement officer for a permit to repair or replace the malfunctioning system. Within 30 days of initial notification by the Township, construction of the permitted repair or replacement shall commence. Within 60 days of the original notification by the Township, the construction shall be completed unless seasonal or unique conditions mandate a longer period, in which case the Township shall set an extended completion date.

D. A sewage enforcement officer shall have the authority to require the repair of any malfunction by the following methods: cleaning, repair or replacement of components of the existing system, adding capacity or otherwise altering or replacing the system's treatment tank, expanding the existing disposal areas, replacing the existing disposal area, replacing a gravity distribution system with a pressurized system, replacing the system with a holding tank, or any other alternative appropriate for the specific site.

E. In lieu of, or in combination with, the remedies described in Subsection D above, a sewage enforcement officer may require the installation of water conservation equipment and the institution of water conservation practices in structures served. Water using devices and appliances in the structure may be required to be retrofitted with water saving appurtenances or they may be required to be replaced by water conserving devices.

F. In the event that the rehabilitation measures in Subsections A through E are not feasible or effective, the owner may be required to apply for a permit to install an individual spray irrigation treatment system or to DEP for a single residence treatment and discharge system. Upon receipt of said permit the owner shall complete construction of the system within 30 days.

G. Should none of the remedies described in this Section be totally effective in eliminating the malfunction of an existing on-lot sewage disposal system, the property owner is not absolved of responsibility for that malfunction. The Township may require whatever action is necessary to lessen or mitigate the malfunction to the extent necessary.

Section IX. Liens

The Township, upon written notice from a sewage enforcement officer that an imminent health hazard exists due to failure of property owner to maintain, repair, or replace an on-lot sewage disposal system as provided under the terms of this ordinance, shall have the authority to perform, or contract to have performed, the work required by the sewage enforcement officer. The owner shall be charged for the work performed and, if necessary, a lien shall be entered therefor in accordance with law.

Section X. Disposal of Septage

A. All septage originating within the sewage management district shall be disposed of in accordance with the requirements of the Solid Waste Management Act (Act 97 of 1980, 35 P.S. §§6018.101 *et seq.*) and all other applicable laws and at sites or facilities approved by DEP. Approved sites or facilities shall include the following: septage treatment facilities, wastewater treatment plants, composting sites, and approved farmlands.

B. Pumper/haulers of septage operating within the sewage management district shall operate in a manner consistent with the provisions of the Pennsylvania Solid Waste Management Act (Act 97 of 1980, 35 P.S. §§6018.101–6018.1003) and all other applicable laws.

Section XI. Administration

A. The Township shall fully utilize those powers it possesses through enabling statutes and ordinances to effect the purposes of this ordinance.

B. The Township shall employ qualified individuals to carry out the provisions of this ordinance. Those employees shall include a sewage enforcement officer and may include an administrator and such other persons as may be necessary. The Township may also contract with private qualified persons or firms as necessary to carry out the provisions of this ordinance.

C. All permits, records, reports, files, and other written materials relating to the installation, operation and maintenance and malfunction of on-lot sewage disposal systems in the sewage management district shall become the property of, and be maintained by, the Township. Existing and future records shall be available for public inspection during regular business hours at the official office of the Township. All records pertaining to sewage permits, building permits, occupancy permits, and all other aspects of the sewage management program shall be made available, upon request, for inspection by representatives of DEP.

D. The Township shall establish all administrative procedures necessary to properly carry out the provisions of this ordinance.

E. The [township board/borough council] may establish a fee schedule, and authorize the collection of fees, to cover the cost to Township of administering this program.

Section XII. Appeals

A. Appeals from final decisions of the Township or any of its authorized agents under this ordinance shall be made to the [borough council/board of supervisors] in writing within 30 days from the date of written notification of the decision in question.

B. The appellant shall be entitled to a hearing before the [borough council/board of supervisors] at its next regularly scheduled meeting, if a written appeal is received at least 14 days prior to that meeting. If the appeal is received within 14 days of the next regularly scheduled meeting. If the appeal is received within 14 days of the next regularly scheduled meeting, the appeal shall be heard at the next regularly scheduled meeting. The municipality shall thereafter affirm, modify, or reverse the aforesaid decision. The hearing may be postponed for a good cause shown by the appellant or the Township. Additional evidence may be introduced at the hearing provided that it is submitted with the written notice of appeal.

C. A decision shall be rendered in writing within 30 days of the date of the hearing.

Section XIII. Penalties

Any person failing to comply with any provision of this ordinance shall be subject to a fine of not less than Five Hundred dollars ($500) and costs, and not more than Five Thousand dollars ($5,000) and costs, or in default thereof shall be confined in the county jail for a period of not more than 90 days. Each day of noncompliance shall a constitute a separate offense.

Section XIV. Repealer

All ordinances or parts of ordinances inconsistent with the provisions of this ordinance are hereby repealed to the extent of such inconsistency.

Section XV. Severability

If any section or clause of this ordinance shall be adjudged invalid, such adjudication shall not affect the validity of the remaining provisions which shall be deemed severable therefrom.

The above Ordinance is hereby Duly **ENACTED AND ORDAINED** this _____ day of _____, 2022 by the Board of Supervisors of East Fallowfield Township, Chester County, Pennsylvania, in lawful sessions duly assembled.

ATTEST:

EAST FALLOWFIELD TOWNSHIP
BOARD OF SUPERVISORS

_____
Township Manager

_____
Wilson T. Lambert, Jr., Chairman

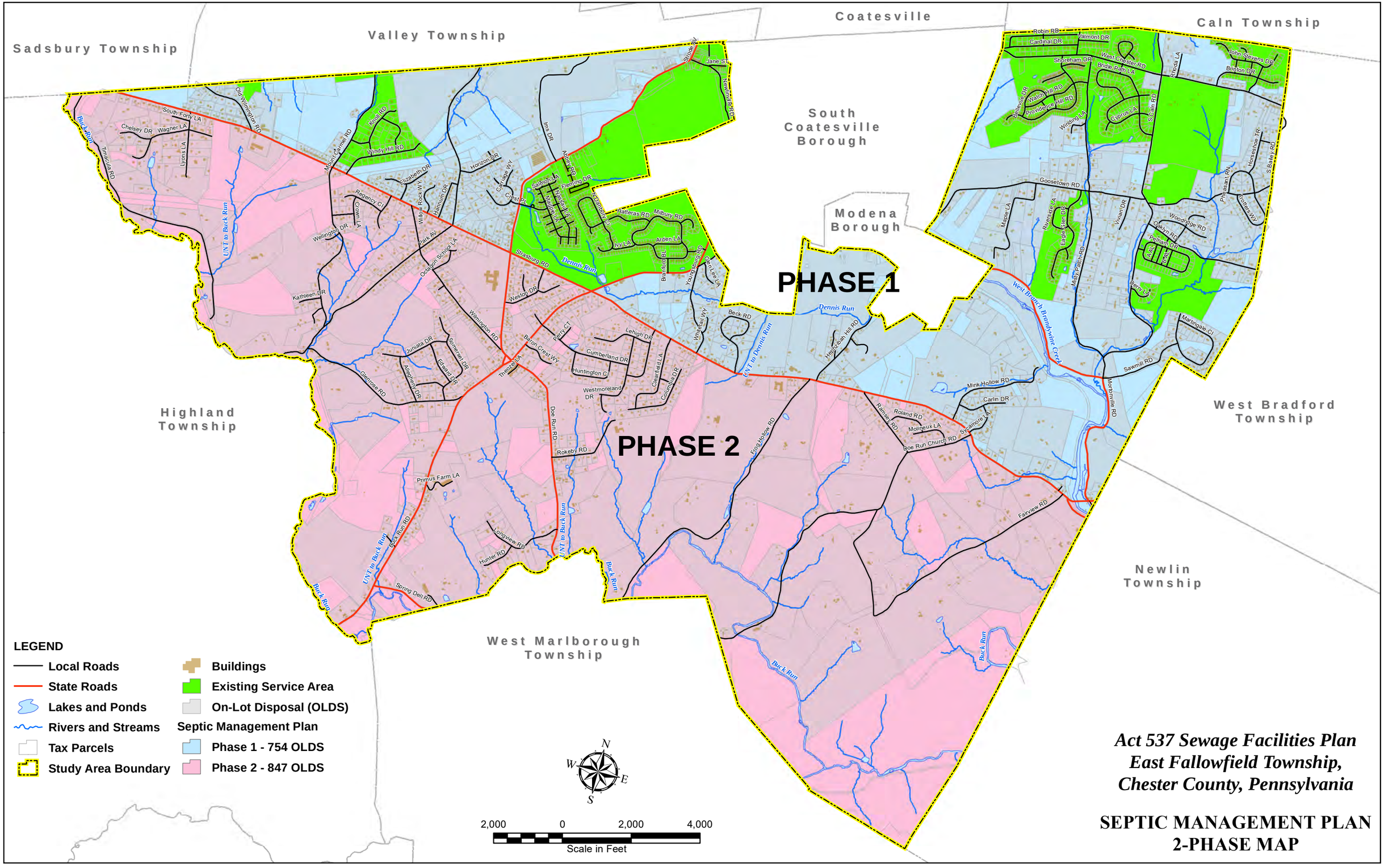
_____
Joe Heffern, Vice Chairman

_____
Katja DiRado, Member

_____
John Nielsen, Member

_____
Al Wright, Member

APPENDIX K



Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

SEPTIC MANAGEMENT PLAN
2-PHASE MAP

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

PHASE 1

PHASE 2

PHASE 3

Dennis Run

UNT to Back Run

UNT to Dennis Run

West Branch Brandywine Creek

Buck Run

UNT to Buck Run

Back Run RD

Doe Run RD

Doe Run Church RD

Primus Farm LA

Longview RD

Hunter RD

Spring Dell RD

Rokeby RD

Frog Hollow RD

Ramsey RD

Roland RD

Molineux LA

Sycamore LA

Carlin DR

Mink Hollow RD

Sawmill RD

Morgonville RD

Fairview RD

Hepzibah Hill RD

Beck RD

Whitetail WY

Lehigh DR

Cumberland DR

Huntington Ct

Westmoreland DR

Clearfield LA

Columbia DR

Perry CT

Barton Crest WY

Theresa LA

Wellington DR

Kathleen DR

Wilmington RD

Glencoe RD

Juniata DR

Allegheny DR

Somerset DR

Edward DR

Park AV

Octagon School LA

Willow Rock WY

Hammum DR

Elizabeth DR

Horizon DR

Cottage WY

Crown LA

Regency Ct

Windy Hill RD

Mount Carmel RD

Knoll RD

Old Wilmington RD

South Forty LA

Chelsey DR

Wagner LA

Lyons LA

Timaculla RD

Stoneridge DR

Jane ST

Newlin Mill RD

Ins DR

Alpha RD

Fleming DR

Salmon LA

Nassau LA

Yale LA

Princeton CT

Normandy CT

Hatteras RD

Milbury RD

Ivy LA

Arden LA

Stasburg RD

Brantford BL

Young Sang RD

Glen Leen LA

Robin RD

Valmont DR

Cardinal DR

Shoreham DR

West Chester RD

Bridle Path LA

Bellevue DR

Watch Hill RD

Providence Hill RD

Winding LA

Cyprus LA

S Caln RD

Rhoda LA

John Stevens DR

Brinton DR

Gooselown RD

Maple LA

Riverside LA

Eagle Glen DR

Misty Marsh RD

Vivian DR

Horseshoe TR

S Bailey RD

Pheasant RD

Archers WY

Woodridge RD

Dickinson RD

Pelham DR

Barry LA

Marlingale Ct

Legend

- Local Roads
- State Roads
- Lakes and Ponds
- Rivers and Streams
- Tax Parcels
- Study Area Boundary
- Buildings
- Existing Service Area
- On-Lot Disposal (OLDS)

Septic Management Plan

- Phase 1 - 519 OLDS
- Phase 2 - 448 OLDS
- Phase 3 - 634 OLDS

N W E S

2,000 0 2,000 4,000

Scale in Feet

Act 537 Sewage Facilities Plan
East Fallowfield Township,
Chester County, Pennsylvania

SEPTIC MANAGEMENT PLAN
3-PHASE MAP

APPENDIX L

RECEIPT

09/30/22

MediaNews Group

PENNSYLVANIA GROUP

Account:	**884465**
Name:	**Joe Breslin 610-384-4576 (as of 8/3/2021)**
Company:	**EAST FALLOWFIELD TWP.**
Address:	**2264 STRASBURG ROAD** **EAST FALLOWFIELD TWP., PA 19320**
Telephone:	**(610) 384-7144**
Fax:	**(000) 000-0000**
Description:	**PUBLIC NOTICE EAST FALLOWFIELD TOWNS**

Date:	**09/30/22**
Start Date:	**10/06/22** Stop Date: **10/06/22**
Class:	**1201 - Legal Notices**
Ad ID:	**2384400**
Ad Taker:	**CRRDEAN**
Sales Person:	**Ryan Dean (018303)**
Words:	**509**
Lines:	**130**
Agate Lines:	**130**
Depth:	**14.444**
Inserts:	**2**
Blind Box:	
PO Number:	

Ad sample

Total:	**$371.52**
Paid Amount:	**$0.00**
Amount Due:	**$371.52**

Publication

Daily Local News, Daily Local News Digital

PUBLIC NOTICE
EAST FALLOWFIELD TOWNSHIP OFFICIAL PA ACT 537 SEWAGE FACILITY PLAN UPDATE
DATED MAY 2022

East Fallowfield Township GIVES NOTICE of a 30-day public comment period on a proposed official Act 537 Sewage Facilities Plan Update. The Plan updates the official sewage facilities plan, providing for public sanitary sewer services, sewage disposal using individual on-lot sewage disposal systems, the resolution of existing sewage disposal problems, and the future sewage disposal needs of the municipality. The Board of Supervisors of East Fallowfield Township intends to consider this Plan Update for adoption.

The nature of the Plan Update is to consider the methodology of adequate sewage disposal for the residents of the municipality; a portion of which being served by the Pennsylvania American Water Company (PAWC) City of Coatesville Wastewater Treatment Plant Service Area; another portion of which to utilize individual on-lot sewage disposal systems in accordance with sewage management requirements. The Plan Update identifies and evaluates alternatives for providing sewer service to residential, commercial, and institutional development within the Study Area, including: public sewer via PAWC; community on-site sewage disposal with sewage management; individual on-lot sewage disposal; holding tanks; or no action alternative.

The existing public sewer system discharges into the PAWC System at three different locations:

Mount Carmel Road in East Fallowfield Township near the municipal boundary with Valley Township; Doe Run Road in Valley Township near Federal Street; and West Chester Road in the City of Coatesville near the municipal boundary of the City of Coatesville and the Borough of South Coatesville. East Fallowfield Township has a planning allocation of 269,107 gallons per day (gpd) through the PAWC conveyance and treatment system. The areas with public sewer as the selected alternative are: Stottsville Area; Mount Carmel Area; and South Brandywine Middle School Area. The Plan Update provides that the majority of the Township remain with "On-Lot" Sewage Disposal with establishment of a Septage Management Program (SMP) to ensure proper operation and maintenance of on-lot disposal systems (OLDS).

The anticipated User Fees associated with expansion of the Public Sewer System will be commensurate with the latest PAWC Wastewater Rate Tariff. East Fallowfield Township is situated within PAWC Rate Zone 1, which identifies the Residential rate of $11.00 Service Charge plus $1.9494 per 100 gallons Usage Charge per month for metered customers (metered for water consumption) or a Residential Flat Rate per month per dwelling unit of $78.41 for unmetered customers (not metered for water consumption). All other customers will be charged based on the current PAWC Wastewater Rate Tariff at the time of connection to public sewer and as may change from time to time in the future.

A copy of the full text of the Plan Update may be examined at the East Fallowfield Township Office located at 2264 Strasburg Road, East Fallowfield, PA 19320, Mon – Thurs, 8:30 am - 4:00 pm. Written comments may be submitted to the Township Manager at the above address. The final date for receiving public comments is thirty (30) days from October 7, 2022.

Scott Swichar, Township Manager
DLN 10/6; 1a

We Appreciate Your Business!
Thank You Joe Breslin 610-384-4576 (as of 8/3/2021)!

APPENDIX M

MUNICIPAL COMMENTS AND RESPONSES

EAST FALLOWFIELD TOWNSHIP PLANNING COMMISSION

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

October 27, 2023

Mr. Michael Domboski, Chairman
East Fallowfield Township Planning Commission
2264 Strasburg Road
East Fallowfield, PA 19320

RE: East Fallowfield Township Act 537 Plan

Dear Mr. Domboski:

This letter is to memorialize the comments received from the Planning Commission at the April 3, 2023 meeting pertaining to review the *East Fallowfield Township Act 537 Official Plan Update* dated May 2022, prepared by our office. Your comments are appreciated. The comments are summarized below with responses to how each were addressed in the Act 537 Plan Update:

1. Will public sewer be made available to the Triple Fresh market?

   The Triple Fresh Market is included in evaluation of public sewer to the Ercildoun Service Area in Appendix H of the Plan.

2. The Cushman Tract needs to be included in the proposed South Brandywine Middle School public sewer service area, since the Township is interested in acquiring the tract for construction of a new Township Building and future Fire Hall.

   The South Brandywine Middle School Service Area was expanded to include the Cushman Tract. Refer to the *South Brandywine Middle School Service Area Conceptual Public Sewer Extension* plans in Appendix H.

3. Will Pennsylvania American Water Company (PAWC) extend public water along with public sewer?

   As communicated to the Planning Commission at the April 3, 2023 meeting, PAWC would likely seek the Township to implement a mandatory connection requirement to make the extension projects financially viable.

Feel free to contact our office if you have any further questions or concerns.

Very Truly Yours,

David M. Porter, P.E.

copy: Mr. Swichar, Twp. Manager
File

APPENDIX N

COUNTY COMMENTS AND RESPONSES

CHESTER COUNTY PLANNING COMMISSION
CHESTER COUNTY HEALTH DEPARTMENT

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.
CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

January 19, 2023

Mr. Brian O'Leary, AICP, Executive Director
Chester County Planning Commission
601 Westtown Road, Suite 270
P.O. Box 2747
West Chester, PA
19380-0990

RE: East Fallowfield Township Act 537 Plan

Dear Mr. O'Leary:

On behalf of East Fallowfield Township, please find enclosed a copy of the *East Fallowfield Township Act 537 Official Plan Update* dated May 2022, prepared by our office. The Plan is currently in the 30-day Public Review Period and is available at the Township Building for review and comment by the general public.

Feel free to contact our office and/or Mr. Scott Swichar, Township Manager at East Fallowfield Township if you have any questions or concerns. You are also welcomed to submit any written comments to Mr. Swichar at East Fallowfield Township, 2264 Strasburg Road, East Fallowfield, PA 19320.

Very Truly Yours,

David M. Porter, P.E.

copy: Mr. Swichar, Twp. Manager
File

ACT 537 COUNTY PLANNING REFERRAL

To: Chester County Planning Commission

Subject: Request for review of a Sewage Facilities Planning Module pursuant to the Pennsylvania Sewage Facilities Act, Act 537.

This application must be completed by the municipality and submitted along with the appropriate Planning Module and accompanying documents for review.

(To Be Completed by Municipality)

From: (Municipality) East Fallowfield Township

Date: January 19, 2023

Official's Name: Mr. Scott Swichar

Position: Manager

Signature: Scott M. Swichar

Development Name: Act 537 Official Plan Update

*Department of Environmental Protection Code #: _____

Applicant's Name: East Fallowfield Township

Address: 2264 Strasburg Road, East Fallowfield, PA 19320

Phone #: 610-384-7144

Engineer/Consultant: Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc.

Address: P.O. Box 118, Broomall, PA 19008

Phone #: 610-356-9550

Type of Submission

- ☐ Component 2
- ☐ Component 3
- ☐ Component 3z

There is **no review fee** for Chester County Planning Commission review of sewage facilities Planning Modules.

The County Planning Commission **does not review Component 1** modules.

If your municipality needs more referral forms, please check here ☐

*DEP Code Number can be obtained from the module submitted by the applicant.

THE COUNTY OF CHESTER

COMMISSIONERS
Marian D. Moskowitz
Josh Maxwell
Michelle Kichline

Brian N. O'Leary, AICP
Executive Director

PLANNING COMMISSION
Government Services Center, Suite 270
601 Westtown Road
P. O. Box 2747
West Chester, PA 19380-0990
(610) 344-6285 Fax (610) 344-6515

March 21, 2023

David Porter, PE
Herbert E. MacCombie, Jr., PE
1000 Palmers Mill Road
Media, PA 19063
dporter@hemenginc.com

Re: East Fallowfield Township Act 537 Official Plan Update

Dear Mr. Porter:

The Chester County Planning Commission (Planning Commission) has reviewed the Draft 537 Official Plan Update for East Fallowfield Township, dated May 2022 as required by Section 71.31(b) of the Pennsylvania Sewage Facilities Act (Act 537). The Plan was prepared by Herbert E. MacCombie, Jr., PE Consulting Engineers & Surveyors, Inc. and was received on January 23, 2023. As proposed, the selected alternative is to continue to utilize Pennsylvania American Water Company (PAWC) and on-lot sewage disposal systems, depending on location in the township and lot size.

The following comments are offered based on review of the document:

A. Consistency of the Act 537 Plan Update with the County Comprehensive Plan – *Landscapes3*:

1. *Landscapes3* Map:

   Landscapes3 designates the area of East Fallowfield Township proposed for connection to PAWC in the 5-year planning horizon, and within the Township's allocation for treatment at the PAWC treatment plant, as being located within the Suburban Landscape. The Planning Commission finds the proposal to be consistent with the Map of *Landscapes3* (2018).

2. *Landscapes3* Plan:

   As presented, the areas currently connected and proposed to connect to the public system, are located within a designated growth area, and are consistent with *Landscapes3* Connect Objective F, which states, "Coordinate water and sewage facilities planning with land use planning so that development is directed toward designated growth areas with adequate and well-maintained infrastructure." Additionally, maintenance of on-lot sewage disposal systems in those areas located outside of the growth area is consistent with *Landscapes3* Protect Recommendation 8, which states, "Support municipal on-lot sewage management programs."

B. Consistency of the Selected Alternative with *Landscapes3*:

The selected alternative for East Fallowfield Township is to continue to utilize the existing public sewer system (PAWC) in the designated growth areas, and to continue the use of on-lot disposal systems in those areas outside of the growth area. The proposed alternative is consistent with *Landscapes3* Connect Goal, "Advance efficient, reliable, and innovative transportation, utility, and communications infrastructure systems that responsibly serve thriving and growing communities" and Protect Recommendation 8, "Support municipal on-lot sewage management programs." As proposed, this connection is consistent with *Landscapes3*.

C. Consistency with the County Water Resources Plan - *Watersheds*:

Watersheds, the water resources element of the County comprehensive plan, identifies Objective 7.2 of Goal 7, "concentrate planned utility service areas to support designated growth areas." East Fallowfield Township, according to the Landscapes Map, is located within the Suburban Landscape, and as such, the proposed plan update is consistent with the objectives of Watersheds.

D. General Comments:

1. The Planning Commission would like to commend East Fallowfield Township for revisiting their 2014 approved Plan of Study and incorporating current data and analysis to meet the needs of current residents as well as proposed developments within the township.

2. The Planning Commission supports the enactment of a Sewage Management Program and associated ordinance to protect the health, safety and welfare of the citizens located in those areas, primarily the RA Zoning District, that will continue to utilize on-lot sewage disposal.

3. The text refers to a pending development bounded by South Caln Road and West Chester Road, which is also identified as Ridgecrest on the included mapping. This development appears to already have been built. For clarity, please confirm if this development is completed and what type of sewage disposal it is utilizing.

4. The section of text that discusses the County Stormwater Management Plan should be updated to include that PA DEP approved the Ordinance in November 2022 and all municipalities should have updated their ordinances by May 31, 2023.

5. The Planning Commission requests a copy of the Sewage Management Program and any associated ordinances for our files when it is completed by the Municipality.

Thank you for the opportunity to offer comments on this Official Plan Update. We hope that these comments will be of assistance as you prepare for submission of this planning document to the PA DEP. If you have any questions, please contact me at 610-344-6285 or cconwell@chesco.org.

Sincerely,

Carrie J. Conwell, AICP
Senior Environmental Planner

cc: Elizabeth Mahoney, PaDEP
Ryan Oxenford, Chester County Health Department
Scott Swichar, East Fallowfield Township

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

March 27, 2023

Ms. Carrie J. Conwell, AICP, Senior Environmental Planner
Chester County Planning Commission
601 Westtown Road, Suite 270
P.O. Box 2747
West Chester, PA
19380-0990

RE: East Fallowfield Township Act 537 Plan

Dear Ms. Conwell:

I am in receipt of your letter dated March 21, 2023 in review of the *East Fallowfield Township Act 537 Official Plan Update* dated May 2022, prepared by our office. Your comments are appreciated. The Plan has been revised to address your comments as follows:

Section D. General Comments:

1. The Planning Commission would like to commend East Fallowfield Township for revisiting their 2014 approved Plan of Study and incorporating current data and analysis to meet the needs of current residents as well as proposed developments within the township.

   Acknowledged.

2. The Planning Commission supports the enactment of a Sewage Management Program and associated ordinance to protect the health, safety and welfare of the citizens located in those areas, primarily the RA Zoning District, that will continue to utilize on-lot sewage disposal.

   Acknowledged.

3. The text refers to a pending development bounded by South Caln Road and West Chester Road, which is also identified as Ridgecrest on the included mapping. This development appears to already have been built. For clarity, please confirm if this development is completed and what type of sewage disposal it is utilizing.

   The Ridgecrest development is built-out and is serviced by public sanitary sewer via the Pennsylvania American Water Company sanitary sewage

disposal collection, conveyance, and treatment system.

4. The section of text that discusses the County Stormwater Management Plan should be updated to include that PA DEP approved the Ordinance in November 2022 and all municipalities should have updated their ordinances by May 31, 2023.

   Section VI.A.8 of the Plan has been revised to reflect the above noted text as well as the date of adoption of East Fallowfield Township's Stormwater Management Ordinance No. 2022-03 of October 11, 2022.

5. The Planning Commission requests a copy of the Sewage Management Program and any associated ordinances for our files when it is completed by the Municipality.

   A copy of the Township's Sewage Management Ordinance and Sewage Management Program (SMP) will be provided the Chester County Planning Commission upon adoption.

Feel free to contact our office and/or Mr. Scott Swichar, Township Manager at East Fallowfield Township if you have any questions or concerns.

Very Truly Yours,

David M. Porter, P.E.

copy: Mr. Swichar, Twp. Manager
File

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.
CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

January 19, 2023

Ms. Jeanne E. Franklin, MPH, PMP
Public Health Director
Chester County Health Department
601 Westtown Rd, Suite 290
West Chester, PA
19380-0990

RE: East Fallowfield Township Act 537 Plan

Dear Ms. Franklin:

On behalf of East Fallowfield Township, please find enclosed a copy of the *East Fallowfield Township Act 537 Official Plan Update* dated May 2022, prepared by our office. The Plan is currently in the 30-day Public Review Period and is available at the Township Building for review and comment by the general public.

Feel free to contact our office and/or Mr. Scott Swichar, Township Manager at East Fallowfield Township if you have any questions or concerns. You are also welcomed to submit any written comments to Mr. Swichar at East Fallowfield Township, 2264 Strasburg Road, East Fallowfield, PA 19320.

Very Truly Yours,

David M. Porter, P.E.

copy: Mr. Swichar, Twp. Manager
File

APPENDIX O

PUBLIC COMMENTS AND RESPONSES

NO PUBLIC COMMENTS WERE RECEIVED

APPENDIX P

RESOLUTION ADOPTING ACT 537 PLAN UPDATE

TOWNSHIP OF EAST FALLOWFIELD

RESOLUTION NO. 2023-22
APPROVAL OF ACT 537 SEWAGE FACILITIES PLAN UPDATE

RESOLUTION OF THE SUPERVISORS OF EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA (hereinafter "the municipality").

WHEREAS, Section 5 of the Act of January 24, 1966, P.L. 1535, No. 537, known as the "Pennsylvania Sewage Facilities Act," as amended, and the Rules and Regulations of the Department of Environmental Protection (Department) adopted thereunder, Chapter 71 of Title 25 of the Pennsylvania Code, requires the municipality to adopt an Official Sewage Facilities Plan providing for sewage services adequate to prevent contamination of waters and/or environmental health hazards with sewage wastes, and to revise said plan whenever it is necessary to meet the sewage disposal needs of the municipality, and

WHEREAS, Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc., of Broomall, Pennsylvania has prepared an Act 537 Official Plan Update, dated May 2022, revised October 2023, which provides for sewage facilities in a portion of East Fallowfield Township, and the alternative of choice to be implemented is as follows:

The nature of the Plan Update is to consider the methodology of adequate sewage disposal for the residents of the municipality; a portion of which being served by the Pennsylvania American Water Company (PAWC) City of Coatesville Wastewater Treatment Plant Service Area; another portion of which to utilize individual on-lot sewage disposal systems in accordance with sewage management requirements. The Plan Update identifies and evaluates alternatives for providing sewer service to residential, commercial, and institutional development within the Study Area, including: public sewer via PAWC; community on-site sewage disposal with sewage management; individual on-lot sewage disposal; holding tanks; or no action alternative.

The existing public sewer system discharges into the PAWC System at three different locations: Mount Carmel Road in East Fallowfield Township near the municipal boundary with Valley Township; Doe Run Road in Valley Township near Federal Street; and West Chester Road in the City of Coatesville near the municipal boundary of the City of Coatesville and the Borough of South Coatesville. East Fallowfield Township has a planning allocation of 269,107 gallons per day (gpd) through the PAWC conveyance and treatment system. The areas with public sewer as the selected alternative are: Stottsville Area; Mount Carmel Area; and South Brandywine Middle School Area. The Plan Update provides that the majority of the Township remain with "On-Lot" Sewage Disposal with establishment of a Septage Management Program (SMP) to ensure proper operation and maintenance of on-lot disposal systems (OLDS).

The anticipated User Fees associated with expansion of the Public Sewer System will be commensurate with the latest PAWC Wastewater Rate Tariff. East Fallowfield Township is situated within PAWC Rate Zone 1, which identifies the Residential rate of $11.00 Service Charge plus $1.9494 per 100 gallons Usage Charge per month for metered customers (metered for water consumption) or a Residential Flat Rate per month per dwelling unit of $78.41 for unmetered customers (not metered for water consumption). All other customers will be charged based on the

current PAWC Wastewater Rate Tariff at the time of connection to public sewer and as may change from time to time in the future.

The key implementation activities/dates are as set forth in the Proposed Plan published on October 6, 2022, including implementation of a program to administer "An On-Lot Sewage Management Program Ordinance for East Fallowfield Township" as well as implementation of the public sewer alternative as projects evolve, developments progress creating more of a need, and as funding becomes available. Development of the Sewage Management Program to administer the proposed "On-Lot Sewage Management Program Ordinance for East Fallowfield Township " is to be completed 12 to 18 months following PADEP approval of the Act 537 Plan Update. Design of the public sewer system would occur within 6 to 9 months of private development plan approvals, immediately followed by application for permits, followed immediately by the bidding process and the process of securing financing, immediately followed by construction. Design and construction of public sewer system extensions by PAWC, as identified in the Plan, are anticipated to occur within the 5-year Plan implementation horizon.

WHEREAS, East Fallowfield Township finds that the Sewage Facilities Plan described above conforms to applicable zoning, subdivision, other municipal ordinances and plans and to a comprehensive program of pollution control and water quality management.

NOW, THEREFORE, BE IT RESOLVED that the Supervisors of the Township of East Fallowfield hereby adopt and submit to the Department of Environmental Protection for its approval as an update to the "Official Plan" of the municipality, the above referenced Facility Plan. The municipality hereby assures the Department of the complete and timely implementation of the said plan as required by law.

Resolved this 12th day of December, 2023.

Municipality of East Fallowfield Township
Chester County, Pennsylvania

BOARD OF SUPERVISORS
EAST FALLOWFIELD TOWNSHIP

Wilson T. Lambert, Jr., Chair

Joe Heffern, Vice-Chair

Katja DiRado, Member

John Nielsen, Member

Al Wright, Member

I, Scott M. Swichar, Township Secretary for the East Fallowfield Township Board of Supervisors hereby certify that the foregoing is a true copy of the Township's Resolution No. 2023-24 adopted December 12, 2023.

Scott M. Swichar
(Township Seal)

APPENDIX Q

ACT 537 UPDATE REVISION
SEWAGE DISPOSAL NEEDS IDENTIFICATION SURVEY REPORT

FOR

EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY, PA

OCTOBER 16, 2018

Prepared by:
HERBERT E. MACCOMBIE, J.R., P.E.
CONSULTING ENGINEERS AND SURVEYORS, INC.
P. O. BOX 118
BROOMALL, PA 19008
610-356-9550

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Sewage Disposal Needs Identification Survey Report

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Appendix B Tabular Results of Public Health Needs for Total Survey Area and Sub-Areas
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ACT 537 UPDATE REVISION
SEWAGE DISPOSAL NEEDS IDENTIFICATION SURVEY REPORT
FOR
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA

EXECUTIVE SUMMARY

In order to identify and document the sewage disposal needs within the Study Area of the Act 537 Plan Update for East Fallowfield Township, a Sewage Disposal Needs Identification Survey was conducted in accordance with the PA DEP Guidelines for *Act 537 Sewage Disposal Needs Identification*. According to the DEP Guidelines the survey is a requisite component of the Township's Act 537 Official Plan Update and may be conducted in two (2) tiers depending upon the scope of the Act 537 Official Plan revision being prepared. Although, in this case, a general "tier one" approach is appropriate since this is considered a large area plan, a two-tier approach was used. The two-tier approach was used in an effort to more accurately define and document suspected problem areas and prioritize the severity of problems found in several areas. The two tiers consist of: (1) a questionnaire survey was mailed to property owners with on-lot disposal systems and requested to be completed and returned and (2) a visual survey was conducted to field-verify and validate the results of the mail survey. For the purposes of this Plan this represents a Full Scope Needs Survey.

The Chester County Health Department (CCHD) records for potable well permits indicating the concentration of nitrate nitrogen (NO_3) present at the time the well was dug was obtained and mapped as well as data of recorded Septic System Failures or Septic Certification Failures. This data was considered in evaluating need for adequate sewage disposal. Wells with groundwater nitrate levels between 0 – 4.99 mg/L, 5 – 9.99 mg/L, and > 10 mg/L have been depicted on a new "¼ Mile Buffer on Wells that Exceed 5 mg/L NO_3" map (Figure 14), which combines the "Public Water Supply" map (Figure 7) and the "Needs Identification Survey Results" map (Figure 13) to evaluate the condition of potable groundwater supply to residents and how public versus private water supply may affect public versus private (individual OLDS) sewage disposal.

Finally, all of the results and available data were analyzed to assess what the need for adequate sewage disposal is in portions of the Act 537 Plan Study Area as well as the Study Area as a whole.

PURPOSE

Act 537, the Pennsylvania Sewage Facilities Act, requires that all municipalities develop, revise and implement Official Sewage Facility Plans ("Act 537 Plan" or simply "Official Plan"). A fundamental part of any Act 537 Plan is the identification and documentation of the sewage disposal needs within the municipality. The purpose of this survey is to clearly identify and document existing wastewater disposal needs and to

summarize and present the identified needs for evaluation of alternatives for safe wastewater disposal from a public health and environmental standpoint.

ACT 537 SEWAGE DISPOSAL NEEDS IDENTIFICATION

Section I.A (Public Health Needs) of the PA DEP Guidelines for *Act 537 Sewage Disposal Needs Identification* categorizes malfunctions as follows:

- **Confirmed Malfunctions**: Those malfunctions documented by dye testing, laboratory test results, observation by a certified Sewage Enforcement Officer, or a professional with experience in OLDS, "Best Technical Guidance" repair permits, and seasonally wet absorption areas. Also included are piped discharges from a single structure with direct evidence of sewage (i.e., direct observation of soap suds, food residue, solids, odors, etc.), reported system backups, malfunctions with photographic documentation or other similar evidence.

- **Suspected Malfunctions**: Those systems exhibiting some malfunction characteristics such as abnormally green grass in the vicinity of an absorption area, piped discharges from one (or more than one) dwelling without direct evidence of sewage (i.e., no observation of soap suds, food residue, solids, odors, etc.), absorption areas located in known unsuitable soils (observed wetlands, rock outcropping, etc.), cesspools (in high density development) and pit (not vault) privies.

- **Potential Malfunctions**: Those systems that appear to be operating satisfactorily but were constructed prior to system permitting requirements (i.e., preregulatory systems), systems located in areas extremely unlikely to receive permitting by current standards, systems constructed in areas having soils mapped as unsuitable or with severe limitations for OLDS and systems located on exceptionally steep slopes greater than 25 percent. Included as potential malfunctions are permits issued for OLDS repairs that meet Chapter 73 standards. While this needs category does not represent "stand alone" existing needs, the information may be utilized in a needs analysis to locate areas affected by poorly defined adverse circumstances. For example, clusters of legitimate repairs will often indicate areas requiring closer scrutiny.

- **No Malfunction**: Those systems that appear to be operating satisfactorily, were constructed since the implementation of system permitting requirements, and appear to have been constructed in accordance with the permitting requirements in effect at the time of construction. For the purpose of needs identification, OLDS permitting under Act 537 became effective on May 15, 1972.

The total number of Questionnaires mailed to property owners with OLDS was 1,902. Of the questionnaires mailed out, 712 were completed and returned. 10 were disqualified from being used in the results because the property address was either invalid or not provided, or the property has already been connected to the public sewer system. Therefore, results from 702 questionnaires were used in this analysis. The information was processed and 272 were randomly selected to send requests for access to their property to field verify the questionnaire responses. 269 permission forms were completed and returned by property owners and visual surveys were conducted at 106 properties. For the entire study area surveyed the public health needs can be categorized as follows:

SEWAGE DISPOSAL NEEDS IDENTIFICATION SURVEY
PUBLIC HEALTH NEEDS RESULTS SUMMARY

Public Health Needs	Number	Percentage
Confirmed Malfunctions	10	1%
Suspected Malfunctions	226	32%
Potential Malfunctions	208	30%
No Malfunction	258	37%
TOTAL	**702**	**100%**

Table 1

Maps of the current Survey Area can be found in the Appendix depicting properties with confirmed malfunctions, suspected malfunctions, potential malfunctions, or no malfunctions as well as properties that were field surveyed for verification of questionnaire responses. A Soils Map and map of Soil Limitations for On-Lot Disposal Systems are also included in the Appendix.

In addition to the Tier I and II Survey information collected and tabulated, the data obtained from the Chester County Health Department (CCHD) was taken into consideration.

TIER ONE

The first tier involved mailing questionnaires to property owners within the Act 537 Plan Study Area that have On-Lot Disposal Systems (OLDS). This included what was anticipated to be "Immediate Needs" and "Future Needs" Areas. Some areas were generally categorized as "Immediate Needs" or "Future Needs" based upon information garnered from the previous Act 537 Plan, soils suitability for on-lot sewage disposal systems mapping, topographic mapping depicting steep slopes, and past feedback from the residents of the Township. Step-by-step instructions can be found in Appendix B of the PA DEP Guidelines for *Act 537 Sewage Disposal Needs Identification* and is included with this report. The minimum response rate necessary to use the mail-in survey data is 15% where over 1,000 OLDS are in the project area. Self-addressed, stamped return envelopes were included with the questionnaires in an effort to obtain the greatest number of responses possible.

The questionnaire surveys were mailed to 1,902 property owners with OLDS and were requested to be returned by October 15, 2010. Although the questionnaires were requested to be returned by October 15th, responses were accepted after that date. Responses were received

from 714 property owners or their representatives. Excluding 12 invalid returned surveys yielded 702 valid questionnaire surveys returned or an approximately 37% return rate. This return rate meets the minimum criteria and the survey results may be used.

TIER TWO

The second tier involved field verification of a required percentage of the questionnaires in which responses were received. According to the DEP guidance document "to validate mail-in survey results, a certain number of returned questionnaires selected at random must be field-verified. The percentage of field-verified questionnaires required to validate a survey will vary with the total size of the survey." For example, if there are over 1,000 OLDS in the project area then 15% of the OLDS, in which responses have been received, are required to be field verified. For the purposes of validating this survey a minimum of 15% of the 702 OLDS (105) in the project area, in which responses were received, were required to be field verified. In anticipation of having some non-responses, requests were sent to 269 property owners with OLDS for permission to access their property. 107 authorizations were received and 106 OLDS were field-verified.

PROCEDURE FOR ON-LOT VISUAL SURVEYS (FIELD VERIFICATION)

The second step of the survey was initiated by randomly selecting returned questionnaires and sending those property owners a letter along with a permission form to grant permission for access to their property for field-verification of their responses to the questionnaires. A total of 269 permission forms were mailed on May 27, July 7, & July 27, 2015 and were requested to be returned within five (5) days. Field verification surveys were not conducted prior to receipt of a signed permission form and/or contacting the property owner to advise when the survey would take place, if requested. 107 responses were received with permission granted for all. 106 on-lot surveys were conducted on July 16, and August 18, 20, & 25, 2015.

WEATHER CONDITIONS DURING FIELD-VERIFICATION SURVEYS[1]

DATE	CONDITIONS	TEMPERATURE
7/16/15	Sunny to Partly Cloudy	82°F
8/18/15	Partly Cloudy to Sunny	92°F
8/20/15	Cloudy	90°F
8/25/15	Sunny	89°F

Table 2

[1] July 2015 and August 2015 Local Climatological Data, Philadelphia, PA. NOAA, U.S. Department of Commerce. <http://www.accuweather.com/en/us/coatesville-pa/19320/june-weather/7907_pc?monyr=6/1/2013>

The last rainfall event prior to the field-verification surveys occurred on Monday, July 15, 2015, which was approximately 0.7 inches[1]. In addition, 0.6 inches of rain fell on July 14th. About 0.7 inches of rain fell on August 11th preceding the August field-verification surveys. Some rain fell late in the day during the August 20th surveys.

Two (2) representatives from Herbert E. MacCombie, Jr., P.E., Consulting Engineers and Surveyors, Inc. visited 106 respondents' property to conduct the field verification survey. If the property owner was not present, a business card was left to notify the owner that representatives visited the premises and completed the survey along with the date and time of the survey. If the property owner was present MacCombie representatives verified responses to the questionnaire that the property owner provided in addition to gathering additional more detailed information, if necessary. The majority of the property owners were able to identify the location of their on-lot disposal system or at least components of the system. In some instances, however, the location of the system could not be determined from visual observation and was so noted.

ANALYSIS OF DATA

As depicted on Table 1 the results of the overall survey were tabulated to determine a baseline condition of OLDS within the Township as a whole. Further analysis was conducted on a sub-area basis. In other words, certain areas within the Township were analyzed in comparison to the Township as a whole. These areas were selected based upon the characteristics of neighborhoods, lot sizes, proximity to public sanitary sewer, and results of the Sewage Needs Survey, in addition to input from the Township.

The average age of an OLDS as reported in the Tier One Questionnaires in 2010 was 26 years.

The following areas have been analyzed in comparison to the Township-wide results:

SEWAGE NEEDS ID SURVEY SUB-AREA ANALYSIS

SUB-AREA	TOTAL PARCELS	TOTAL SURVEYED	CM		SM		PM		NM		SF	CF
High Meadows Area	110	46	1	2%	13	28%	11	24%	21	46%	8	5
Hephzibah Hill Area	29	7	0	0%	5	71%	1	14%	1	14%	0	0
Doe Run Farms Area	143	69	2	3%	22	32%	22	32%	23	33%	16	7
Ercildoun Area	139	56	0	0%	24	43%	16	29%	16	29%	11	3
Rokeby Road Area	50	17	0	0%	5	29%	7	41%	5	29%	3	1
Fallowfield Farms Area	115	48	1	2%	18	38%	11	23%	18	38%	12	8
Park Avenue Area	39	24	0	0%	8	33%	7	29%	9	38%	3	1
Victoria Hills/Fox Chase Area	156	62	2	3%	14	23%	25	40%	21	34%	9	10
Mount Carmel Area	24	15	0	0%	6	40%	7	47%	2	13%	6	1
Stottsville Area	32	20	0	0%	15	75%	4	20%	1	5%	2	2
Spring Dell Area	32	3	0	0%	0	0%	2	67%	1	33%	2	1

Table 3

The areas that have OLDS classified as CM, SM, or PM in a percentage significantly higher than the Township as a whole have been highlighted in blue or gold. Those highlighted in blue show elevated concern but the percentages are not significantly higher than that of the Township as a whole. The Ercildoun, Rokeby Road, Fallowfield Farms, Victoria Hills/Fox Chase, Mount Carmel, and Spring Dell areas should be monitored to ensure the need for adequate sewage disposal does not become more of a concern. The areas highlighted in gold are areas that show a significantly elevated percentage of OLDS with concern compared to the Township as a whole. The results for the Hephzibah Hill and Stottsville areas warrant further discussion regarding adequate sewage disposal. Analysis of whether effective implementation of a Septage Management Program (SMP) would adequately mitigate the Suspected and Potential Malfunctions of OLDS in these areas or whether a public sewer alternative would be appropriate should be pursued.

These areas also contain a significant number of parcels that are less than one (1) acre in area. The one (1) acre parcel area is significant in that one (1) acre is considered the minimum area necessary in order to provide for a primary and replacement OLDS by the PADEP. When parcels have less than one (1) acre in area there is a greater probability that finding enough space for a replacement system will not be possible. A tabulation of the results for just those "small parcels" is provided below for comparison:

SEWAGE NEEDS ID SURVEY SUB-AREA ANALYSIS
SMALL PARCELS

SUB-AREA		TOTAL PARCELS	TOTAL SURVEYED	CM		SM		PM		NM		SF	CF
High Meadows Area	Small Parcels	47	25	0	0%	7	28%	7	28%	11	44%	2	1
Hephzibah Hill Area	Small Parcels	24	4	0	0%	4	100%	0	0%	0	0%	0	0
Doe Run Farms Area	Small Parcels	72	45	1	2%	12	27%	15	33%	17	38%	12	5
Ercildoun Area	Small Parcels	73	32	0	0%	13	41%	13	41%	6	19%	8	3
Rokeby Road Area	Small Parcels	26	8	0	0%	2	25%	4	50%	2	25%	3	0
Fallowfield Farms Area	Small Parcels	34	31	1	3%	10	32%	9	29%	11	35%	3	0
Park Avenue Area	Small Parcels	26	14	0	0%	5	36%	4	29%	5	36%	1	1
Victoria Hills/Fox Chase Area	Small Parcels	56	37	0	0%	9	24%	16	43%	12	32%	5	5
Mount Carmel Area	Small Parcels	20	13	0	0%	6	46%	5	38%	2	15%	6	1
Stottsville Area	Small Parcels	24	14	0	0%	10	71%	3	21%	1	7%	2	2
Spring Dell Area	Small Parcels	18	2	0	0%	0	0%	1	50%	1	50%	2	1

Small Parcels are properties less than one (1) acre in area

Table 4

The areas that have OLDS classified as CM, SM, or PM in a percentage significantly higher than the Township as a whole have again been highlighted in blue or gold for the "small parcels" analysis. The results for the High Meadows, Hephzibah Hill, Ercildoun, Rokeby Road, Victoria Hills/Fox Chase, Stottsville, and Spring Dell Areas Those highlighted in blue show elevated concern but the percentages are not significantly higher than that of the Township as a whole. These areas should be monitored to ensure the need for adequate sewage disposal does not become more of a concern. The areas highlighted in gold are areas that show a significantly elevated percentage of OLDS with concern compared to the Township as a whole. These results for these areas warrant further discussion regarding adequate sewage disposal. Analysis of whether effective implementation of a Septage Management Program (SMP) would adequately mitigate the Suspected and Potential Malfunctions of OLDS in these areas or whether a public sewer alternative would be appropriate should be pursued.

OLDS were categorized as follows for the Township-wide Survey:

SEWAGE NEEDS ID SURVEY PUBLIC HEALTH NEEDS TOWNSHIP-WIDE RESULTS

Total Surveyed Entire Study	CM		SM		PM		NM	
702	10	1%	226	32%	208	30%	258	37%

CM	Confirmed Malfunction	SF	System Failure
SM	Suspected Malfunction	CF	Certification Failure
PM	Potential Malfunction		
NM	No Malfunction		

Table 5

CONCLUSION

This survey is comprised of information obtained from other sources in addition to the questionnaire (Tier I) and field surveys (Tier II) to create a comprehensive and complete survey. The returned questionnaires completed by the property owners are included in the Appendix as well as the respective completed permission forms as applicable. In addition, notes taken during the field-verification surveys are included for reference. Results of the survey are provided in tabular form above.

In addition to the Tier I and II Survey information collected and tabulated, information from the Chester County Health Department (CCHD) records for on-lot sewage disposal systems was taken into consideration. The CCHD keeps a record of Septic System Failures and Septic System Certification Failures and that information was obtained from the CCHD in a map form containing data from 1999 through the date the map was prepared, which was May 30, 2017. The map prepared by the CCHD is also attached in the Appendix. Septic System Failures are logged when a property owner applies to the CCHD for a repair to an existing on-lot disposal system or a replacement of an existing on lot disposal system. Certification Failures are typically the result of a property owner selling their property and attempting to have the existing on-lot disposal system certified as part of transfer of the property to the prospective buyer. This often becomes a negotiation point with regard to the sale price of the property, with the seller deducting some amount in compensation to the buyer for an on-lot system that did not pass certification. It should be noted that a certification failure does not always mean that the on-lot system is failing or will fail. Certification failures are often a subjective decision made by the person conducting the inspection. Conservative decisions may be made by inspectors to avoid liability.

Results of the Survey indicate that, based on percentages, the Doe Run Farms and Victoria Hills/Fox Chase Areas have the highest percentage of the surveyed area of Confirmed Malfunctions with 3% (or 2 OLDS in each area). The results of the sub-area analysis show that the Hephzibah Hill (71%) and Stottsville (75%) Areas contain the highest percentage of OLDS categorized as Suspected Malfunctions (SM). The Spring Dell (67%) and Mount

Carmel (47%) Areas have the highest percentages of OLDS categorized as Potential Malfunctions (PM). However, it should be noted that only 3 out of 32 property owners within the Spring Dell Area responded to the survey (9% Response Rate), whereas the Mount Carmel Area saw a 63% Response Rate (15 out of 24 properties). Not surprisingly, the same areas that have this highest percentages of OLDS categorized as SM and PM have the lowest percentage of OLDS categorized as No Malfunction (NM), which are the Stottsville, Mount Carmel, and Hephzibah Areas. Also, these same three (3) areas also contain the highest percentages of "small parcels" of 75%, 83%, and 83% respectively. The results of the survey combined with the percentages of "small lots" within the areas indicate that the Stottsville, Mount Carmel, and Hephzibah Areas have the highest need for adequate sewage disposal of the sub-areas analyzed.

Discussions occur with the PAWC on a continual basis with regard to the possibility of extending public sewer to service areas of East Fallowfield Township. As a public utility the PAWC cannot charge a tapping fee, therefore extension of public sanitary sewer within East Fallowfield Township would need to be carefully planned. PAWC could design and bid public sewer extension projects at a lower cost than the Township due to the fact that the Township would need to pay prevailing wage. PAWC would not need to pay prevailing wage because it is a private company. However, because they do not have the ability to charge a tapping fee to recoup the cost outlaid to design and construct a sewer project, PAWC would seek to execute individual agreements with property owners in order to recoup the cost of a sewer project. As one might imagine, this could prove to be difficult in that if an area with 100 properties was planned to have public sewer extended, the PAWC would seek to execute 100 separate agreements distributing the cost over those 100 property owners. However, if they are only successful in obtaining 75 agreements the cost would then only be shared by 75 property owners, not 100, driving the price per property up. This additional cost would be charged only after the project has been completed and would be a "true up" at the end, which could lead to varied and unpredictable costs to property owners. Therefore, it is critical that the Operation and Maintenance of individual on-lot disposal systems is conducted properly. Implementation and enforcement of a Township-wide Sewage Management Program (SMP) is a method that could provide adequate sewage disposal until such time that public sewer is made available.

APPENDIX A

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

West Marlborough Township

Newlin Township

Londonderry Township

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Doe Run RD

Strasburg RD

Glenrose

Strasburg Hunt

Brook Crossing

Hillcrest MHP

Carriage Crest

Towerville

Stinks Crossroads

Doe Run Farms

Falkenhelm Farms

Brandywine Manor

Branford Village

Fieldstone Village

Stone Creek

Green Tree

Manchester Farms

Providence Hill

North Woods

Brinton Station

Goosetown

Fox Knoll

Hephzibah

Youngsburg

Rokeby RD

Primus Farm LA

Hunter RD

Longview RD

Spring Dell RD

Frog Hollow RD

Fairview RD

Doe Run Church RD

Mink Hollow RD

Sawmill RD

Montgomeryville RD

Wellington Hunt

Scale in Feet: 1,500 0 1,500 3,000

N W E S

LEGEND

- Septic System Failures
- Septic Certification Failures
- Needs Survey Parcels
- Visual Survey Conducted

Needs Classification

- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

- Lakes and Ponds
- Rivers and Streams
- Local Roads
- State Roads
- Muni_Bound_Lines
- Tax Parcels
- Existing Service Area
- Study Area Boundary

East Fallowfield Township, Chester County, Pennsylvania

FIGURE 14a
ACT 537 PLAN
SURVEY RETURNS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Londonderry Township

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Strasburg Hunt

Carriage Crest

Brook Crossing

Branford Village

Stinks Crossroads

Glenrose

Falsworth Farms

Doe Run Farms

Hephzibah

Youngsburg

Stone Creek

Green Tree

Fieldstone Village

Wellington Hunt

Manchester Farms

Providence Hill

Brinton Station

Fox Knoll

Goosetown

Hillrop MHP

Ercildoun

Ellis MHP

Strasburg RD

Doe Run RD

Glenrose RD

Wilmington RD

Mount Carmel RD

Beck RD

Mink Hollow RD

Sawmill RD

Goosetown RD

Fairview RD

Doe Run Church RD

Frog Hollow RD

Rokeby RD

Hunter RD

Longview RD

Spring Dell RD

Primus Farm LA

Scale in Feet

1,500 0 1,500 3,000

N W E S

LEGEND

- Septic System Failures
- Septic Certification Failures
- Needs Survey Parcels
- Visual Survey Conducted

Needs Classification

- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

- Lakes and Ponds
- Rivers and Streams
- Local Roads
- State Roads
- Muni_Bound_Lines
- Tax Parcels
- Existing Service Area
- Study Area Boundary

East Fallowfield Township,
Chester County, Pennsylvania

FIGURE 14b
ACT 537 PLAN
SURVEY RETURNS - SMALL LOTS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township
Valley Township
Coatesville
Caln Township
South Coatesville Borough
Modena Borough
Highland Township
West Bradford Township
Newlin Township
West Marlborough Township

Stottsville Area
Mount Carmel Area
Victoria Hills/ Fox Chase Area
SBMS Area
Ercildoun Area
Park Ave Area
Fallowfield Farms Area
Doe Run Area
Rokeby Road Area
Spring Dell Area
Hephzibah Hill Area
High Meadows Area

Buck Run
UNT to Buck Run
Dennis Run
West Branch Brandywine Creek
Glenrose
Strasburg Rd
Doe Run Rd
Wilmington Rd
Gheseke Rd
Buck Run Rd
Rokeby Rd
Hunter Rd
Spring Dell Rd
Lochview Rd
Frog Hollow Rd
Fairview Rd
Doe Run Church Rd
Hephzibah Hill Rd
Mink Hollow Rd
Sawmill Rd
Goosetown Rd
Gosetown
Brinton Station
Providence Hill
Manchester Farms
Fieldstone Village
Stone Creek
Green Tree
Wellington Hunt
Hillcrest Manor
Brookside Farms
Fallowfield Farms
Ercildoun
Doe Run Farms
Brookside Manor
Brandywine Manor
Brook Crossing
Branford Village
Strunks Crossroads
Youngsburg
Hillcrest Mnr
Ercildoun MHP

Lakes and Ponds
Rivers and Streams
Local Roads
State Roads
Tax Parcels
Existing Service Area
Study Area Boundary
Survey Sub-Areas

LEGEND

Nitrate in Wells (CCHD dated 1/30/2019)
- 0 - 4.99 mg/L
- 5 - 9.99 mg/L
- >= 10 mg/L
- ¼ Mile Buffer on Wells > 5mg/L NO3
- Septic System Failures
- Septic Certification Failures

Needs Survey Parcels
Visual Survey Conducted

Needs Classification
- Confirmed Malfunction
- Suspected Malfunction
- Potential Malfunction
- No Malfunction

N
W E
S

1,500 0 1,500 3,000
Scale in Feet

East Fallowfield Township, Chester County, Pennsylvania

FIGURE 15a
ACT 537 PLAN
SURVEY RETURNS

Map prepared by: GEODESY, INC. ~ 610.384.4678 ~

Sadsbury Township

Valley Township

Coatesville

Caln Township

South Coatesville Borough

Modena Borough

Highland Township

West Bradford Township

Newlin Township

West Marlborough Township

Stottsville Area

Mount Carmel Area

Victoria Hills/ Fox Chase Area

SBMS Area

Ercildoun Area

Park Ave Area

Fallowfield Farms Area

Doe Run Area

Rokeby Road Area

Spring Dell Area

Hephzibah Hill Area

High Meadows Area

Buck Run

UNT to Buck Run

Dennis Run

UNT to Dennis Run

West Branch Brandywine Creek

Glenrose

Strasburg Rd

Doe Run Rd

Goosetown

Fairview RD

Doe Run Church RD

Spring Dell RD

Longview RD

Hunter RD

Frog Hollow RD

Mink Hollow RD

Sawmill RD

Morgantown RD

Youngsburg

Strunks Crossroads

Brook Crossing

Hillrop MHP

Ercildoun MHP

Brandywine Manor

Branford Village

Fox Knoll

Fieldstone Village

Stone Creek

Green Tree

Manchester Farms

Providence Hill

Brinton Station

North Woods

Wellington Hunt

Strasburg Hunt

Carriage Forest

Fallowfield Farms

Doe Run Farms

Cumberland Farms

Hephzibah

Youngsburg

Glenrose

Buck Run

Dennis Run

Stone Creek

Green Tree

Fieldstone Village

Wellington Hunt

Fox Knoll

Brinton Station

Providence Hill

Manchester Farms

Strasburg Hunt

Carriage Forest

APPENDIX B

EAST FALLOWFIELD TOWNSHIP ACT 537 SEWAGE NEEDS ID SURVEY SUB-AREA ANALYSIS

SUB-AREA		TOTAL PARCELS	TOTAL SURVEYED	CM		SM		PM		NM		SF	CF	NOTES
High Meadows Area		110	46	1	2%	13	28%	11	24%	21	46%	8	5	2 SFs and 3 CFs did not respond to the Sewage Needs Survey
High Meadows Area	Small Parcels	47	25	0	0%	7	28%	7	28%	11	44%	2	1	
Hephzibah Hill Area		29	7	0	0%	5	71%	1	14%	1	14%	0	0	Contains 6 parcels between 0.04 Acres (1,742 s.f.) and 0.09 Acres (3,920 s.f.) in area along easterly side of Hephzibah Hill Road that did not respond to the Sewage Needs Survey
Hephzibah Hill Area	Small Parcels	24	4	0	0%	4	100%	0	0%	0	0%	0	0	
Doe Run Farms Area		143	69	2	3%	22	32%	22	32%	23	33%	16	7	8 SFs and 4 CFs did not respond to the Sewage Needs Survey
Doe Run Farms Area	Small Parcels	72	45	1	2%	12	27%	15	33%	17	38%	12	5	5 SFs and 2 CFs did not respond to the Sewage Needs Survey
Ercildoun Area		139	56	0	0%	24	43%	16	29%	16	29%	11	3	Contains Triple Fresh Market & Catering and Mobile Home Park (Cabrini Run, LLC) (Approx. 14 Units) and Apartments; 4 SFs and 3 CFs did not respond to the Sewage Needs Survey
Ercildoun Area	Small Parcels	73	32	0	0%	13	41%	13	41%	6	19%	8	3	3 SFs and 3 CFs did not respond to the Sewage Needs Survey
Rokeby Road Area		50	17	0	0%	5	29%	7	41%	5	29%	3	1	3 SFs and 1 CF did not respond to the Sewage Needs Survey
Rokeby Road Area	Small Parcels	26	8	0	0%	2	25%	4	50%	2	25%	3	0	3 SFs did not respond to the Sewage Needs Survey
Fallowfield Farms Area		115	48	1	2%	18	38%	11	23%	18	38%	12	8	8 SFs and 6 CFs did not respond to the Sewage Needs Survey
Fallowfield Farms Area	Small Parcels	34	31	1	3%	10	32%	9	29%	11	35%	3	0	3 SFs did not respond to the Sewage Needs Survey
Park Avenue Area		39	24	0	0%	8	33%	7	29%	9	38%	3	1	2 SFs and 1 CFs did not respond to the Sewage Needs Survey
Park Avenue Area	Small Parcels	26	14	0	0%	5	36%	4	29%	5	36%	1	1	1 SF and 1 CF did not respond to the Sewage Needs Survey
Victoria Hills/Fox Chase Area		156	62	2	3%	14	23%	25	40%	21	34%	9	10	7 SFs and 5 CFs did not respond to the Sewage Needs Survey
Victoria Hills/Fox Chase Area	Small Parcels	56	37	0	0%	9	24%	16	43%	12	32%	5	5	4 SFs and 2 CFs did not respond to the Sewage Needs Survey
Mount Carmel Area		24	15	0	0%	6	40%	7	47%	2	13%	6	1	2 SFs did not respond to the Sewage Needs Survey
Mount Carmel Area	Small Parcels	20	13	0	0%	6	46%	5	38%	2	15%	6	1	2 SFs did not respond to the Sewage Needs Survey
Stottsville Area		32	20	0	0%	15	75%	4	20%	1	5%	2	2	2 SFs and 1 CF did not respond to the Sewage Needs Survey
Stottsville Area	Small Parcels	24	14	0	0%	10	71%	3	21%	1	7%	2	2	2 SFs and 1 CF did not respond to the Sewage Needs Survey
Spring Dell Area		32	3	0	0%	0	0%	2	67%	1	33%	2	1	2 SFs and 1 CF did not respond to the Sewage Needs Survey
Spring Dell Area	Small Parcels	18	2	0	0%	0	0%	1	50%	1	50%	2	1	2 SFs and 1 CF did not respond to the Sewage Needs Survey

Small Parcels are properties less than one (1) acre in area

Total Surveyed Entire Study	CM		SM		PM		NM	
702	10	1%	226	32%	208	30%	258	37%

CM	Confirmed Malfunction	SF	System Failure
SM	Suspected Malfunction	CF	Certification Failure
PM	Potential Malfunction		
NM	No Malfunction		

APPENDIX C

FURNISHED UPON REQUEST

APPENDIX D

FURNISHED UPON REQUEST

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: James P. Kelly - Manager, Operations
Pennsylvania-American Water Company
Date: May 18, 2026

A-5 In the Application's Section 11, PAWC-WD indicated that wastewater service will be provided by the Main Extension from a point of connection with an existing PAWC-WD manhole located in the Branford Village subdivision to a point of connection with the New Elementary School lateral. However, the Application does not appear to include a copy of a map or plan that depicts the location or route of the Main Extension. Pursuant to 52 Pa. Code § 3.514(a)(2)(ii), an application must include a map or plan of suitable scale and detail highlighting the boundaries of the geographical area encompassing the proposed collection main extension including the location or route of the extended wastewater system. Please provide a map or plan of suitable scale depicting the location and route of the Main Extension that identifies pipe diameters and slopes, proposed manholes with top and invert elevations, the Pump Station, and other associated appurtenances.

RESPONSE:

Please see Construction Plans attached for the following:

Attachment A-5.1 - Construction Plans for Doe Run Pump Station

Attachment A-5.2 - Construction Plans for Doe Run Water and Wastewater

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-5.1

Construction Plans for Doe Run Pump Station

DOE RUN ROAD PUMP STATION
DESIGN PLANS

Tax Map Parcel 47-4-599
DOE RUN RD - SR 0082
East Fallowfield Township, Chester County, Pennsylvania

OWNER

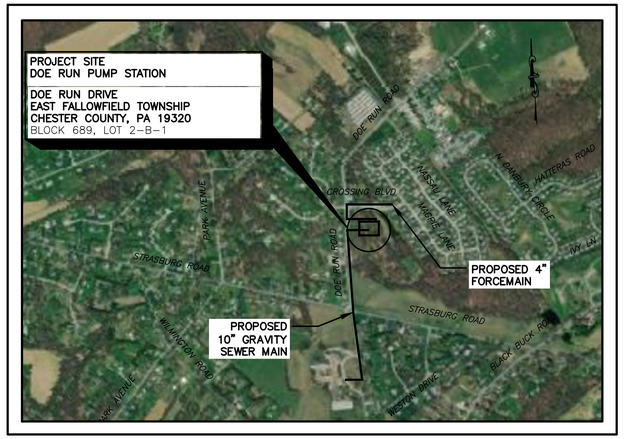
PENNSYLVANIA AMERICAN WATER COMPANY
100 CHESHIRE COURT SUITE 104
COATESVILLE, PA 19320
PHONE: 610-384-1776

CLIENT

COATESVILLE AREA SCHOOL DISTRICT ON BEHALF OF PENNSYLVANIA AMERICAN WATER COMPANY
256 DOE RUN ROAD
THORNDALE, PA 19372
PHONE: 610-466-2400

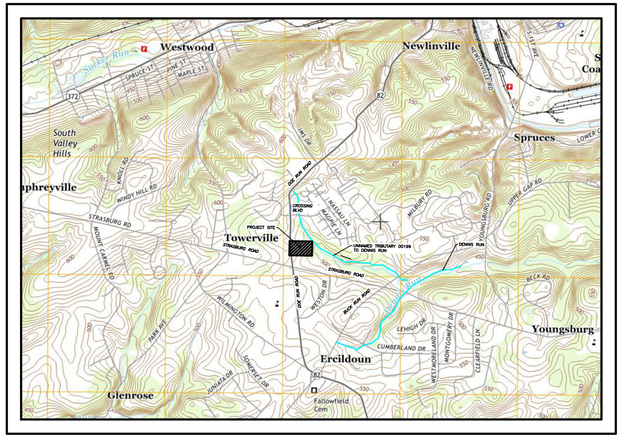
PROPERTY OWNER

EAST FALLOWFIELD TOWNSHIP
2264 STRASBURG ROAD
EAST FALLOWFIELD, PA 19320



LOCATION MAP

SCALE: 1"=1000



USGS LOCATION MAP

SCALE: 1"=1000

INDEX		
SHEET NO	DWG NO	DESCRIPTION
1	CVR	COVER SHEET
2	LEG-1	LEGEND AND NOTES
3	ESP-OVR	OVERALL EXISTING SITE PLAN
4	ESP-1	EXISTING SITE PLAN
5	CSP-1	CONSTRUCTION PLAN 1
6	GRD-1	GRADING & EROSION AND SEDIMENT CONTROL PLAN
7	UP-1	UTILITY PLAN
8	PP-1	PLAN AND PROFILE 1
9	PP-2	PLAN AND PROFILE 2
10	PSD-1	PUMP STATION SECTION AND DETAILS
11	CSD-1	CONSTRUCTION DETAILS 1
12	CSD-2	CONSTRUCTION DETAILS 2
13	CSD-3	CONSTRUCTION DETAILS 3
14	E-1	LIFT STATION CONDUIT & CABLE SCHEDULE
15	EP-010	TYPICAL LIFT STATION PUMP 208VAC POWER SCHEMATIC
16	EP-020	TYPICAL LIFT STATION PUMP 120VAC POWER SCHEMATIC
17	EP-040	TYPICAL LIFT STATION PUMP RELAY CONTROL SCHEMATIC
18	MP-001	TYPICAL LIFT STATION PUMP PANEL EXTERIOR LAYOUT
19	MP-010	TYPICAL LIFT STATION PUMP PANEL INTERNAL LAYOUT
20	E-2	DUPLEX SYSTEM FLOAT BYPASS CONDUIT & CABLE SCHEDULE
21	EP-130	DUPLEX SYSTEM FLOAT BYPASS 24VDC CONTROL SCHEMATIC
22	EP-140	DUPLEX SYSTEM FLOAT BYPASS RELAY CONTROL SCHEMATIC
23	MP-101	DUPLEX SYSTEM FLOAT BYPASS PANEL EXTERIOR LAYOUT
24	MP-110	DUPLEX SYSTEM FLOAT BYPASS PANEL INTERNAL LAYOUT
25-33		RESERVED
34	E-4	ELECTRICAL SITE PLAN
35	E-5	ELECTRICAL FLOOR PLAN AND DIAGRAM
36	E-6	ELECTRICAL DETAILS

T&M ASSOCIATES
YOUR GOALS. OUR MISSION.
74 WEST BROAD STREET, STE 530
BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

PREPARED BY
MICHAEL E. GABLE, P.E.
DEPARTMENT MANAGER

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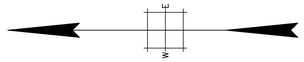
PROJECT INFORMATION:
FILE PATH: C:\Projects\SOA\100070\Plans\pump station plans\
FILE NAME: ESP-OVR.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 11:52AM
LAST SAVE BY: tgallagher

STANDARD LEGEND



NORTH ARROW

LEGEND

(ORIENTATION & SIZE MAY VARY)

EX. CONCRETE CURB LINE
EX. INLET
EX. MANHOLE
EX. TREE
EX. WATER VALVE
INFILTRATION TEST LOCATION
EX. TEST PIT
EX. VENT
EX. FENCE
EX. TREELINE
PROPERTY LINE
EX. ADJOINING PROPERTY LINE
EX. RIGHT-OF-WAY LINE
EX. GAS LINE
EX. SANITARY SEWER
EX. WATER LINE
EX. CABLE TELEVISION CONDUIT
EX. UNDERGROUND ELECTRIC
EX. UNDERGROUND TELEPHONE
EX. STORM SEWER
EX. BUCKEYE PARTNERS 10" HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE
EX. SUNOCO 8" HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE

EX. SIGN
EX. LIGHT POLE
EX. FIRE HYDRANT
EX. POLE
EX. CONTOUR
EX. SPOT ELEVATION
EX. BUILDING
STEEP SLOPES (15%-25%)
VERY STEEP SLOPES (>25%)

NEW SPOT ELEVATION
NEW BOLLARD
NEW CONCRETE CURB LINE
NEW FENCE LINE
NEW GUIDERAIL
NEW TREELINE
NEW INDEX CONTOUR
NEW INTERMEDIATE CONTOUR
NEW STORM PIPE
NEW SANITARY PIPE
NEW GAS SERVICE
NEW WATER MAIN
NEW DOMESTIC SERVICE
NEW FORCE MAIN

NEW BUILDING
NEW CONCRETE AREA
NEW ASPHALT PAVEMENT

NEW STORM STRUCTURES

NEW TYPE C INLET
NEW TYPE M INLET
NEW 2X2 YARD DRAIN
NEW STORMWATER PIPE (VARIOUS SIZES/MATERIALS)
NEW MANHOLE
NEW CLEANOUT
NEW 12X4 DOUBLE BOX
NEW ENDWALL
NEW INLET BOX (VARIOUS SIZES)

GENERAL CONSTRUCTION NOTES

1. CONTRACTOR TO COORDINATE ALL WORK WITH ALL IMPACTED UTILITY COMPANIES. ANY EXCAVATION WITHIN 4 FEET OF ANY UTILITY SHALL BE REPORTED TO THE UTILITY OWNER 3 DAYS PRIOR TO WORK. THIS NOTICE SHALL BE IN ADDITION TO THE PA ONE CALL NOTICES.
2. METALLIC PROTECTION TAPE IS REQUIRED ABOVE ALL UTILITIES.
3. A VERTICAL SEPARATION DISTANCE OF A MINIMUM OF 18" SHALL BE MAINTAINED BETWEEN THE WATER AND SANITARY LATERALS AND MAINS. WHERE THE SEWER LATERAL MUST CROSS OVER THE WATER LINE, THE SEWER LINE SHALL BE ENCASED IN CONCRETE, 12" THICK FROM TOP, BOTTOM, AND SIDES OF LINE, FOR A DISTANCE OF 10-FEET ON EITHER SIDE OF THE WATER LINE.
4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MATERIAL AND PROCEDURAL REQUIREMENTS OF PENNSYLVANIA AMERICAN WATER COMPANY AND PENNDOT PUBLICATION 408, LATEST EDITION.
5. ALL CONTRACTORS WORKING ON THIS PROJECT SHALL BE RESPONSIBLE FOR INSURING THAT ALL CONSTRUCTION ACTIVITIES RELATED TO THIS PROJECT ARE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION) STANDARDS.
6. BURYING OF TREES, STUMPS, OR CONSTRUCTION MATERIAL IS PROHIBITED.
7. CONTRACTOR SHALL IDENTIFY AND PROTECT REQUIRED LINES, LEVELS, CONTOURS, EXISTING FEATURES AND DATUM GENERALLY AS FOLLOWS:
   7.1. STAKE AND FLAG LOCATIONS OF KNOWN UTILITIES.
   7.2. PROTECT UTILITIES FROM DAMAGE.
   7.3. PROTECT PLANT LIFE, LAWNS, AND OTHER FEATURES WHICH ARE NOT SPECIFICALLY IDENTIFIED TO BE IMPACTED FROM DAMAGE.
   7.4. PROTECT BENCH MARKS AND PROPERTY CORNERS, SIDEWALKS, PAVING, AND CURBS FROM EXCAVATING EQUIPMENT AND VEHICULAR TRAFFIC.
   7.5. DO NOT EXCAVATE OR FILL WITH FROZEN OR WET SUBSOIL.
8. NO BITUMINOUS MATERIALS SHALL BE PLACED BETWEEN OCTOBER 31 AND APRIL 1, UNLESS OTHERWISE PERMITTED IN WRITING BY THE ENGINEER AND/OR PENNDOT.
9. CONTRACTOR SHALL HAVE THE SOURCE OF MATERIAL SUPPLY APPROVED BY THE ENGINEER PRIOR TO DELIVERY TO THE PROJECT.
10. PLACED TEMPERATURE RANGE OF BITUMINOUS BASE/WEARING COURSE SHALL BE 130° TO 160°C.
11. CONTRACTOR SHALL ALLOW THE DESIGNATED ENGINEER'S REPRESENTATIVE TO INSPECT ALL MATERIALS FOR GRADE AND TEMPERATURE PRIOR TO INSTALLATION. THE ENGINEER RESERVES THE RIGHT TO REJECT ANY MATERIALS WHICH DO NOT COMPLY WITH PENNSYLVANIA AMERICAN WATER COMPANY OR PENN DOT SPECIFICATIONS FOR USE IN ROADWAY CONSTRUCTION, AS APPLICABLE.
12. CONTRACTOR SHALL VERIFY ALL CONDITIONS AND ELEVATIONS PRIOR TO BEGINNING WORK.
13. CONTRACTOR SHALL FORM ROADBED AND/OR UTILITY TRENCHES TO THE ESTABLISHED SUB GRADE ELEVATION AND COMPACT TO 95%.
14. CONTRACTOR SHALL COAT SURFACES OF MANHOLE FRAMES, VALVE BOX FRAMES, ETC.. WITH OIL TO PREVENT BOND WITH ASPHALT PAVEMENT.
15. NO PAVING MATERIALS SHALL BE PLACED BEFORE THE SUB BASE PASSES A PROOF-ROLL TO THE ENGINEER'S REPRESENTATIVE'S SATISFACTION. SOFT AREAS WILL BE EXCAVATED AND PREPARED TO THE ENGINEER'S REPRESENTATIVE'S SATISFACTION.
16. NO PAVING SHALL BE INSTALLED IN AREAS OF STANDING WATER.
17. BITUMINOUS MATERIAL SHALL BE PLACED IN NO LESS THAN 2 1/2" (UNLESS THE TOTAL DEPTH SPECIFICATION IS LESS) AND NO MORE THAN 5" LIFTS.
18. ALL JOINTS, SEAMS AND SURFACE STRUCTURES (VALVE BOX COVERS, MANHOLE FRAME/COVERS...) SHALL BE SEALED WITH AC-20 LIQUID ASPHALT SEALER.
19. CONTRACTOR SHALL PROHIBIT ALL VEHICULAR TRAFFIC OR LOADS ON NEWLY PLACED PAVEMENT COURSES FOR 24 HOURS OR UNTIL THE MATERIAL HAS COOLED TO 60°C. ARTIFICIAL COOLING OF THE SURFACE IS PROHIBITED.
20. NO WORK IS PERMITTED PRIOR TO ALL REQUIRED APPROVALS BY PENN DOT, PA DEP AND, PENNSYLVANIA AMERICAN WATER COMPANY AS APPLICABLE ARE OBTAINED.
21. CONTRACTOR SHALL PROVIDE AND MAINTAIN ALL REQUIRED LIABILITY INSURANCE, WORKMAN'S COMPENSATION COVERAGE, AND LICENSING/ CERTIFICATIONS AS REQUIRED BY ALL FEDERAL, STATE AND LOCAL REQUIREMENTS. DOCUMENTATION SHALL BE AVAILABLE ON SITE AT ALL TIMES.
22. THE CONTRACTOR SHALL COORDINATE ALL WORK WITH UNDERGROUND UTILITIES/AGENCIES SUCH THAT UNDERGROUND INTERFERENCES ARE LOCATED AND AVOIDED IN ACCORDANCE WITH PA ACT 187 OF 1996. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING THE PENNSYLVANIA ONE CALL SYSTEM (1-800-242-1776, AT LEAST THREE (3) WORKING DAYS PRIOR TO ANY EXCAVATION. THE PA ONE CALL SYSTEM SERIAL NUMBER FOR THIS PROJECT IS ON THE COVER PAGE. THE CONTRACTOR SHALL BEAR THE SOLE RESPONSIBILITY TO REPAIR ALL UTILITIES DAMAGED THAT WERE LOCATED. UNMARKED UTILITY LINES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED BY THE CONTRACTOR AT THE COST PER THE CONTRACT DOCUMENT. HOWEVER, THIS DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER RESPONSIBILITY TO PROTECT UTILITIES. UTILITIES, MARKED OR UNMARKED THAT WERE DAMAGED AS A RESULT OF NEGLIGENCE ON THE PART OF THE CONTRACTOR WILL BE REPAIRED OR REPLACED AT THE CONTRACTORS' EXPENSE. THE CONTRACTOR SHALL ALSO KEEP ON SITE ALL REQUIRED MATERIALS TO REPLACE DAMAGED UTILITIES WITHIN A REASONABLE AMOUNT OF TIME.
23. THE CONTRACTOR SHALL PROPERLY MAINTAIN THE SITE DURING CONSTRUCTION SUCH THAT INJURIES OR PROPERTY DAMAGE WILL NOT OCCUR. SHOULD ANY VEHICULAR DAMAGE, PROPERTY DAMAGE, INJURY, OR OTHER TYPE OF MISHAP OCCUR DURING CONSTRUCTION DUE TO IMPROPER MAINTENANCE THE CONTRACTOR SHALL MAKE THE NECESSARY REPAIRS AT NO COST TO THE OWNER OR ENGINEER. ALL REPAIRS MUST BE APPROVED BY THE THE ENGINEER. THIS IS AN ACTIVE SITE AND THE CONTRACTOR SHALL MAINTAIN UNINTERRUPTED ACCESS AT ALL TIMES TO PENNSYLVANIA AMERICAN WATER COMPANY STAFF FOR CONTINUED WWTP OPERATIONS.
24. THE CONTRACTOR SHALL PROVIDE THE NECESSARY INSURANCE TO PENNSYLVANIA AMERICAN WATER COMPANY, AND T&M ASSOCIATES FROM ALL CLAIMS WHICH MAY ARISE OUT OF THE CONSTRUCTION. THE MINIMUM DECLARATION OF COVERAGES AND LIMITS OF LIABILITY ARE:

GENERAL LIABILITY EACH OCCURRENCE.	$ 1,000,000
GENERAL LIABILITY AGGREGATE.	$ 1,000,000
AUTOMOBILE LIABILITY EACH OCCURRENCE.	$ 1,000,000
EXCESS LIABILITY EACH OCCURRENCE	$ 2,000,000
EXCESS LIABILITY AGGREGATE	$ 2,000,000
WORKER'S COMPENSATION.	STATUTORY
EMPLOYER'S LIABILITY EACH ACCIDENT/DISEASE. . .	$ 10,000
DEDUCTIBLE.	$ 5,000

25. INSPECTIONS AS REQUIRED BY THE UCC SHALL BE IN ADDITION TO, NOT IN REPLACEMENT OF REQUIRED INSPECTIONS BY PENNSYLVANIA AMERICAN WATER COMPANY.
26. ALL PLAN REVISIONS OR FIELD CHANGES SHALL BE APPROVED BY THE AUTHORITY ENGINEER.
27. ALL CONDITIONS DEPICTED WHETHER ABOVE OR BELOW GRADE ARE TO THE BEST OF T&M ASSOCIATES KNOWLEDGE AND HAVE NOT BEEN VERIFIED BY SOIL BORINGS OR TESTS. SHOULD ANY CONDITION CONTRARY TO THAT DEPICTED ON THE DRAWINGS OR CONTRARY TO ACCEPTED CONSTRUCTION PRACTICES BE ENCOUNTERED DURING THE COURSE OF THE WORK, IT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
28. ALL MATERIALS AND EQUIPMENT SHALL BE CONSTRUCTED, INSTALLED, ERECTED, USED, OR CONNECTED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS, ALL APPLICABLE CODES, AS DIRECTED ON THE DRAWINGS, OR ACCORDING TO ACCEPTED CONSTRUCTION PRACTICE, WHICHEVER IS MORE STRINGENT. ANY DISCREPANCY BETWEEN ANY OF THE ABOVE AND THE WORK AS SHOWN ON THE DRAWINGS SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
29. THE WORK DEPICTED ON THE DRAWINGS IS THE DESIRED FINISHED PRODUCT. THE METHOD OF CONSTRUCTION, IN ACCORDANCE WITH THE DESIGN SPECIFICATIONS, AS WELL AS THE NECESSARY PRECAUTIONS TO BE EMPLOYED DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
30. IT SHALL BE THE CONTRACTORS RESPONSIBILITY FOR REQUIRED INSPECTIONS, MEETINGS AND COORDINATION WITH THE BOROUGH, THE BOROUGH AND THE AUTHORITY'S ENGINEER AND OTHER INTERESTED PARTY AS SPECIFIED BELOW.
   30.1. PRE-CONSTRUCTION MEETING SHALL BE HELD WITH ALL PARTIES.
   30.2. ALL UCC PERMITTING AND INSPECTIONS SHALL BE COORDINATED BY THE CONTRACTOR.
   30.3. THE CONTRACTOR SHALL PROVIDE THE AUTHORITY AND THE AUTHORITY ENGINEER NO LESS THAN 5 BUSINESS DAYS NOTICE PRIOR TO TAKING ANY PORTION OF THE EXISTING SYSTEM OFF LINE.
31. THE CONTRACTOR SHALL SUPPLY TO THE AUTHORITY A CONSTRUCTION SCHEDULE PRIOR TO ANY CONSTRUCTION ACTIVITIES. THIS SCHEDULE IS TO BE UPDATED BIWEEKLY AND SHALL INCLUDED COMPLETED WORK TO DATE, ANTICIPATED COMPLETION DATE, ANTICIPATED DELIVERY DATE OF SIGNIFICANT PROJECT ITEMS, AND ALL OTHER ITEMS DEEMED NECESSARY BY THE ENGINEER.
32. THE CONTRACTOR SHALL PROVIDE SANITARY FACILITIES FOR EMPLOYEES AND INSPECTORS/ENGINEERS THROUGHOUT THE COURSE OF CONSTRUCTION ON THIS PROJECT.
33. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED PROJECT ESPC PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
34. ALL WORK ON THIS PROJECT SHALL COMPLY WITH PA CODE, TITLE 25, CHAPTERS 91, 93, 102, 105 AND 109.
35. THE CONTRACTOR SHALL BE TRAINED AND REVIEW THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, TECHNICAL GUIDANCE NUMBER 363-2134-008, DATED MARCH 2012 PRIOR TO ANY EARTH WORK ON THIS PROJECT.
36. CONTRACTOR TO COORDINATE ALL WORK WITH ALL IMPACTED UTILITY COMPANIES. ANY EXCAVATION WITHIN 4 FEET OF ANY UTILITY SHALL BE REPORTED TO THE UTILITY OWNER 3 DAYS PRIOR TO WORK. THIS NOTICE SHALL BE IN ADDITION TO THE PA ONE CALL NOTICES.
37. THE ELECTRICAL CONTRACTOR SHALL INSTALL THE CONTROL SYSTEM COMPLETE TO BE PROGRAMMED BY THE AUTHORITY'S CONTROL CONSULTANT. THE ELECTRICAL CONTRACTOR SHALL RUN, BUT NOT LAND ALL SIGNAL/COMMUNICATION WIRES TO EXISTING CONTROL SYSTEMS. THE AUTHORITY CONTROL CONSULTANT WILL LAND ALL CONTROL SIGNAL/COMMUNICATION LINES ON ALL EXISTING COMPONENTS. CONTRACTOR TO LAND ALL SIGNAL/COMMUNICATION FROM NEW COMPONENTS TO NEW COMPONENTS ONLY.

GENERAL SANITARY SEWER NOTES:

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT RULES AND REGULATIONS FOR THE AUTHORITY WASTEWATER TREATMENT PLANT AND COLLECTION SYSTEM, THESE PLANS AND CONTRACT DOCUMENTS, AND SPECIFICATIONS PREPARED BY T&M ASSOCIATES.
2. CONTRACTOR SHALL FURNISH, INSTALL, AND TEST ALL MATERIALS IN ACCORDANCE WITH THESE PLANS AND ASSOCIATED SPECIFICATIONS, AND SHALL SUBMIT SHOP DRAWINGS AND TESTING SPECIFICATIONS TO THE PENNSYLVANIA AMERICAN WATER COMPANY (PAWC) FOR APPROVAL PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO PENNSYLVANIA AMERICAN WATER COMPANY (PAWC) PRIOR TO ORDERING MATERIALS FOR THE PROJECT.
4. ALL GRAVITY SANITARY SEWER MAINS SHALL BE SDR 35 PVC IN ACCORDANCE WITH SPECIFICATIONS UNLESS THE BURIED DEPTH IS GREATER THAN 12 FEET, WHICH SDR 26 PVC SHALL BE UTILIZED.
5. ALL SANITARY SEWER LATERALS SHALL BE 4-INCH PVC WITH 2% MINIMUM SLOPE FROM THE BUILDING UNLESS OTHERWISE NOTED AND SPECIFICALLY APPROVED BY THE ENGINEER. INSTALL CLEAN OUTS AT ALL CHANGES IN DIRECTION AND AT THE STREET OR SEWER EASEMENT ROW LINE AND TEST IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS.
6. UTILITY TRENCHES SHALL BE SHORED IN ACCORDANCE WITH OSHA STANDARDS.
7. PIPE SHALL BE LAID TO A UNIFORM LINE AND GRADE BETWEEN MANHOLES OR CLEANOUTS. SOCKET ENDS UPGRADE, WITH A FIRM AND EVEN BEARING ALONG THE BARREL OF THE PIPE. THE INTERIOR OF EACH PIPE SHALL BE CLEANED OF ALL EXCESS JOINT AND FOREIGN MATERIAL BEFORE THE NEXT PIPE IS LAID. THE PIPE SHALL BE LAID IN THE BEDDING MATERIAL AS SPECIFIED. PIPE-LAYING SHALL COMMENCE AT THE LOWEST POINT AND PROCEED UPGRADE. AT THE CLOSE OF EACH DAY'S WORK AND AT SUCH OTHER TIMES WHEN THE PIPE IS NOT BEING LAID, THE OPEN END OF THE PIPE SHALL BE PROTECTED WITH A FITTING STOPPER.
8. UNDER NO CIRCUMSTANCES WILL ANY PIPE BE INSTALLED IN A TRENCH CONTAINING WATER, OR A BED CONTAINING FROST.
9. PIPE BEDDING SHALL BE PLACED IN LAYERS NOT EXCEEDING 6-INCHES AND COMPACTED TO 95%. BACK FILLING SHALL NOT DISTURB OR DAMAGE ANY WORK.
10. THE CONTRACTOR SHALL TEST EACH SECTION OF SEWER BETWEEN MANHOLES AND ALL LATERALS TO THE LIMIT OF THE WORK AS OUTLINED IN THE TOWNSHIP SPECIFICATIONS.
11. ALL MATERIALS, WORK, AND TESTING SHALL BE IN ACCORDANCE WITH TOWNSHIP, PENNSYLVANIA AMERICAN WATER COMPANY OR PENNDOT SPECIFICATIONS AND THE PA UNIFORM CONSTRUCTION CODE, PA WASTE WATER FACILITIES MANUAL, AND THIS O&M PLAN, WHICHEVER IS MORE RESTRICTIVE.
12. ALL INSTALLATION AND TESTING OF SANITARY SEWER SYSTEMS SHALL BE WITNESSED AND INSPECTED BY THE PENNSYLVANIA AMERICAN WATER COMPANY/COATESVILLE AREA SCHOOL DISTRICT PURSUANT TO THE PENNSYLVANIA AMERICAN WATER COMPANY (PAWC) REGULATIONS. NOTICES SHALL BE MADE BY THE CONTRACTOR TO COATESVILLE AREA SCHOOL DISTRICT 24 HOURS PRIOR TO ANY WORK BEING PERFORMED TO ALLOW FOR ALL INSPECTIONS.
13. THE CONTRACTOR SHALL PROVIDE THE PENNSYLVANIA AMERICAN WATER COMPANY (PAWC) WITH THREE (3) PAPER COPIES OF AS-BUILT PLANS, AND TWO (2) DISCS CONTAINING A PDF OF THE DRAWING(S) WITH THE SUPPORTING AUTOCAD DRAWING(S) INDICATING THE FOLLOWING:
   13.1. THE DATUMS SHALL BE NORTH AMERICAN DATUM OF 1983 (NAD 83) AND NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
   13.2. THE PLAN SHALL BE SIGNED BY A PROFESSIONAL ENGINEER OR SURVEYOR.
   13.3. THE PLAN SHALL INCLUDE THE FOLLOWING INFORMATION:
      13.3.1. THE TRACT BOUNDARY WITH EXISTING AND PROPOSED LOT LINES
      13.3.2. GRAPHIC AND WRITTEN SCALE
      13.3.3. RIM/GRATE AND INVERT ELEVATION OF ALL SANITARY AND STORM MANHOLES, INLETS, CLEANOUT AND INSPECTION PORTS, AND HEADWALLS
      13.3.4. LOCATION AND INVERTS OF ALL SANITARY SEWER AND WATER GATE VALVES, FIRE HYDRANTS, METER PITS, CLEANOUTS AND OTHER SIMILAR UTILITY STRUCTURES.
      13.3.5. LOCATION AND LIMIT OF ALL WOODLANDS, STREAMS AND FLOODWAYS WITH FLOOD PLAINS, PAVEMENT, FENCE LINES, CONCRETE, CURBING, AND GRAVEL LINES
      13.3.6. AS-BUILT TOPOGRAPHY IN 1-FOOT CONTOUR INTERVALS
      13.3.7. LOCATION OF ALL EASEMENTS AND RIGHTS-OF-WAY
      13.3.8. LOCATION OF ALL UNDERGROUND UTILITIES, MONITORING WELLS, TANKS, UTILITY POLES AND OVERHEAD WIRES, GUIDE WIRES, UTILITY SERVICE LATERALS, AND OTHER SIMILAR FEATURES
14. TESTING
   14.1. DEFLECTION TEST OF MAINS (FROM MANHOLE TO MANHOLE) - RIGID BALL OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER NOT LESS THAN 95% OF THE BASE INSIDE DIAMETER OR AVERAGE INSIDE DIAMETER OF THE PIPE, DEPENDING ON WHICH IS SPECIFIED IN THE ASTM SPECIFICATION, INCLUDING THE APPENDIX, TO WHICH THE PIPE IS MANUFACTURED. THE PIPE SHALL BE MEASURED IN COMPLIANCE WITH ASTM D 2122 STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE TEST SHALL BE PERFORMED WITHOUT MECHANICAL PULLING DEVICES.
   14.2. SANITARY SEWER MAIN AND LATERAL LEAKAGE TESTS - LEAKAGE TESTS SHALL BE PERFORMED. THIS MAY INCLUDE APPROPRIATE WATER OR LOW PRESSURE AIR TESTING. THE LEAKAGE EXFILTRATION OR INFILTRATION ON MAINS SHALL NOT EXCEED 100 GALLONS PER INCH OF PIPE DIAMETER PER MILE PER DAY FOR ANY SECTION OF THE SANITARY SEWER SYSTEM. AN EXFILTRATION OR INFILTRATION TEST SHALL BE PERFORMED WITH A MINIMUM POSITIVE HEAD OF 2-FEET. NO LEAKAGE IS PERMITTED ON LATERALS / BUILDING SEWERS.
   14.3. MANHOLE TESTS - TESTS FOR MANHOLES SHALL BE PROVIDED. THE TEST MAY INCLUDE WATER OR VACUUM TESTING. IN THE WATER TEST, EXFILTRATION SHALL NOT EXCEED A RATE OF 0.019 GALLONS PER DAY PER INCH OF MANHOLE DIAMETER PER VERTICAL FOOT OF MANHOLE DURING A CONTINUOUS FOUR (4) HOUR TEST PERIOD. THE VACUUM TESTING SHALL BE IN ACCORDANCE WITH THE TESTING EQUIPMENT MANUFACTURER'S WRITTEN INSTRUCTIONS AND THE TEST RESULTS COMPARED TO THE MANUFACTURER'S PUBLISHED VACUUM TEST TABLES.
   14.4. THE PENNSYLVANIA AMERICAN WATER COMPANY (PAWC) DESIGNATED AGENT SHALL BE PRESENT FOR ALL FINAL ACCEPTANCE TESTS.
15. ALL WATER ACCUMULATED IN ANY EXCAVATION SHALL BE REMOVED AND DEWATERED THROUGH THE PUMPED WATER FILTER BAG PRIOR TO BACKFILL.
16. ALL EXCAVATION WITHIN 4-FEET OF ANY ACTIVE SEWAGE FORCE MAIN SHALL BE PERFORMED BY A HYDRO EXCAVATOR.
17. ANY EXISTING MANHOLE LID WHICH IS OPENED BY THE CONTRACTOR SHALL BE SECURELY CLOSED BY THE CONTRACTOR WHEN NOT ACTIVELY SUPERVISED. THE LID SHALL BE SECURELY SHUT, ANY DEBRIS ON THE RIM RISER SHALL BE REMOVED TO ENSURE FULL CONTACT BETWEEN THE RIM AND THE LID. MANHOLE INSERTS SHALL BE REINSTALLED. IF AN INSERT IS NOT PRESENT, THE CONTRACTOR SHALL INFORM THE AUTHORITY IMMEDIATELY. IF THE AUTHORITY IS NOT INFORMED OF MISSING INSERTS IT IS ASSUMED THE INSERT WAS LOST BY THE CONTRACTOR AND THE CONTRACTOR WILL BE REQUIRED TO INSTALL A NEW INSERT AT NO COST TO THE AUTHORITY.
18. CONTRACTOR MUST COMPLY WITH REQUIREMENTS NOTED IN THE PENNSYLVANIA AMERICAN WATER STANDARD WASTEWATER PIPELINE SPECIFICATIONS.

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2.	3/10/2026	REVISED PER PAW LETTER DATED 2/12/2026	CR	MEG
1.	2/2/2026	REVISED PER PAW LETTER DATED 2/28/2026	IP	MEG

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

LEGENDS & NOTES

T AND M
YOUR GOALS. OUR MISSION.
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BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

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SHEET	2 OF 36

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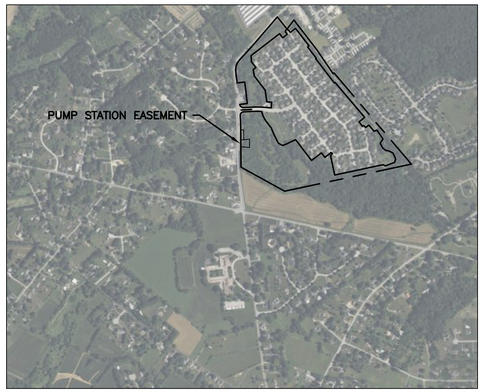
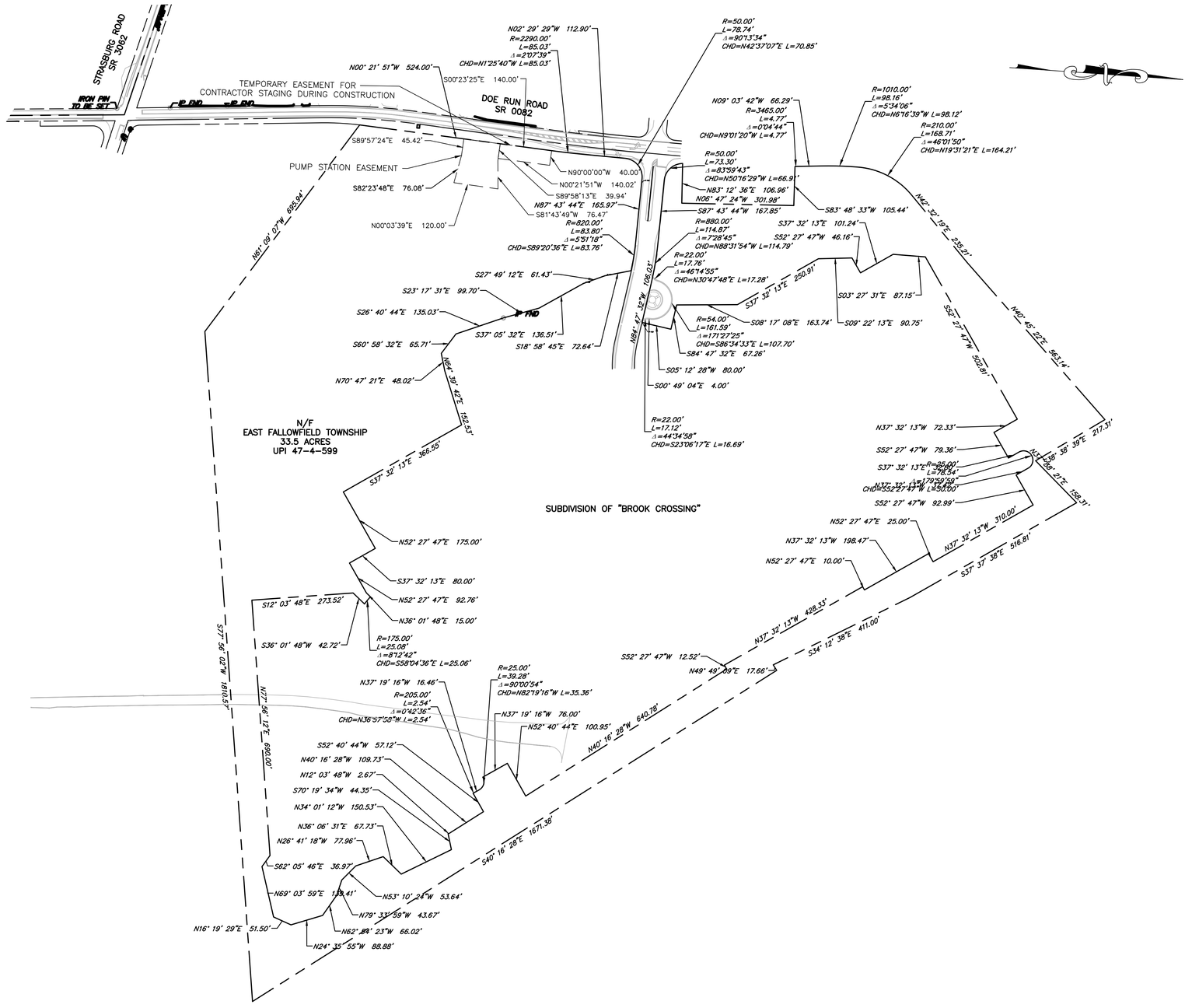


LOCATION MAP
1" = 1000'



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2.	REVISED PER PAW LETTER DATED 3/28/2026	MEG
		CHKD

MICHAEL E. GABLE, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

COATESVILLE AREA SCHOOL DISTRICT

DOE RUN ROAD PUMP STATION

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

OVERALL EXISTING SITE PLAN

T&M ASSOCIATES
YOUR GOALS. OUR MISSION.
74 WEST BROAD STREET, STE 300
BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

OFFICES LOCATED IN:
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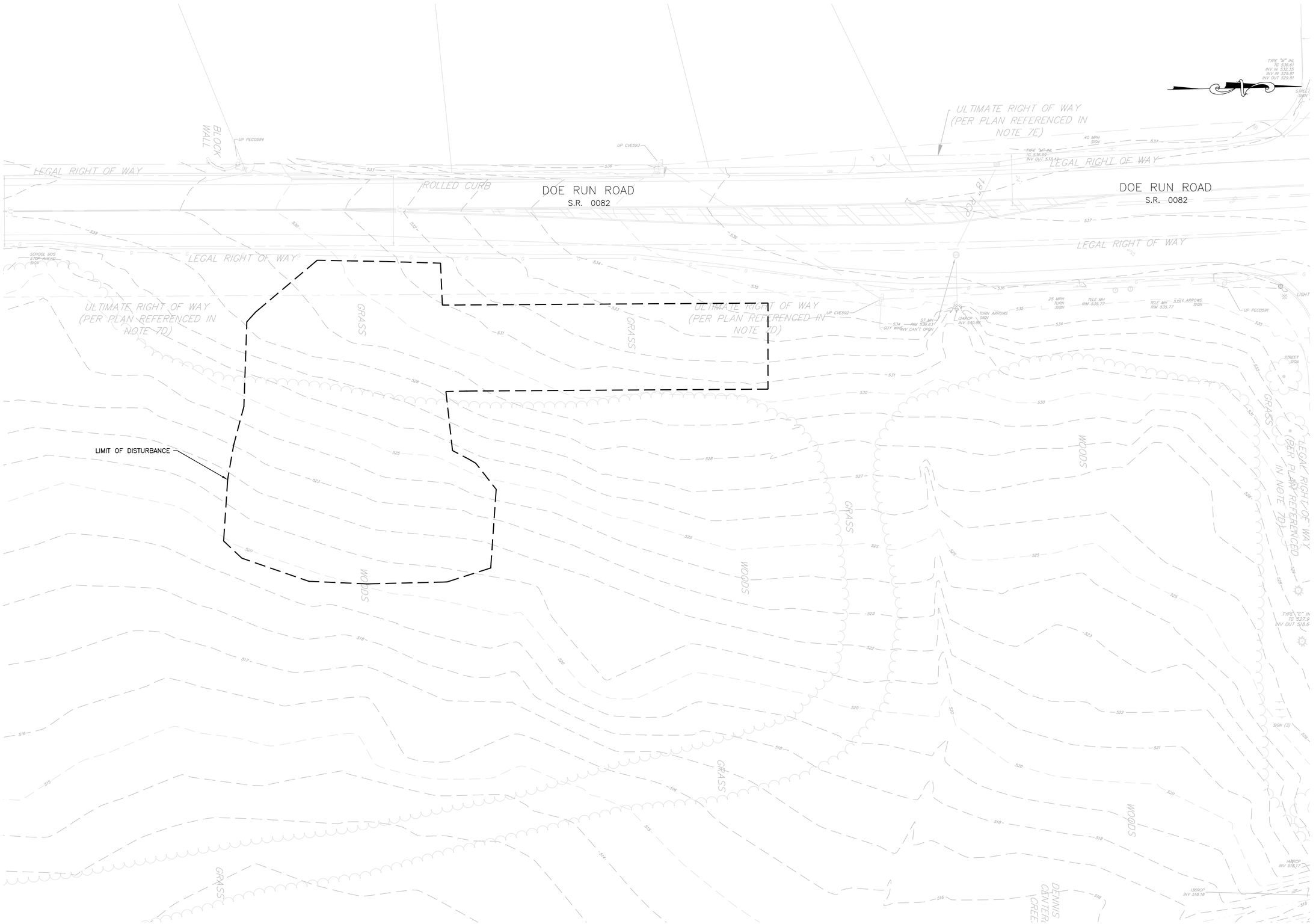

EXISTING SITE PLAN
1" = 20'

20' 10' 0 20' 40'
1" = 20'

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MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

EXISTING SITE PLAN

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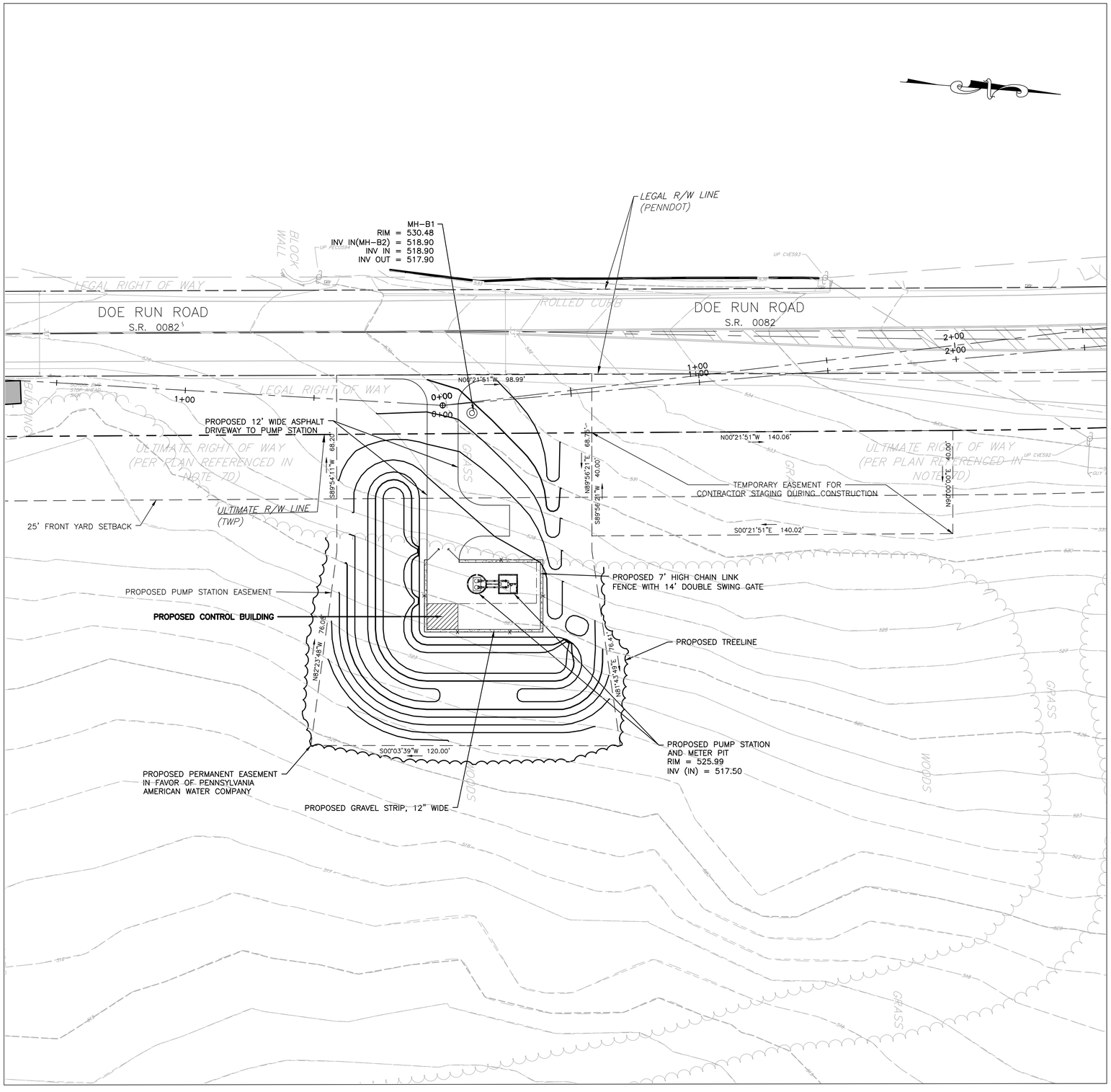

CONSTRUCTION SITE PLAN
1" = 20'

20' 10' 0 20' 40'
1" = 20'

PUMP STATION NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE CURRENT PENNSYLVANIA DEP SEWAGE MANUAL PUBLICATION NO. 1.
2. CONTRACTOR SHALL FURNISH, INSTALL AND TEST ALL MATERIALS IN ACCORDANCE WITH THE SEWER AUTHORITY'S STANDARD SPECIFICATIONS, LATEST EDITION, AND, THE PA UCC INCLUDING SUBSECTION BUILDING AND PLUMBING CODES.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO ORDERING MATERIALS FOR THE PROJECT. SHOP DRAWINGS SHALL INCLUDE, BUT NOT LIMITED TO:
   - 3.1. ANTI-BUOYANCY RING WITH CALCULATIONS ASSUMING WATER TO TOP OF STRUCTURES.
   - 3.2. FINAL DESIGN OF CONTROL PANEL WITH ALL ELECTRICAL AND CONTROL SYSTEMS.
   - 3.3. PUMP WITH PUMP CURVE
   - 3.4. METER
   - 3.5. VAULT AND WET WELL STRUCTURE
   - 3.6. VALVES AND FITTINGS
   - 3.7. CONTROL PANEL POST WITH BACK BOARD AND BRACKETS
   - 3.8. STRUCTURE LIDS
   - 3.9. FLOAT SYSTEM
   - 3.10. OTHER ITEMS AS REQUESTED BY THE PENNSYLVANIA AMERICAN WATER STANDARD WASTEWATER PIPELINE INSTALLATION SPECIFICATION.
4. UTILITY TRENCHES SHALL BE SHORED IN ACCORDANCE WITH OSHA STANDARDS.
5. ALL CONTRACTORS/PLUMBERS AND QUALIFIED INDIVIDUALS MAKING CONNECTION TO THE SEWER SYSTEM SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL REQUIREMENTS AND RULES OF THE AUTHORITY AND THE AUTHORITY'S STANDARD CONSTRUCTION SPECIFICATIONS.
6. ALL PRESSURE FITTINGS, VALVES AND PLUGS SHALL UTILIZE COMPRESSION ADAPTER FITTINGS.
7. METALLIC PROTECTION TAPE IS REQUIRED ABOVE ALL UTILITIES. SANITARY SHALL BE 6" MARKING TAPE WITH BURIED SEWER LINE, SET 12" ABOVE THE LINE.
8. ALL ELECTRICAL SYSTEMS SHALL MEET OR EXCEED THE NEC.
9. ELECTRICAL PANEL SHALL BE EQUIPPED EMERGENCY DISCONNECT FOR CONNECTION OF PORTABLE GENERATOR.
10. THE PUMP STATION SHALL BE EQUIPPED WITH A CONTROLLER WHICH PROVIDES FOR HIGH/LOW LEVEL ALARMS CONNECTED TO AN AUDIBLE AND VISUAL ALARM AND ALARM AUTO-DIALER. THE CONTROLLER SHALL ALSO PROVIDE A RUN TIME METER FOR EACH PUMP.
11. THE CONTROL PANEL, WET WELL AND VALVE PIT SHALL ALL BE SECURED WITH LOCKABLE LIDS/DOORS.
12. THE PROPOSED PUMP STATION SHALL PRODUCE 80 GPM AT 25.31 FT TDH WITH THE FOLLOWING SET POINTS:
    - 12.1. INV IN 517.50
    - 12.2. ALARM 516.80
    - 12.3. PUMP ON 516.30
    - 12.4. PUMP OFF 514.30

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03-10-2026
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PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
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CONSTRUCTION SITE PLAN

T&M AND ASSOCIATES
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SHEET 5 OF 36

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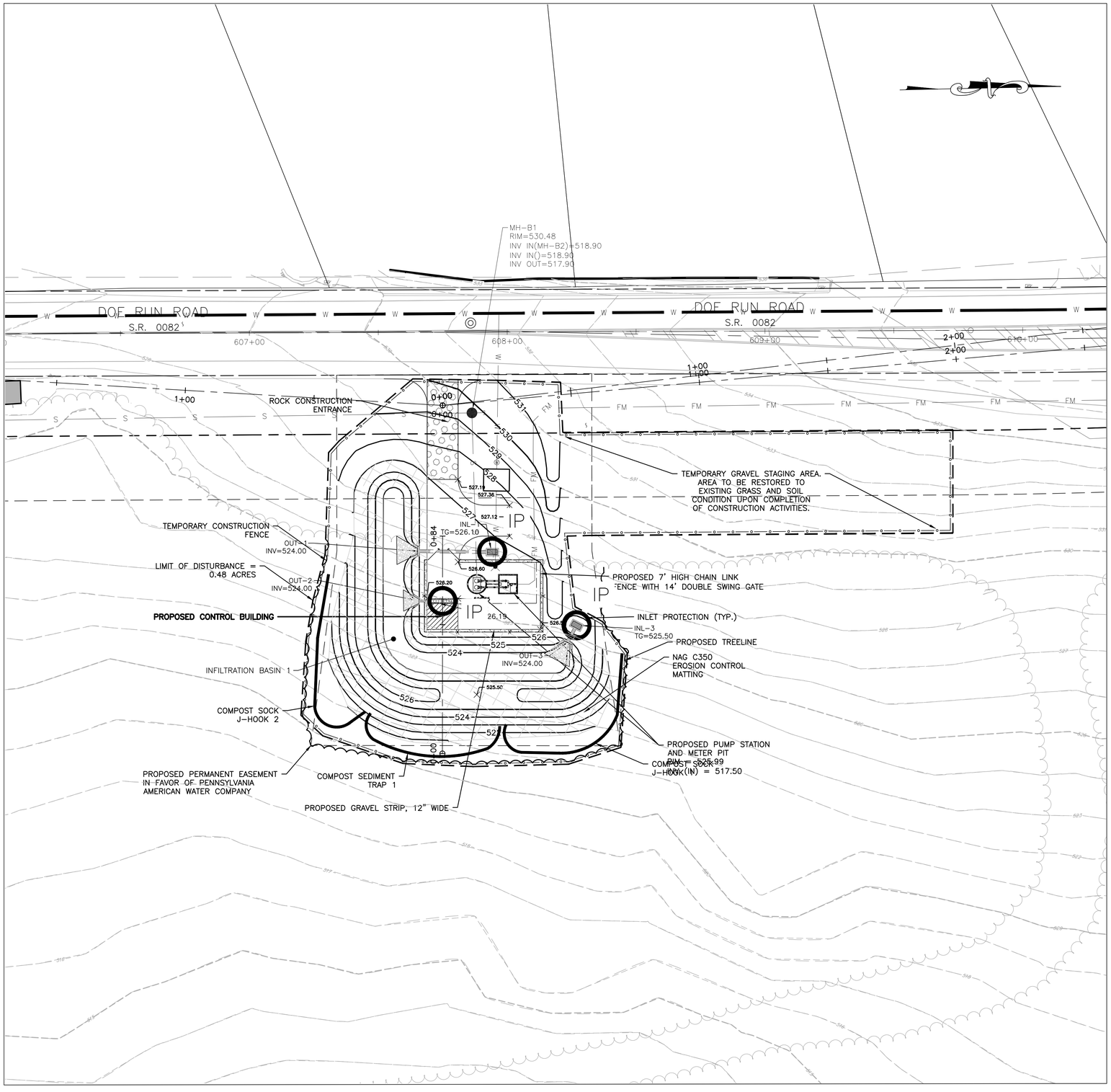

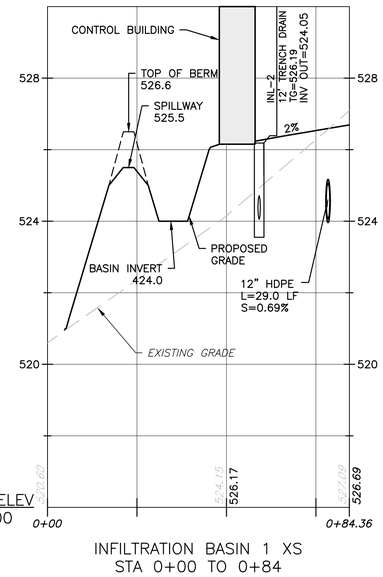

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STORM STRUCTURE TABLE	
NAME	STRUCTURE DETAILS
INL-1	STD INLET BOX W/ TYPE M ALT. FRAME
INL-2	12' TRENCH DRAIN
INL-3	STD INLET BOX W/ TYPE M ALT. FRAME
OUT-1	D-W ENDWALL
OUT-2	FLARED END SECTION
OUT-3	D-W ENDWALL

STORM PIPE TABLE				
NAME	SIZE	LENGTH	SLOPE	MATL
INL-1 TO OUT-1	12"	29.0'	0.69%	HDPE
INL-2 TO OUT-2	8"	3.0'	1.68%	HDPE
INL-3 TO OUT-3	12"	7.5'	0.67%	HDPE

20' 10' 0 20' 40'
1" = 20'

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MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

GRADING & EROSION AND SEDIMENT CONTROL PLAN

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SHEET	6 OF 36

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\pump station plans\
FILE NAME: SGAL00070_GRD.dwg
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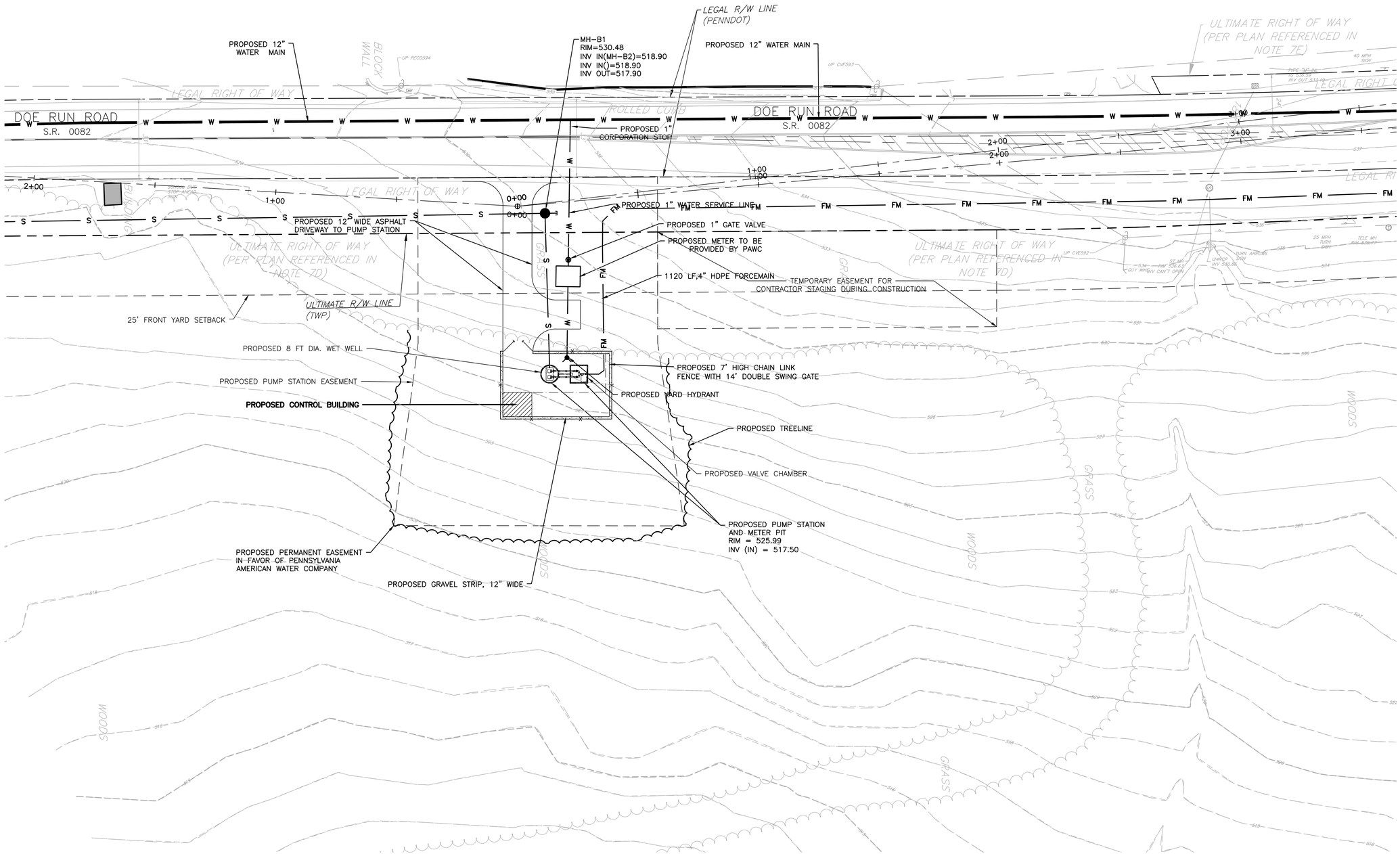

UTILITY PLAN
1" = 20'

NO.	DATE	REVISIONS	BY	CHKD
2.	3/10/2026	REVISED PER PAW LETTER DATED 2/12/2026	CR	MEG
1.	2/2/2026	REVISED PER PAW LETTER DATED 1/28/2026	IP	MEG

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

UTILITY PLAN

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DATE	10-29-2025
SCALE	AS NOTED
PROJ. NO.	SGAL00070
DRAWING	UP-1
SHEET	7 OF 36

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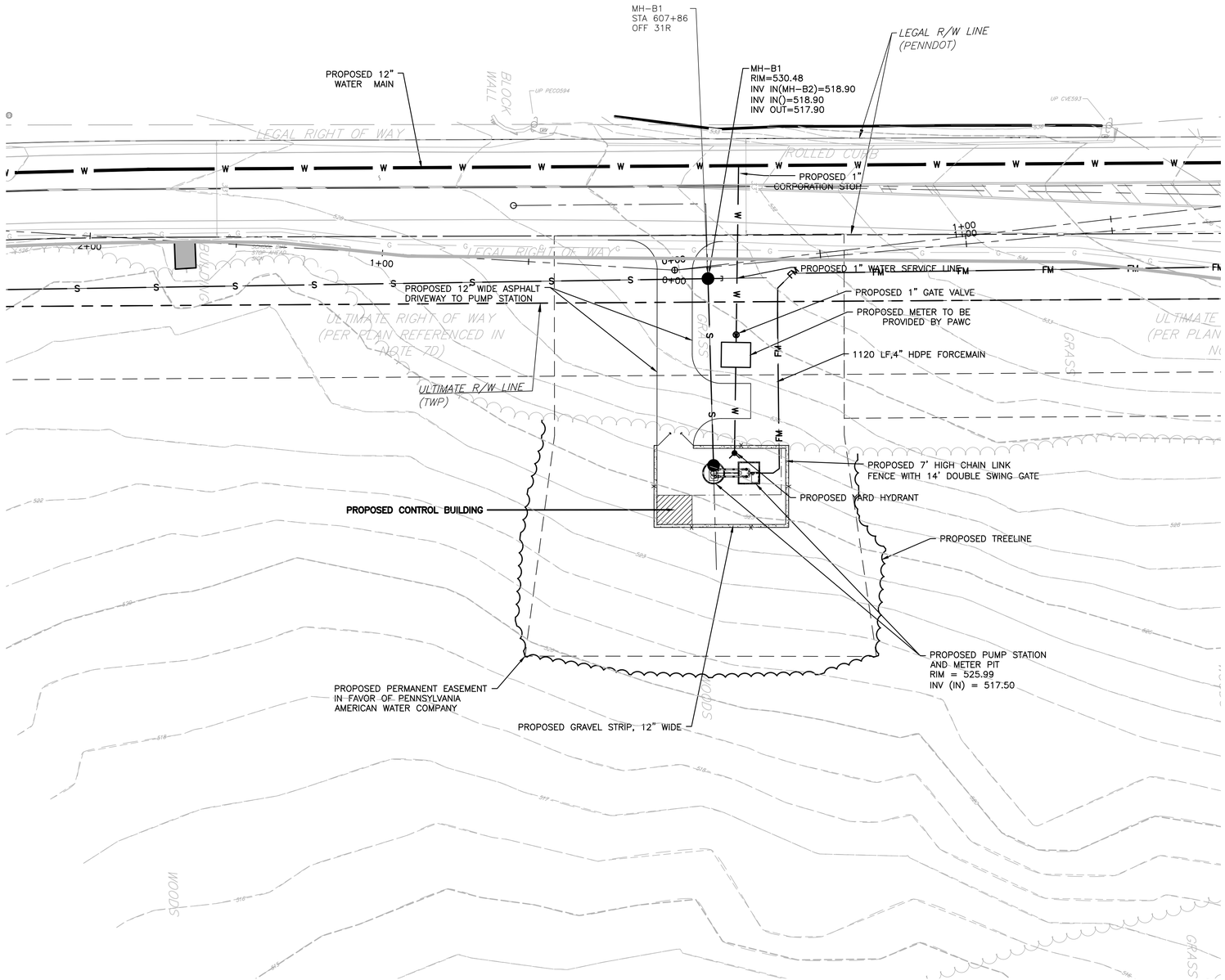
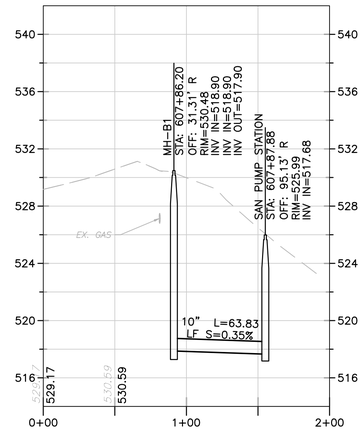
LAST SAVE BY: lgallagher



CONSTRUCTION SITE PLAN
(STA. 0+00 – STA. 2+00)
1" = 20'



SMH-B1 TO PUMP STATION
STA 0+00 TO 2+00

HORIZONTAL
GRAPHIC SCALE
50' 25' 0 50' 100'
1" = 50'

VERTICAL
GRAPHIC SCALE
5' 2.5' 0 5' 10'
1" = 5'

LEGEND
EXISTING GRADE
FINISHED GRADE

NO.	DATE	REVISIONS	BY	CHKD
2.	3/10/2026	REVISED PER PAW LETTER DATED 2/12/2026	CR	MEG
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03-10-2026
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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

MANHOLE TO PUMP STATION ALIGNMENT
PLAN & PROFILE 1

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DATE	10-29-2025
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PROJ. NO.	SGAL00070
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SHEET	8 OF 36

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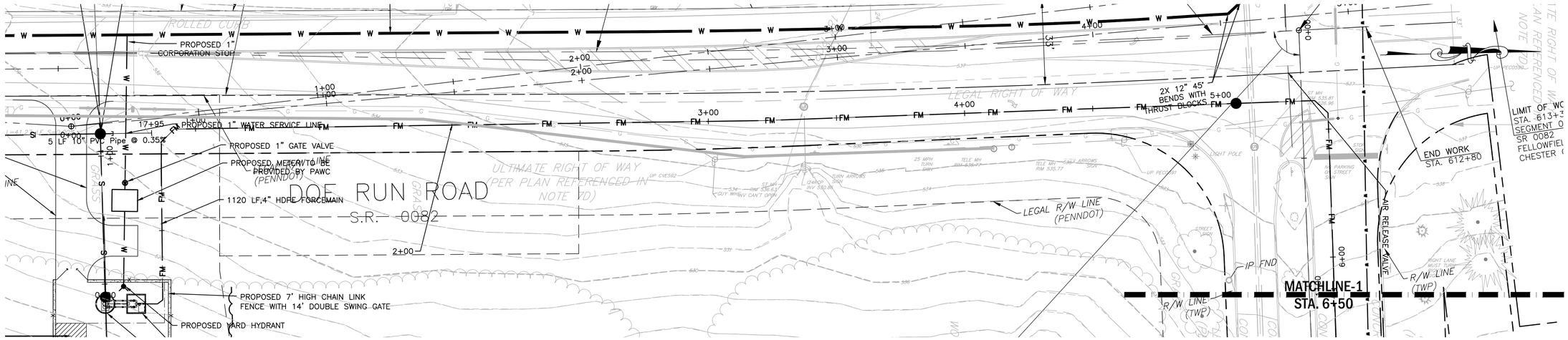
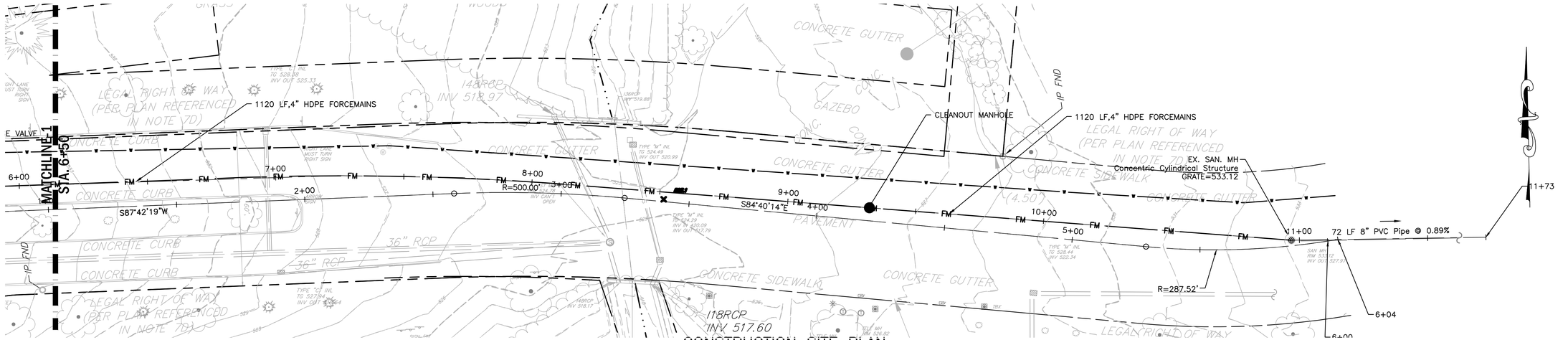
FILE NAME: SGAL00070_PP.dwg
LAST SAVED: Tue, 10 Mar 2026, 2:08PM
LAST SAVE BY: CRoldan



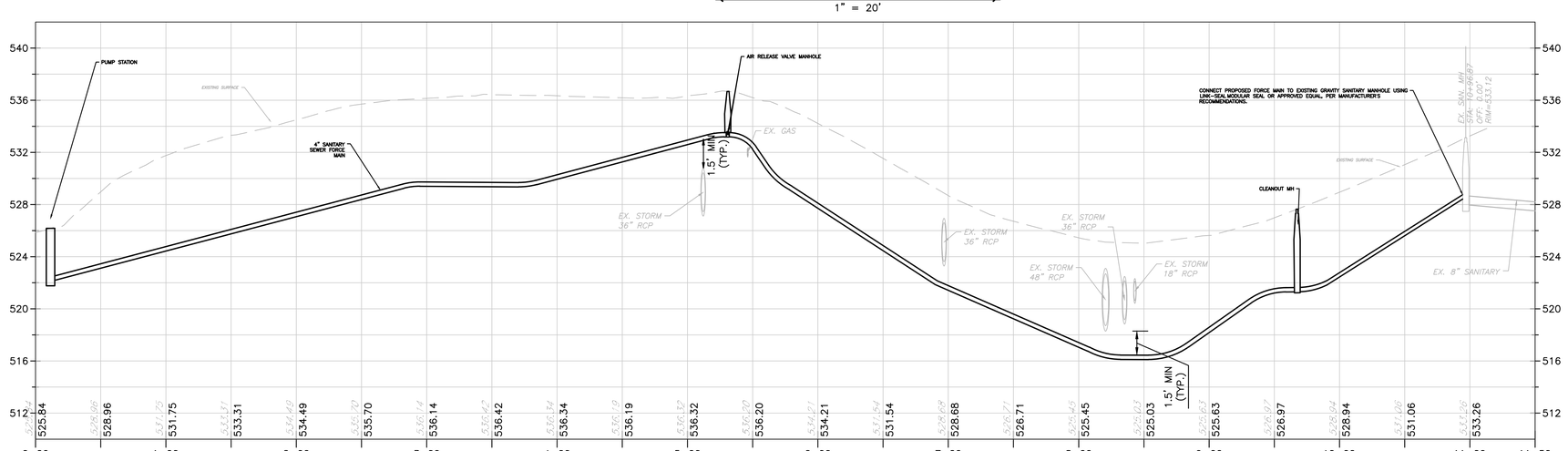
CONSTRUCTION SITE PLAN (STA. 0+00 – STA. 6+50)

1" = 20'



CONSTRUCTION SITE PLAN (STA. 6+50 – STA. 12+00)

1" = 20'



SANITARY FORCE MAIN STA 0+00 TO 11+50

LEGEND

EXISTING GRADE

FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
50' 25' 0 50' 100'
1" = 50'

VERTICAL GRAPHIC SCALE
5' 2.5' 0 5' 10'
1" = 5'

NO.	DATE	REVISIONS	BY	CHKD
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03-10-2026
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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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FORCEMAIN ALIGNMENT
PLAN & PROFILE 2

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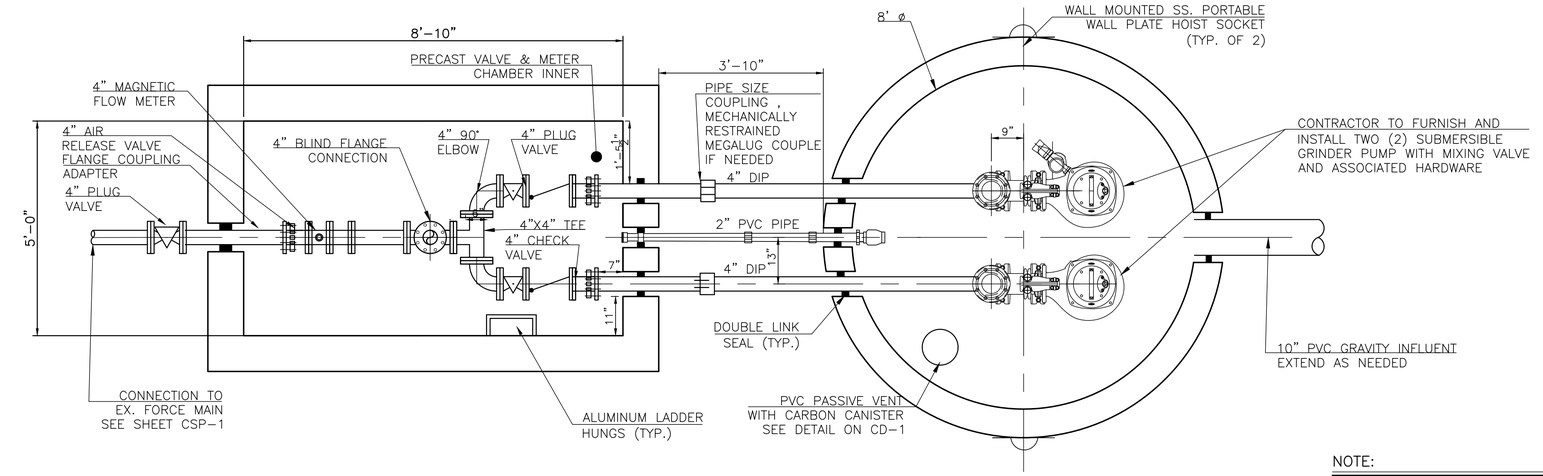
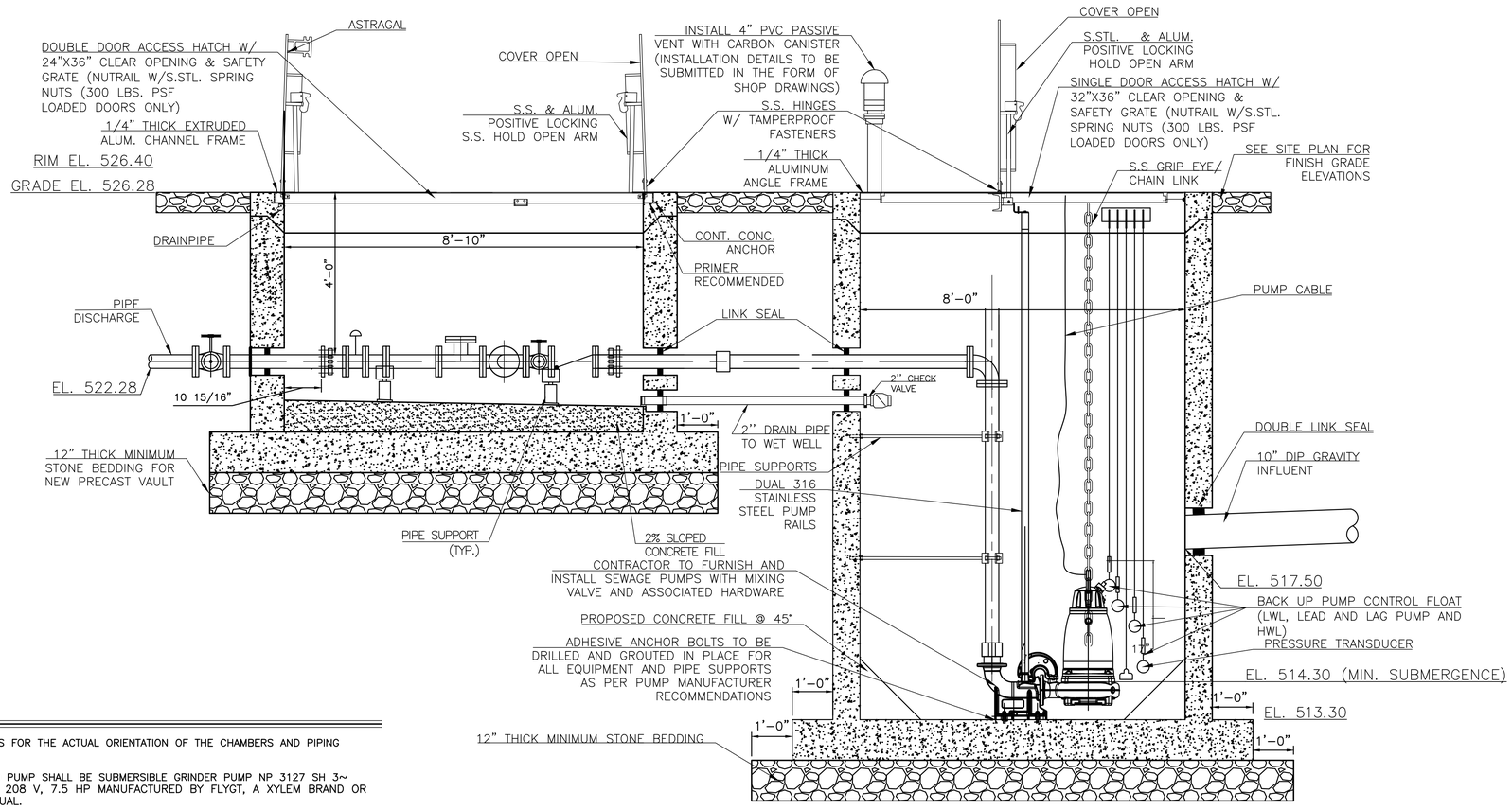


PLAN VIEW
1" = 20'

NOTE:

1. ALL THE MATERIAL WITHIN THE WET WELL MUST BE STAINLESS STEEL OR ALUMINUM.



SECTION VIEW
1" = 20'

NOTES

1. SEE SITE PLANS FOR THE ACTUAL ORIENTATION OF THE CHAMBERS AND PIPING CONNECTION.
2. THE PROPOSED PUMP SHALL BE SUBMERSIBLE GRINDER PUMP NP 3127 SH 3~ ADAPTIVE 445 208 V, 7.5 HP MANUFACTURED BY FLYGT, A XYLEM BRAND OR APPROVED EQUAL.
3. THE PROPOSED PUMP SHALL PRODUCE 80 GPM AT 25.31 FT TDH WITH SET POINTS GIVEN BELOW:
   - 3.1. INV IN: 517.50
   - 3.2. ALARM: 516.80
   - 3.3. PUMP ON: 516.30
   - 3.4. PUMP OFF: 514.30
4. ALL THE MATERIAL WITHIN THE WET WELL MUST BE STAINLESS STEEL OR ALUMINUM.

PUMP STATION – PLAN & SECTION VIEW
1" = 20'

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03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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PUMP STATION SECTION AND DETAILS

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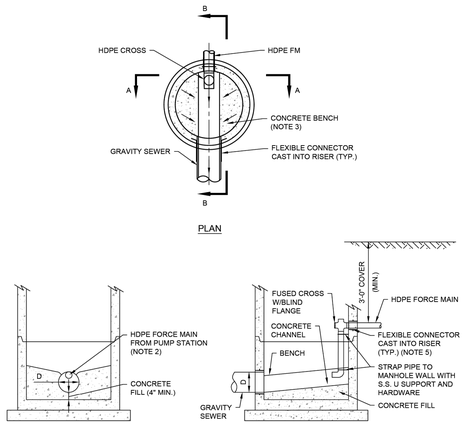
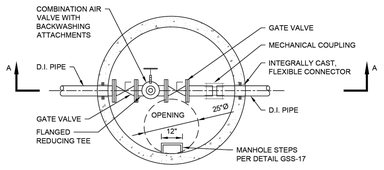
PROJ. NO.	SGAL00070
DRAWING	PSD-1
SHEET	10 OF 36

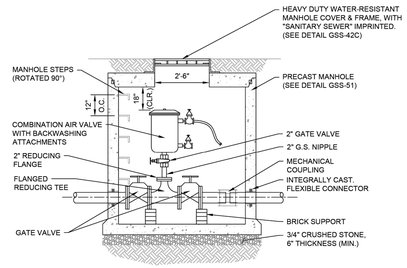


MANHOLE NOTES:

1. MANHOLE TO BE CONSTRUCTED OF PRECAST CONCRETE PER ASTM C478. SEE STANDARD DETAIL FOR MANHOLE AND ACCESSORIES.
2. ELEVATION OF CROWN OF FORCE MAIN TO MATCH THE CROWN OF GRAVITY SEWER.
3. CONCRETE FILL FOR BENCH TO BE 4000 PSI USING TYPE II CEMENT. BENCH SHALL BE FORMED WITH SLOPE OF 1"/FT TO CHANNEL. BENCH HEIGHT AT CHANNEL SHALL BE 0.75 D.
4. STANDARD MANHOLE FRAME AND COVER SHALL BE DESIGNED FOR THE HS-25 TRUCK LIVE LOAD.
5. FOR CONNECTIONS TO EXISTING MANHOLES, CORE THROUGH MANHOLE RISER WALL AND INSTALL COMPRESSION-STYLE WATERTIGHT PIPE TO MANHOLE CONNECTOR.

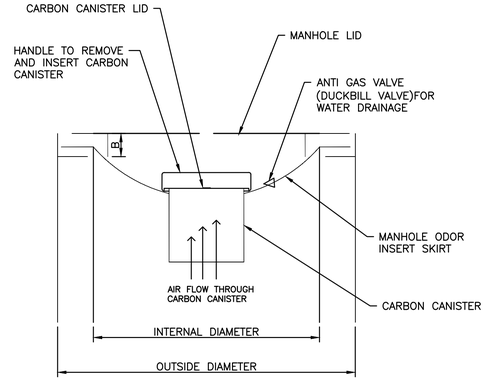
AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE HDPE FORCE MAIN CONNECTION TO MANHOLE	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	LPS-18





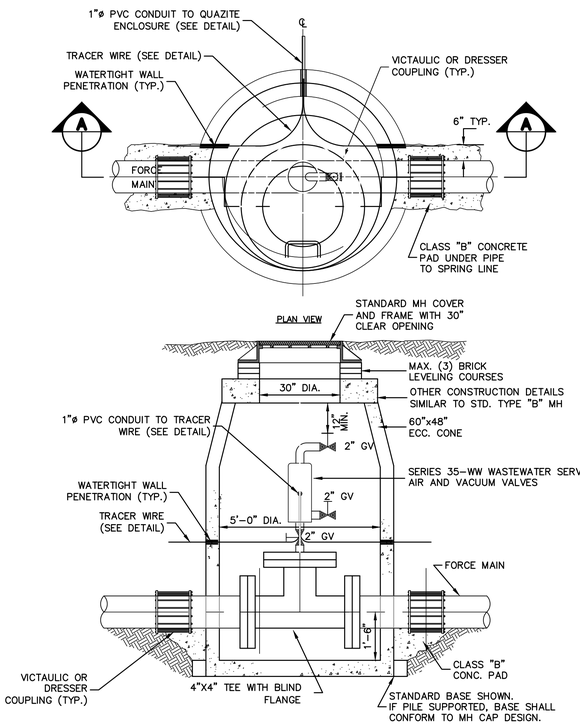
NOTES:
SEE THE MANHOLE ODOR INSERT FILTER DETAIL FOR ODOR FILTER DETAILS

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE SEWAGE COMBINATION AIR VALVE MANHOLE	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	LPS-17

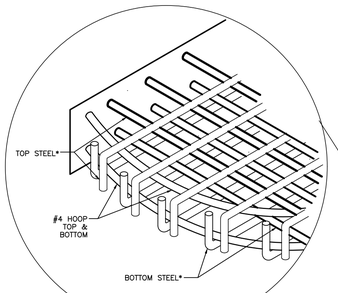


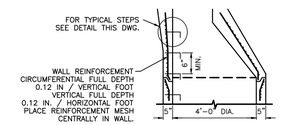
NOTES:
MANHOLE ODOR INSERT FILTER SHALL BE WOLVERINE BRAND ACTIVATED CARBON MANHOLE ODOR FILTER INSERT MANUFACTURED BY SIMPLE SOLUTION DISTRIBUTING, LLC OR APPROVED EQUAL.

MANHOLE ODOR INSERT FILTER DETAIL
N.T.S.

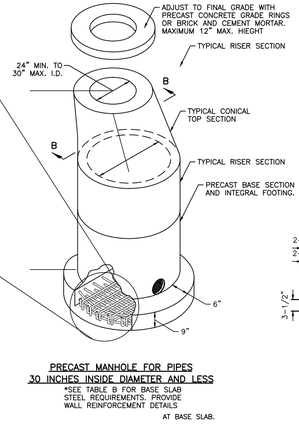


FORCE MAIN AIR RELEASE VALVE & MH DETAIL
N.T.S.



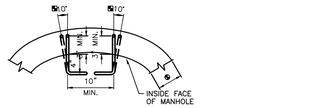


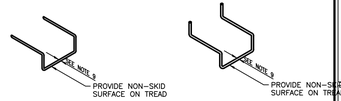
NOTE:
ALL BARREL, FRAME AND RISER JOINTS SHALL BE SEALED FROM THE EXTERIOR WITH MASTIC SEALANT AND WRAPIDSEAL OR EQUIVALENT



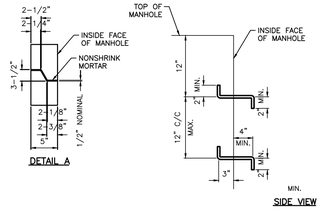
PRECAST MANHOLE FOR PIPES
30 INCHES INSIDE DIAMETER AND LESS
*SEE TABLE B FOR BASE SLAB STEEL REQUIREMENTS. PROVIDE WALL REINFORCEMENT DETAILS AT BASE SLAB.

PRECAST MANHOLE
NOT TO SCALE





TYPICAL STEP CONFIGURATION
MANHOLE STEPS



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FILE NAME: SGAL00070_CSD.dwg
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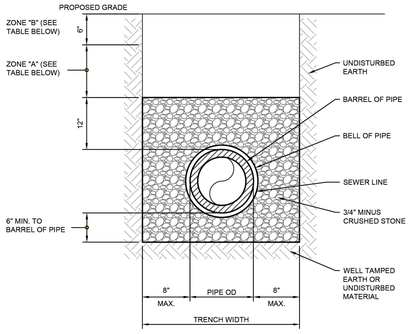
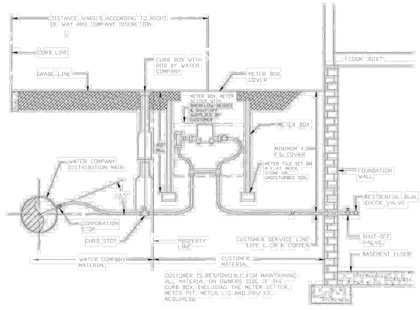


SCHEDULE OF BACKFILLING REQUIREMENTS FOR ZONES 'A' AND 'B'

DESCRIPTION OF AREA	ZONE 'A'	ZONE 'B'
AREAS OUTSIDE ROADWAYS	ON-SITE BACKFILL CAMPACTED IN 6" LAYERS TO BOTTOM OF TOPSOIL. REPLACE TOPSOIL TO APPROXIMATE DEPTH OF EXISTING AND CROWN TO SUCH HEIGHT AS REQUIRED BY THE ENGINEER	
AREAS WITHIN R/W LIMITS OF STATE HIGHWAYS	TO THE REQUIREMENTS OF STATE HIGHWAY AUTHORITY HAVING JURISDICTION	
SHOULDERS OF PROPOSED AND EXISTING STREETS OTHER THAN STATE HIGHWAYS	MEETING THE REQUIREMENTS OF THE LOCAL MUNICIPALITY HAVING JURISDICTION	
STONE DRIVEWAYS AND PARKING AREAS	ON-SITE BACKFILL COMPACTED ON 6 INCH LAYERS	STONE SURFACE BACKFILL
UNIMPROVED STREETS	AGGREGATE BACKFILL COMPACTED IN 6 INCH LAYERS	

AMERICAN WATER ENGINEERING, 1 WATER STREET, CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE SEWER MAIN BEDDING & BACKFILL	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-1

Pennsylvania American Water
Standard ¾" and 1" Service Line Installation With Outside Meter Pit



1. This sheet details a service line installation that includes an outside meter pit. If an outside meter pit is not required, refer to the "Standard ¾" and 1" Service Line Installation With Inside Meter" and the "Standard Inside Meter Setting Requirements" sheets. (An inside meter will only be installed at the Water Companies Discretion).
2. The Water Company will locate the water main and mark the location where your service line should end. The customer is responsible for installing and maintaining all service materials after the curb stop, except for the meter. Leave three feet of copper extended out of the ground where your service line ends.
3. Your service line must be ¾" or 1" type L or K copper and installed as detailed in the sketch above. Flared or compression couplings must be used for all underground connections.
4. An 18" diameter meter tile is required for a 5/8" meter. A 24" diameter meter tile is required for use with a 1" meter.
5. Meter setter shall be equipped with a shutoff valve and a double check backflow device.
6. Please notify the Water Company at least two weeks prior to the date that you will require water service.
7. A Pressure Reducing Valve (PRV) is required when pressure exceeds 100 PSI.
8. All other sources of water such as wells, cisterns, etc., must be physically disconnected from the piping that is to be serviced by the Water Company.
9. The service line shall not be installed in the same trench with any other public utility or within five feet of any excavation or vault.
10. A separate service line is required for each metered connection.
11. Service cannot be provided if the foregoing requirements are not met.
12. The Water Company will install the meter after the customer has completed the above requirements and after the customer and Water Company complete their service lines.
13. A pressure expansion tank on the hot water system is highly recommended. The Water Company will not be responsible for any leakage from the hot water tank pop-off valve.

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03-10-2026
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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

CONSTRUCTION DETAILS 1

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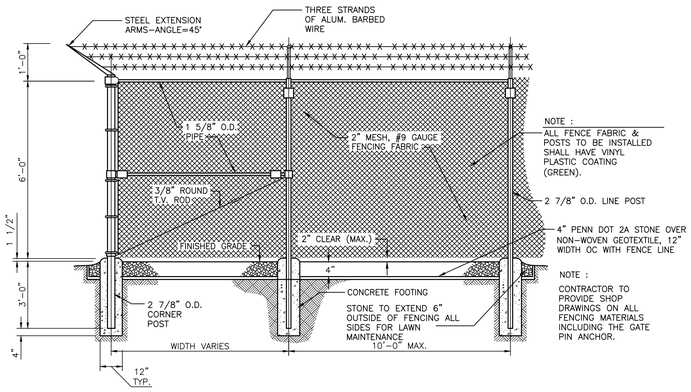
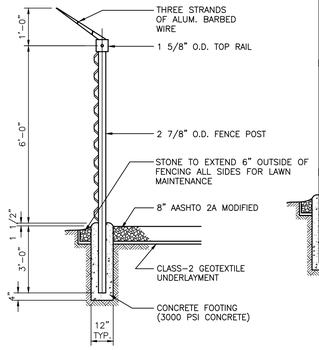
DRAWING	CSD-1
SHEET	11 OF 36

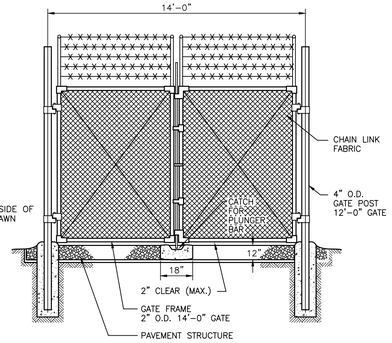
CONSTRUCTION DETAILS SUBJECT TO UPDATE TO MEET PA AMERICAN WATER STANDARDS



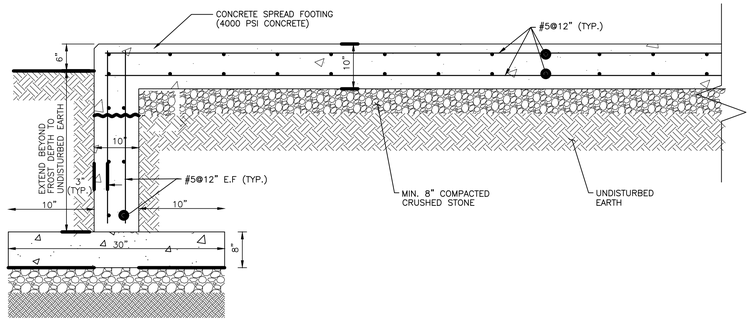
TYPICAL FENCE DETAILS
NOT TO SCALE



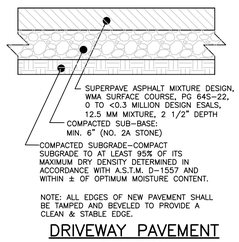
FENCE POST DETAILS
NOT TO SCALE



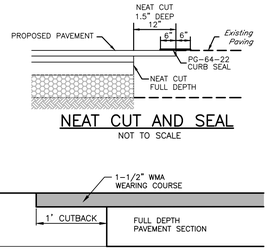
TYPICAL GATE DETAILS
NOT TO SCALE



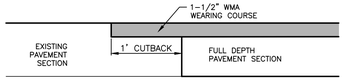
TYPICAL CONTROL BUILDING FOUNDATION DETAIL
NOT TO SCALE



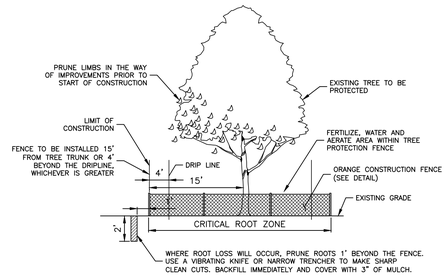
DRIVEWAY PAVEMENT SECTION
NOT TO SCALE



NEAT CUT AND SEAL
NOT TO SCALE

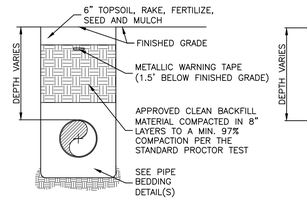


EXISTING PAVEMENT MATCH DETAIL AT PAVEMENT RESTORATION AREAS

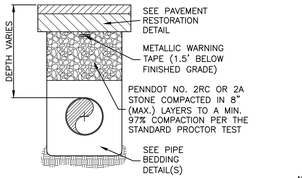


NOTES:
1. NO ENTRY, STORAGE, DISTURBANCE OR ALTERATION SHALL OCCUR IN AREA WITHIN TREE PROTECTION FENCE.

TREE PROTECTION AND PRUNING
NOT TO SCALE



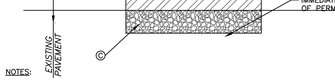
UNPAVED AREAS



EXISTING PAVED AREAS

NOTES:
1. TRENCH COMPACTION TO BE TESTED IN ACCORDANCE WITH PENNDOT PUB 408, LATEST REVISION, AS REQUIRED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
2. CLEAN FILL MUST BE APPROVED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION PRIOR TO PLACEMENT IN THE TRENCH.
3. AREAS AROUND MANHOLES, INLETS, AND OTHER APPURTENANCES SHALL BE HAND COMPACTED AS DIRECTED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
4. NO SLAG MATERIAL PERMITTED.
5. IF WATER IS ENCOUNTERED IN THE EXCAVATION TRENCH, AASHTO #57 AGGREGATE MUST BE USED.
6. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH PENNDOT SPECIFICATIONS, PUBLICATION 408 AND 67 PA CODE SECTION 459.
7. UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO COLLECT IN EXCAVATED TRENCHES. ANY WATER IN THE TRENCHES SHALL BE REMOVED THROUGH A PUMPED WATER FILTER BAG.

BACKFILL (TRENCH)
NOT TO SCALE



NOTES:
1. EXPOSED VERTICAL AND HORIZONTAL SURFACES SHALL BE PREPARED AS DIRECTED BY ENGINEER.
2. TACK COAT MATERIAL SHALL BE APPLIED TO THE ENTIRE SURFACE PRIOR TO APPLICATION OF THE WEARING SURFACE.
3. REFER TO PAVEMENT LEGEND FOR DESCRIPTIONS OF A, B, AND C.
4. REFER TO THIS DETAIL FOR AREAS REQUIRING PAVEMENT RESTORATION AS SHOWN ON THE PLANS OR IDENTIFIED BY ENGINEER OR HIS FIELD REPRESENTATIVE DURING CONSTRUCTION.

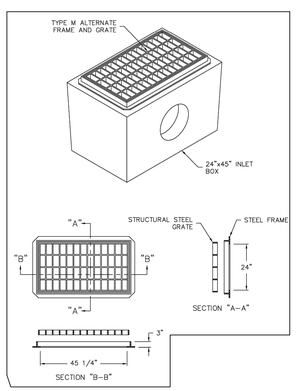
PAVEMENT LEGEND:
A. SUPERPAVE ASPHALT MIXTURE DESIGN, WMA WEARING COURSE, PG 64S–22, 0–0.3 MILLION ESALS, 9.5 mm MIXTURE, 1 1/2" DEPTH, SRL–L.
B. SUPERPAVE ASPHALT MIXTURE DESIGN, WMA BASE COURSE, PG 64S–22, 25.0 MM, 0–0.3 MILLION ESALS, 4" DEPTH
C. PENNDOT 2A STONE (6")

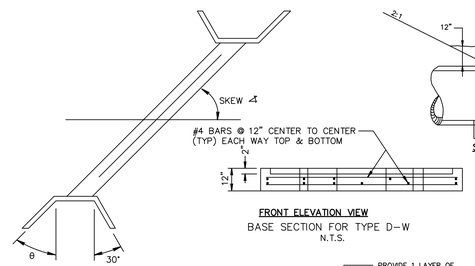
PAVEMENT RESTORATION DETAIL
NOT TO SCALE

FLEXIBLE PAVEMENT RESTORATION
NOT TO SCALE

Note: Approved hot-mix or warm-mix asphalt material must be used for temporary restoration when available. Cold mix material will be permitted at the discretion of PennDOT.

TEMPORARY PAVEMENT RESTORATION
NOT TO SCALE





FRONT ELEVATION VIEW
BASE SECTION FOR TYPE D–W
N.T.S.

ENGLISH EQUATION

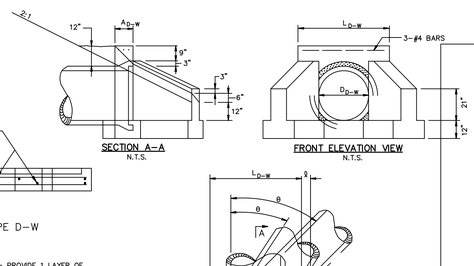
$$**SD = \frac{D_{D-W}}{\cos\theta} = \frac{D_{D-W}}{\sin SKEW\ \angle}$$

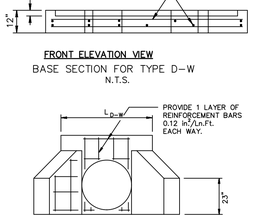
$$L_{D-W} = SD + 2.3'$$

$$W_1 = \frac{2D_{D-W} - 2.0'}{\cos\theta} \quad \text{FOR 2:1 SLOPE}$$

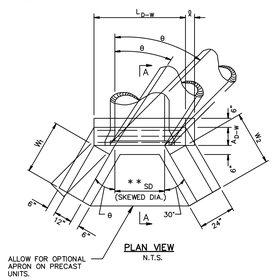
$$W_1 = \frac{X}{\cos\theta}\left(D_{D-W} 0.5 - \frac{1.0}{X}\right) \quad \text{(FOR VARIABLE SLOPE WHEN X EQUALS HORIZONTAL DIMENSION OF THE SLOPE DESIGNATION.)}$$

PIPE DIAMETER	SKEW =90° TO 60° θ = 30°			
D_{D-W} (IN.)	L_{D-W} (FT.)	α (FT.)	W_1 & W_2 (FT.)	A_{D-W} (IN.)
12	3.5	0	2.7	8





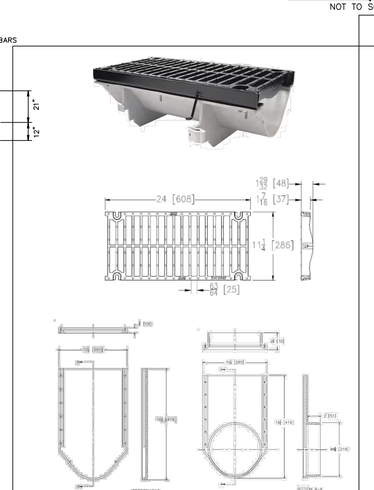
FRONT ELEVATION VIEW
HEAD & WINGWALL SECTION FOR TYPE D–W
N.T.S.

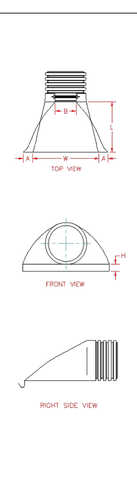


PLAN VIEW
N.T.S.

NOTES:
1. ALL MATERIALS AND CONSTRUCTION METHODS TO MEET THE REQUIREMENTS OF PENNDOT PUBLICATION 408 AND 72–M (RC–31M), LATEST REVISION.
2. CHILD SAFETY GRATES SHALL BE PROVIDED ON ALL ENDWALLS.

TYPE D–W ENDWALL
N.T.S.





		MEG	MEG	CHHD
		CR	IP	BY
2.	3/10/2026	REVISED PER PAW LETTER DATED 2/12/2026		
1.	2/2/2026	REVISED PER PAW LETTER DATED 1/28/2026		
NO.	DATE	REVISIONS		

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

CONSTRUCTION DETAILS 2

T&M ASSOCIATES
YOUR GOALS. OUR MISSION.
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DESIGNED BY	IP
CHECKED BY	MEG/CMR
DRAWN BY	IP
DATE	10-29-2025
SCALE	AS NOTED
PROJ. NO.	SGAL00070
DRAWING	CSD-2
SHEET	12 OF 36

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PROJECT INFORMATION:
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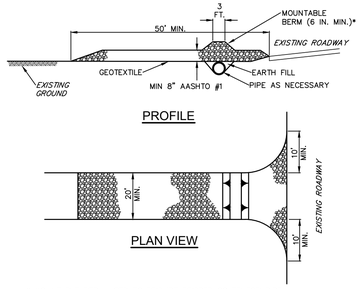
FILE NAME: SGAL00070_CSD.dwg
LAST SAVED: Thursday, 10 Mar 2026, 1:36PM
LAST SAVE BY: tgallagher



PROFILE

PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

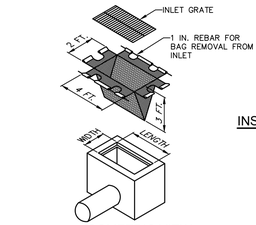
RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

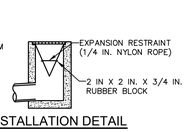
MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

STANDARD CONSTRUCTION DETAIL #3–1
ROCK CONSTRUCTION ENTRANCE

NOT TO SCALE

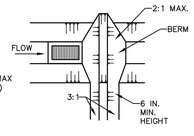


ISOMETRIC VIEW



INSTALLATION DETAIL

SECTION VIEW



PLAN VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

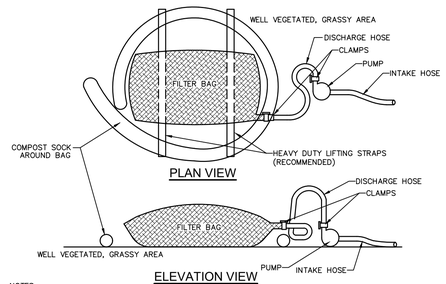
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4–16 FILTER BAG INLET PROTECTION – TYPE M INLET

NOT TO SCALE



PLAN VIEW

ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON–WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D–4884	60 LB/IN
GRAB TENSILE	ASTM D–4632	205 LB
PUNCTURE	ASTM D–4833	110 LB
MULLEN BURST	ASTM D–3786	350 PSI
UV RESISTANCE	ASTM D–4355	70%
AOS % RETAINED	ASTM D–4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL–VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON–ERODIBLE AND NON–POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

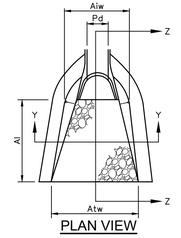
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

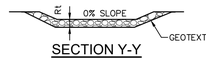
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3-16
PUMPED WATER FILTER BAG W/ COMPOST SOCK

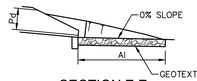
NOT TO SCALE



PLAN VIEW



SECTION Y-Y



SECTION Z-Z

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R––	RIPRAP THICK. Rt (IN)	APRON LENGTH Ai (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
OUT–1	12	R–4	18	8	3	11
OUT–2	8	R–4	18	6	2	8
OUT–3	12	R–4	18	8	3	11

NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

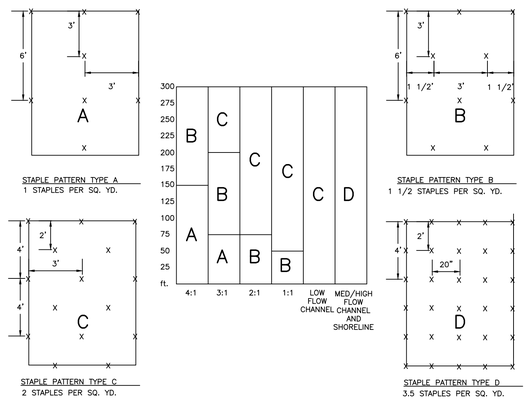
STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

NOT TO SCALE

	TEMPORARY SEEDING		PERMANENT SEEDING
	PennDOT Formula D	PennDOT Formula E	General Seeding / Sod
Species	70% Kentucky 31 Fescue 20% Pennlawn Red Fescue 10% Weeping Alkali Grass	100% Annual Rye Grass	20% turf type perennial ryegrass 30% fine red or chewings fescue 50% Kentucky bluegrass mixture (poa pratensis)
Application Rate/1000 SY	21 lbs.	10 lbs.	8 lbs. (min.)
Where Applied	Anywhere	Anywhere	Anywhere
Seeding Dates	March 5 – June 1 August 1 – October 1	March 5–Oct.1	March 5 – October 1
Fert. and Rate/1000 SY	Commercial Fert. (10–20–20) 20 lbs. Pulverized Agricultural Limestone 90 lbs.	Comm. Fert. (10–20–20) 192 lbs. Urea Form (38–0–0) 50 lbs.	Min. 1lb. Nitrogen Per 1000 Sq. Ft. and 4% Phosph. Acid and 2% Potassium (50% of Nitrogen To Be Organic)
Mulch: @ Min. 3 ton/ac.	Hay or Straw Mulch *	Hay (As * directed)	* Hay (As directed)

* OR WOOD CELLULOSE (ON SLOPES 4:1 OR FLATTER), EXCEPT USE HAY

SOIL, SEEDING, FERTILIZATION SCHEDULE AND SPECIFICATIONS



NORTH AMERICAN GREEN STAPLE PATTERNS

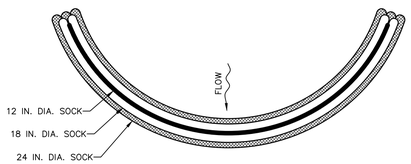
NOT TO SCALE

STAPLE PATTERN TYPE A
1 STAPLES PER SQ. YD.

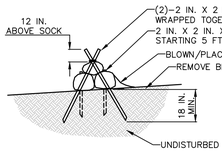
STAPLE PATTERN TYPE B
1 1/2 STAPLES PER SQ. YD.

STAPLE PATTERN TYPE C
2 STAPLES PER SQ. YD.

STAPLE PATTERN TYPE D
3.5 STAPLES PER SQ. YD.



PLAN VIEW



STAKING DETAIL

DESIGN NOTES:
1. COMPOST SOCK SEDIMENT TRAP SHALL BE SIZED TO PROVIDE 2000 CUBIC FEET OF STORAGE CAPACITY FOR EACH ACRE TRIBUTARY TO THE TRAP.
2. MINIMUM BASE WIDTH IS EQUAL TO THE HEIGHT.
3. SEDIMENT ACCUMULATION SHALL NOT EXCEED 1/3 THE TOTAL HEIGHT OF THE TRAP.
4. SOCKS SHALL BE OF LARGER DIAMETER AT THE BASE OF THE TRAP AND DECREASE IN DIAMETER FOR SUCCESSIVE LAYERS AS SHOWN ON THE PLAN VIEW.
5. ENDS OF THE TRAP SHALL BE A MINIMUM OF 1 FOOT HIGHER IN ELEVATION THAN THE MID–SECTION, WHICH SHALL BE LOCATED AT THE POINT OF DISCHARGE.

NOTES:
SOCK MATERIAL SHALL MEET THE STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST SOCK SEDIMENT TRAPS SHALL NOT EXCEED THREE SOCKS IN HEIGHT AND SHALL BE STACKED IN PYRAMIDAL FORM AS SHOWN ABOVE. MINIMUM TRAP HEIGHT IS ONE 24" DIAMETER SOCK. ADDITIONAL STORAGE MAY BE PROVIDED BY MEANS OF AN EXCAVATED SUMP 12" DEEP EXTENDING 1 TO 3 FEET UPSLOPE OF THE SOCKS ALONG THE LOWER SIDE OF THE TRAP.

COMPOST SOCK SEDIMENT TRAPS SHALL PROVIDE 2,000 CUBIC FEET STORAGE CAPACITY WITH 12" FREEBOARD FOR EACH TRIBUTARY DRAINAGE ACRE. (SEE MANUFACTURER FOR ANTICIPATED SETTLEMENT.)

THE MAXIMUM TRIBUTARY DRAINAGE AREA IS 5.0 ACRES. SINCE COMPOST SOCKS ARE "FLOW–THROUGH," NO SPILLWAY IS REQUIRED.

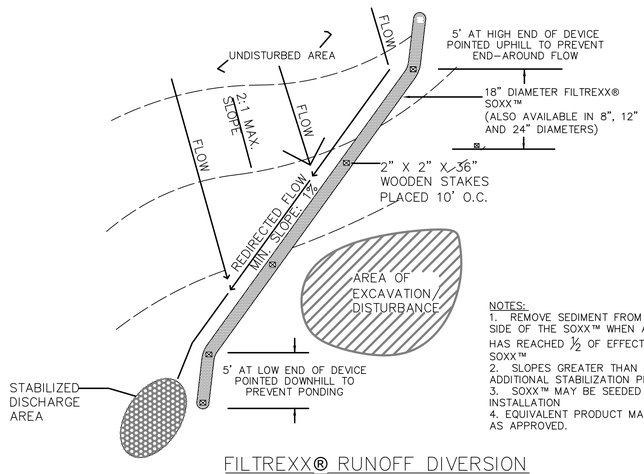
COMPOST SOCK SEDIMENT TRAPS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/3 THE HEIGHT OF THE SOCKS.

PHOTODEGRADABLE AND BIODEGRADABLE SOCKS SHALL NOT BE USED FOR MORE THAN 1 YEAR.

TRAP NO.	BOTTOM EL.	TOP EL.	SOCK DIA. (IN)	REQ. STORAGE (CF)	PROVIDED STORAGE (CF)
J–HOOK 1	521.00	523.00	3x12" 24"H	98	106
J–HOOK 2	520.00	522.00	3x12" 24"H	253	376
SED TRAP 1	520.00	522.00	3x12" 24"H	214	502

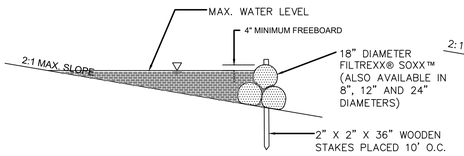
STANDARD CONSTRUCTION DETAIL #3-11
COMPOST SOCK SEDIMENT TRAP

NOT TO SCALE



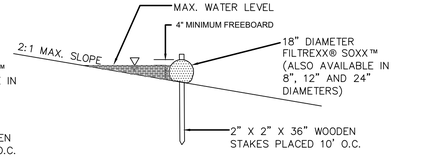
NOTES:
1. REMOVE SEDIMENT FROM THE UPSLOPE SIDE OF THE SOXX™ WHEN ACCUMULATION HAS REACHED ½ OF EFFECTIVE HEIGHT OF SOXX™
2. SLOPES GREATER THAN 5% MAY REQUIRE ADDITIONAL STABILIZATION PRACTICES
3. SOXX™ MAY BE SEEDED AT THE TIME OF INSTALLATION
4. EQUIVALENT PRODUCT MAY BE SUBSTITUTE AS APPROVED.

FILTREXX® RUNOFF DIVERSION



PYRAMID INSTALLATION SECTION

NTS



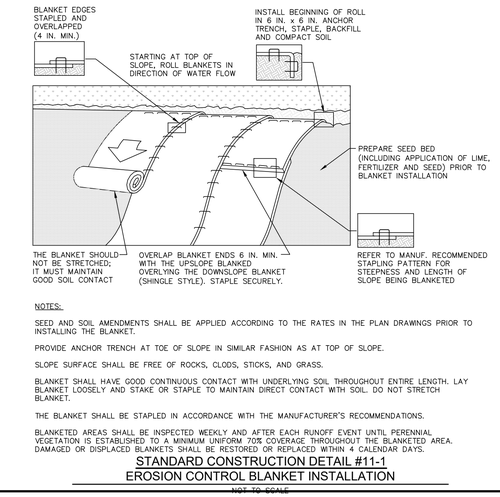
SINGLE INSTALLATION SECTION

NTS

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING
J–HOOK 1	ALL	0	1.0	5.0	0.1	0.1	NAG C350 / VEG. C
J–HOOK 2	ALL	0	1.0	5.0	0.1	0.1	NAG C350 / VEG. C

FILTREXX® RUNOFF DIVERSION SECTIONS

NTS



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHKD
2	3.10.2026	REVISED PER PAW LETTER DATED 2/12/2026	CR	MEG
1	2/2/2026	REVISED PER PAW LETTER DATED 1.28.2026	IP	MEG

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

03-10-2026

LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

CONSTRUCTION DETAILS 3

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DESIGNED BY	IP
CHECKED BY	MEG/CMR
DRAWN BY	IP
DATE	10-29-2025
SCALE	AS NOTED
PROJ. NO.	SGAL00070
DRAWING	CSD-3
SHEET	13 OF 36

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PROJECT INFORMATION:
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FILE NAME: SGAL00070_CSD.dwg
LAST SAVED ON: Tuesday, 10 Mar 2026, 1:36PM
LAST SAVE BY: lgallagher

Lift Station Pump Panel 1 Conduit/Cable Schedule

Description	Conduit Size	Conduit #	Conductor Type	Wire Size (AWG)	Wire Length (Ft)	Wire Number	Terminal Location Cabinet Side	Terminal Location Field Side
Lift Station Pump 1 Motor Power	1" Rigid Metal	1	XHHW	10	50	1005T1	Lift Station Pump Panel Overload T1	Pump T1
						1006T2	Lift Station Pump Panel Overload T2	Pump T2
						1007T3	Lift Station Pump Panel Overload T2	Pump T3
						GND	Lift Station Pump Panel GND	Pump GND
Lift Station Pump Panel 1 In Auto	1" Rigid Metal	2	MTW	16	20	XXXX	Lift Station Pump Panel TB3-7	RTU Panel
						XXXX	Lift Station Pump Panel TB3-8	RTU Panel
Lift Station Pump Panel 1 Running			MTW	16	20	XXXX	Lift Station Pump Panel TB3-15	RTU Panel
						XXXX	Lift Station Pump Panel TB3-16	RTU Panel
Lift Station Pump Panel 1 Fault/Overload			MTW	16	20	XXXX	Lift Station Pump Panel TB3-9	RTU Panel
						XXXX	Lift Station Pump Panel TB3-10	RTU Panel
Lift Station Pump Panel 1 Seal Fail			MTW	16	20	XXXX	Lift Station Pump Panel TB3-13	RTU Panel
						XXXX	Lift Station Pump Panel TB3-14	RTU Panel
Lift Station Pump Panel 1 Thermal Fail			MTW	16	20	XXXX	Lift Station Pump Panel TB3-11	RTU Panel
						XXXX	Lift Station Pump Panel TB3-12	RTU Panel
Lift Station Pump Panel 1 Estop			MTW	16	20	XXXX	Lift Station Pump Panel TB3-17	RTU Panel
						XXXX	Lift Station Pump Panel TB3-18	RTU Panel
Lift Station Pump Panel 1 Pump Start			MTW	16	20	2009A	Lift Station Pump Panel TB3-3	RTU Panel
						2009B	Lift Station Pump Panel TB3-4	RTU Panel
Lift Station Pump Panel 1 Pump Stop			MTW	16	20	2009B	Lift Station Pump Panel TB3-4	RTU Panel
						2006B	Lift Station Pump Panel TB3-5	RTU Panel
Lift Station Pump Panel 1 Bypass Active	1" Rigid Metal	3	MTW	14	20	2009	Lift Station Pump Panel TB3-1	Float Bypass Panel TB3-20
						2009A	Lift Station Pump Panel TB3-3	Float Bypass Panel TB3-21
Lift Station Pump Panel 1 Pump Start			MTW	14	20	2009	Lift Station Pump Panel TB3-2	Float Bypass Panel TB3-22
						2006A	Lift Station Pump Panel TB3-6	Float Bypass Panel TB3-23
Lift Station Pump Panel 1 Pump Seal/Thermal	1" Rigid Metal	4	XHHW	14	50	2023	MINICAS T1	Pump 1
						2024	MINICAS T2	Pump 1
						G	Panel GND	Pump 1

Lift Station Pump Panel 2 Conduit/Cable Schedule

Description	Conduit Size	Conduit #	Conductor Type	Wire Size (AWG)	Wire Length (Ft)	Wire Number	Terminal Location Cabinet Side	Terminal Location Field Side
Lift Station Pump 2 Motor Power	1" Rigid Metal	5	XHHW	10	50	1005T1	Lift Station Pump Panel Overload T1	Pump T1
						1006T2	Lift Station Pump Panel Overload T2	Pump T2
						1007T3	Lift Station Pump Panel Overload T2	Pump T3
						GND	Lift Station Pump Panel GND	Pump GND
Lift Station Pump Panel 2 In Auto	1" Rigid Metal	6	MTW	16	20	XXXX	Lift Station Pump Panel TB3-7	RTU Panel
						XXXX	Lift Station Pump Panel TB3-8	RTU Panel
Lift Station Pump Panel 2 Running			MTW	16	20	XXXX	Lift Station Pump Panel TB3-15	RTU Panel
						XXXX	Lift Station Pump Panel TB3-16	RTU Panel
Lift Station Pump Panel 2 Fault/Overload			MTW	16	20	XXXX	Lift Station Pump Panel TB3-9	RTU Panel
						XXXX	Lift Station Pump Panel TB3-10	RTU Panel
Lift Station Pump Panel 2 Seal Fail			MTW	16	20	XXXX	Lift Station Pump Panel TB3-13	RTU Panel
						XXXX	Lift Station Pump Panel TB3-14	RTU Panel
Lift Station Pump Panel 2 Thermal Fail			MTW	16	20	XXXX	Lift Station Pump Panel TB3-11	RTU Panel
						XXXX	Lift Station Pump Panel TB3-12	RTU Panel
Lift Station Pump Panel 2 Estop			MTW	16	20	XXXX	Lift Station Pump Panel TB3-17	RTU Panel
						XXXX	Lift Station Pump Panel TB3-18	RTU Panel
Lift Station Pump Panel 2 Pump Start			MTW	16	20	2009A	Lift Station Pump Panel TB3-3	RTU Panel
						2009B	Lift Station Pump Panel TB3-4	RTU Panel
Lift Station Pump Panel 2 Pump Stop			MTW	16	20	2009B	Lift Station Pump Panel TB3-4	RTU Panel
						2006A	Lift Station Pump Panel TB3-5	RTU Panel
Lift Station Pump Panel 2 Bypass Active	1" Rigid Metal	7	MTW	14	20	2009	Lift Station Pump Panel TB3-1	Float Bypass Panel TB3-20
						2009A	Lift Station Pump Panel TB3-3	Float Bypass Panel TB3-21
Lift Station Pump Panel 2 Pump Start			MTW	14	20	2009	Lift Station Pump Panel TB3-2	Float Bypass Panel TB3-24
						2006A	Lift Station Pump Panel TB3-6	Float Bypass Panel TB3-25
Lift Station Pump Panel 2 Pump Seal/Thermal	1" Rigid Metal	8	XHHW	14	50	2023	MINICAS T1	Pump 2
						2024	MINICAS T2	Pump 2
						G	Panel GND	Pump 2

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PROJECT INFORMATION:
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FILE NAME: E LIFT STATION CONDUIT & CABLE SCHEDULE.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 11:20AM
LAST SAVE BY: spambili

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

LIFT STATION CONDUIT & CABLE SCHEDULE

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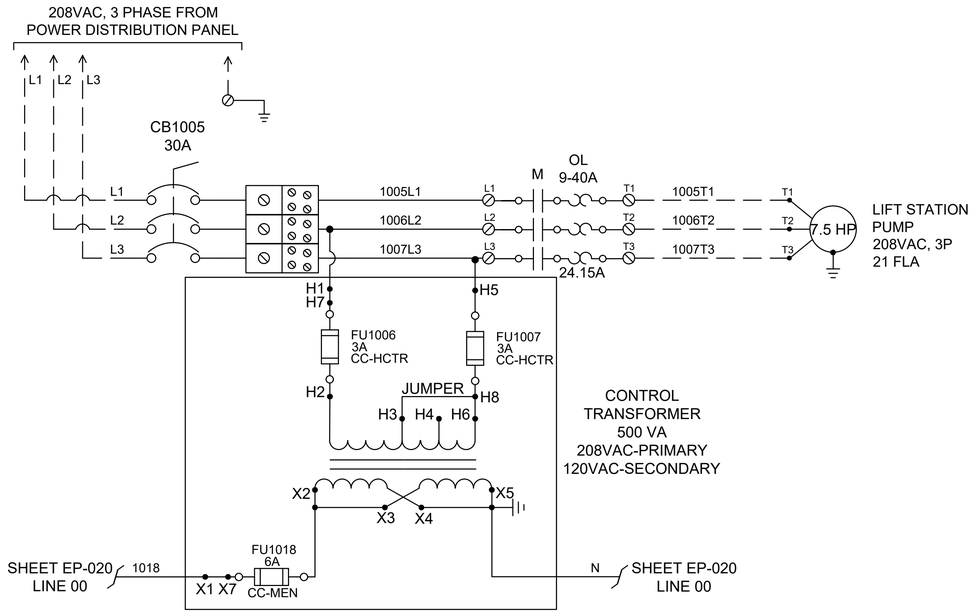
DRAWN BY CSH	SHEET 14
DATE 12/10/2025	
SCALE	
PROJ. NO. SGAL00070	OF 36



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FILE NAME: EP-010 LIFT STATION PUMP 208V SCHEMATIC.dwg
LAST SAVED: DATE AND TIME: 10 Mar 2026, 11:20AM
LAST SAVE BY: sgombili

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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

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TYPICAL LIFT STATION PUMP 208VAC POWER SCHEMATIC

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DRAWN BY SCG	SHEET 15
DATE 12/10/2025	OF 36
SCALE	
PROJ. NO. SGAL00070	

120VAC POWER FROM CONTROL TRANSFORMER, SHEET EP-010, LINE 18

1018 TB3-17 SEE SHT EP-040
E-STOP
TB3-18 SEE SHT EP-040

PUMP HOA: HAND / OFF / AUTO

TB1-1 2002 — START 2006 — 2006A — CR1 11 14 — 2009 — SEE SHT EP-040 TB3-7 TB3-8 SEE SHT EP-040

FROM FLOAT BYPASS PANEL: CR3 1 2 — 2009A — TB3-1 TB3-3

START FROM RTU: RTU START — 2009B — TB3-4

STOP FROM RTU: RTU STOP — 2006A — TB3-5

2009A — CR1 13 14 — 2009B

START FROM FLOAT BYPASS PANEL: BYPASS START 33 34 — 2006A — TB3-6 — 2009 — TB3-2

STOP — 2006B 21 — CR2 22 — 2006C 13 — CR3 14 — 2006D A1 — M N/S — A2 2006E — OL 95 96 — TB2-1

A1 — CR1 N/S — A2 — TB2-2

TB1-2 2002 — OL 97 98 — 2013 — A1 CR2 N/S A2 — TB2-3

TB1-3 2002 — CR2 13 14 — 2016 — OVERLOAD A — LINE 18 2016 — 2016 LINE 17 — TB2-4

TB1-4 2002

TB1-5 2002 — TB2-5

LIFT STATION PUMP MOTOR INTERNAL TEMP/LEAK — TEMP — LEAK

RESET 2022 — 2023 — 2024

2 10 — 6 RST — + T1 12VDC — - T2

MOISTURE/THERMAL MINICAS RELAY BY PUMP MANUFACTURER

HIGH TEMP 3 — 1 — 4

LEAK DETECT 9 — 11 — 8

TB1-6 2002 — 2026 — A1 CR3 N/S A2 — TB2-6

TB1-7 2002 — 2031 — A1 CR4 N/S A2 — TB2-7

TB1-8 2002 — CR3 21 22 — 2033 — THERMAL FAIL A — LINE 35 2033 — 2033 LINE 34 — TB2-8

TB1-9 2002

TB1-10 2002 — CR4 13 14 — 2037 — SEAL FAIL A — LINE 39 2037 — 2037 LINE 38 — TB2-9

TB1-11 2002

TB1-12 2002 — M 13 14 — 2041 — A1 CR5 N/S A2 — ETM — TB2-10

TB1-13 2002 — CR5 13 14 — 2047 — RUNNING R — LINE 49 2047 — 2047 LINE 48 — TB2-11

TB1-14 2002

PROJECT INFORMATION:
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FILE NAME: EP-020 LIFT STATION PUMP 120V CONTROL SCHEMATIC.dwg
LAST SAVED: DATE AND TIME: 10 Mar 2026, 11:11AM
LAST SAVE BY: sgambill

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BY: SCG CHKD: TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

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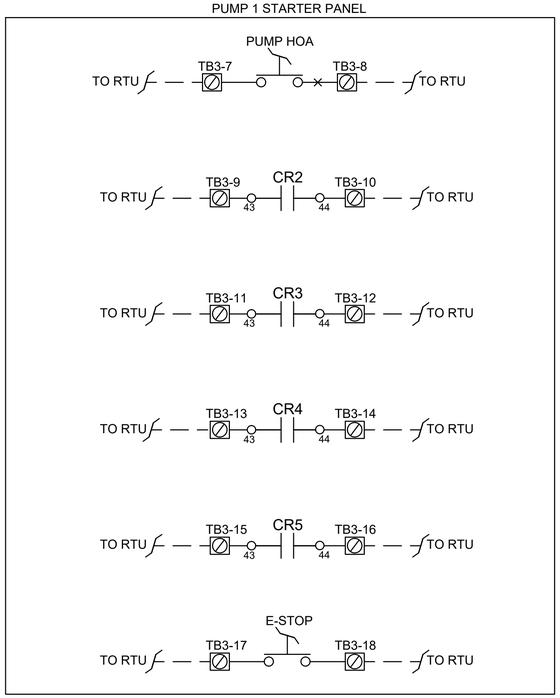
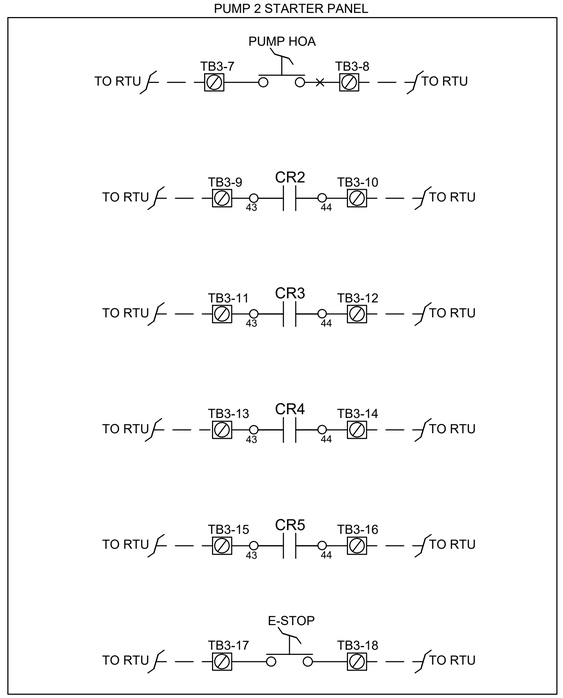
DRAWN BY SCG	SHEET 16
DATE 12/10/2025	OF 36
SCALE	
PROJ. NO. SGAL00070	

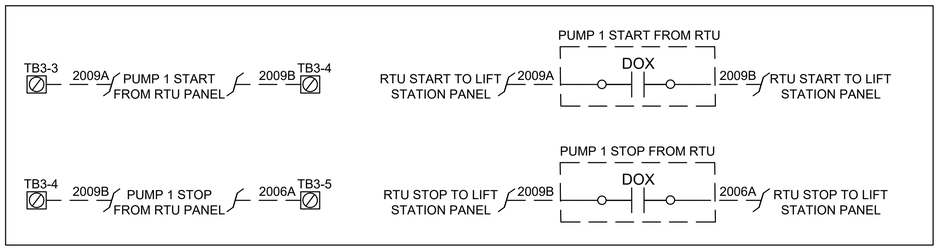
TERMINALS FOR SCADA INTERFACE FOR
PUMP 1 STARTER PANEL



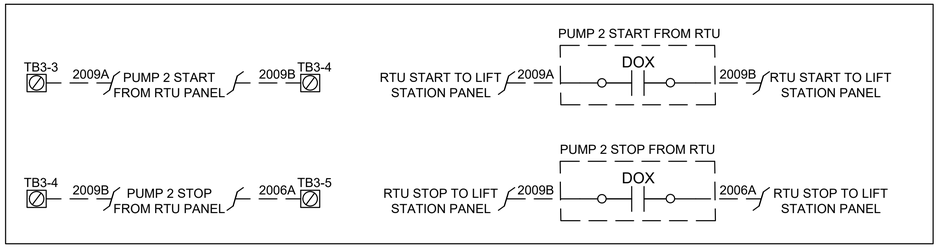
TERMINALS FOR SCADA INTERFACE FOR
PUMP 2 STARTER PANEL



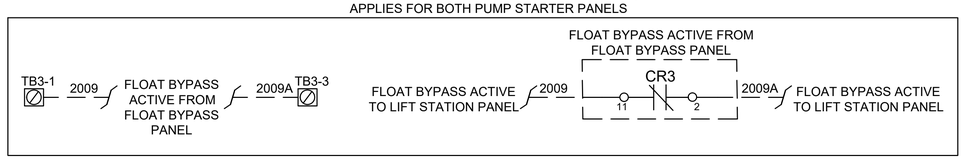
TERMINALS FOR SCADA INTERFACE
APPLIES FOR PUMP #1 STARTER PANEL



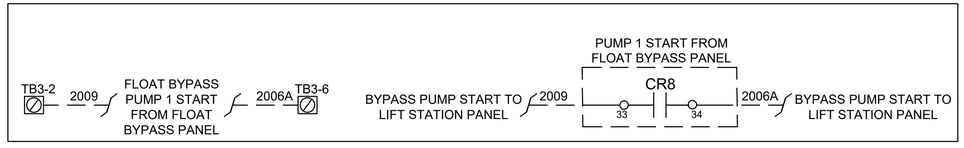
TERMINALS FOR SCADA INTERFACE
APPLIES FOR PUMP #2 STARTER PANEL



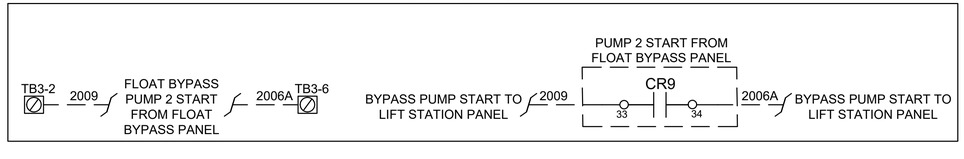
TERMINALS FOR FLOAT BYPASS PANEL INTERFACE
APPLIES FOR BOTH PUMP STARTER PANELS



TERMINALS FOR FLOAT BYPASS PANEL INTERFACE
APPLIES FOR PUMP #1 STARTER PANEL



TERMINALS FOR FLAOT BYPASS PANEL INTERFACE
APPLIES FOR PUMP #2 STARTER PANEL



NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

TYPICAL LIFT STATION PUMP RELAY CONTROL SCHEMATIC

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DESIGNED BY SCG	DRAWING EP-040
CHECKED BY TLL	
DRAWN BY SCG	SHEET 17
DATE 12/10/2025	OF 36
SCALE	
PROJ. NO. SGAL00070	

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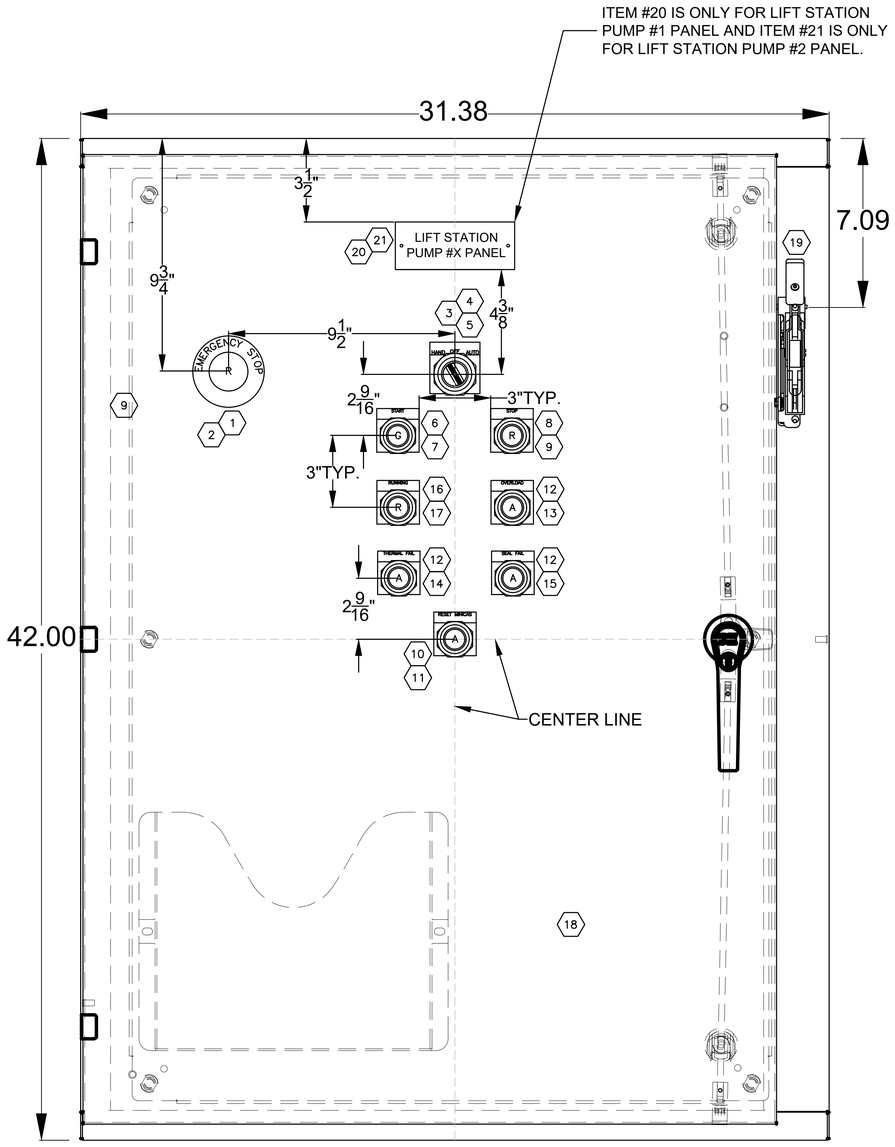
PROJECT INFORMATION:
FILE PATH: C:\pns\tm1-east-pw-02\dms23923\
FILE NAME: EP-040 LIFT STATION PUMP RELAY CONTROL SCHEMATIC.dwg
LAST SAVED: DATE: 10 Mar 2026, 11:20AM
LAST SAVE BY: spprnbii



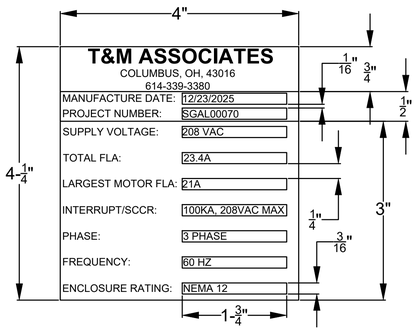
EXTERNAL PANEL FRONT - SECTION VIEW

SCALE: 1:3

LIFT STATION EXTERNAL PANEL BILL-OF-MATERIALS				
ITEM	**QTY**	**DESCRIPTION**	**PART NUMBER**	**MANUFACTURER**
1	1	Emergency E-Stop Pushbutton, 30mm, 2 Pos- 1N.C. 1N.O., Maintained, Push-Twist	800T-TFXT6A	Allen Bradley
2	1	Emergency Stop, 30mm, Yellow Legend Plate Ring	800T-X646EM	Allen Bradley
3	1	HOA 3 Postion Selector Switch, 30mm, Maintained, 1N.O. 1N.C. Contacts	800T-J2A	Allen Bradley
4	1	1-N.O., 1-N.C. Contact Block for Selector Switch	800T-XA	Allen Bradley
5	1	Hand-Off-Auto Selector Switch Legend Plate	800T-X511	Allen Bradley
6	1	Start Momentary Pushbutton, Green, 30mm, 1N.O. - 1N.C. Contacts	800T-A1A	Allen Bradley
7	1	Start Pushbutton Legend Plate	800T-X547	Allen Bradley
8	1	Stop Momentary Pushbutton, Red, 30mm, 1N.O. - 1N.C. Contacts	800T-A6A	Allen Bradley
9	1	Stop Pushbutton Legend Plate	800T-X550	Allen Bradley
10	1	Reset Minicas Momentary Pushbutton, Orange, 30mm, 1N.O. - 1N.C. Contacts	800T-A3A	Allen Bradley
11	1	Custom Pushbutton Legend Plate with text "RESET MINICAS"	800T-X559E	Allen Bradley
12	3	Push to Test Pilot Light, 30mm, 1N.O. 1N.C. Contacts, Transformer LED, Amber	800T-PTH16A	Allen Bradley
13	1	Custom Pushbutton Legend Plate with text "OVERLOAD"	800T-X559E	Allen Bradley
14	1	Custom Pushbutton Legend Plate with text "THERMAL FAIL"	800T-X559E	Allen Bradley
15	1	Custom Pushbutton Legend Plate with text "SEAL FAIL"	800T-X559E	Allen Bradley
16	1	Push to Test Pilot Light, 30mm, 1N.O. 1N.C. Contacts, Transformer LED, Red	800T-PTH16R	Allen Bradley
17	1	Custom Pushbutton Legend Plate with text "RUNNING"	800T-X559E	Allen Bradley
18	1	Enclosure, 42" x 31" x 10", Carbon Steel with Disconnect Cutout	SCE-42XEL3110LP	Saginaw Engineering
19	1	Flex Shaft Handle Mechanism, 3ft Cable, Frame Size 1 Breaker	PDG1XFS03	Eaton
20	1	5" Length x 2" Width White Phenolic Nameplate with 3/8" Black Text in Arial Font, First Line: "LIFT STATION", Second Line: "PUMP #1 PANEL"	N/A	Electro Controls
21	1	5" Length x 2" Width White Phenolic Nameplate with 3/8" Black Text in Arial Font, First Line: "LIFT STATION", Second Line: "PUMP #2 PANEL"	N/A	Electro Controls
22	1	Custom T&M Associates Nameplate	N/A	Electro Controls
23				
24				
25				

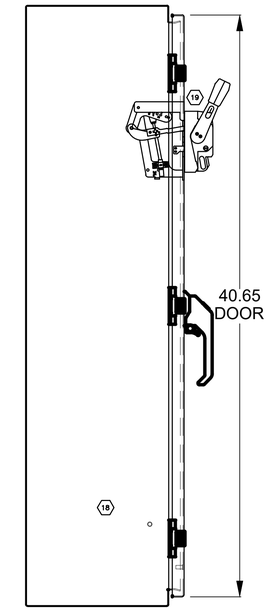
NOTES:

1. ALL FONT SHALL BE IN ARIAL.
2. "T&M ASSOCIATES" SHALL BE $\frac{1}{4}$" FONT SIZE. REST SHALL BE $\frac{1}{8}$" FONT SIZE.
3. NAMEPLATE SHALL BE BLUE LETTERING ON WHITE BACKGROUND.



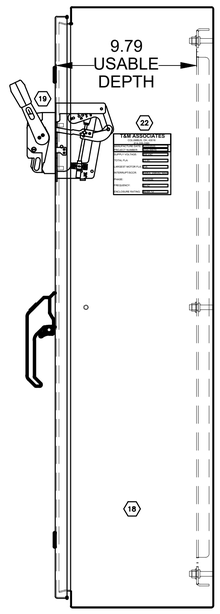
PANEL NAMEPLATE DETAIL

SCALE: 1:3



EXTERNAL PANEL LEFT-SECTION VIEW

SCALE: 1:5



EXTERNAL PANEL RIGHT-SECTION VIEW

SCALE: 1:5

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PROJECT INFORMATION:
FILE PATH: C:\bms\tm1-east-pw-02\sms22923\
FILE NAME: MP-001 LIFT STATION PUMP PANEL EXTERIOR LAYOUT.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 11:05AM
LAST SAVE BY: sgambill

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

TYPICAL LIFT STATION PUMP PANEL EXTERIOR LAYOUT

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BETHLEHEM, PA 18018
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FAX 610-625-2969

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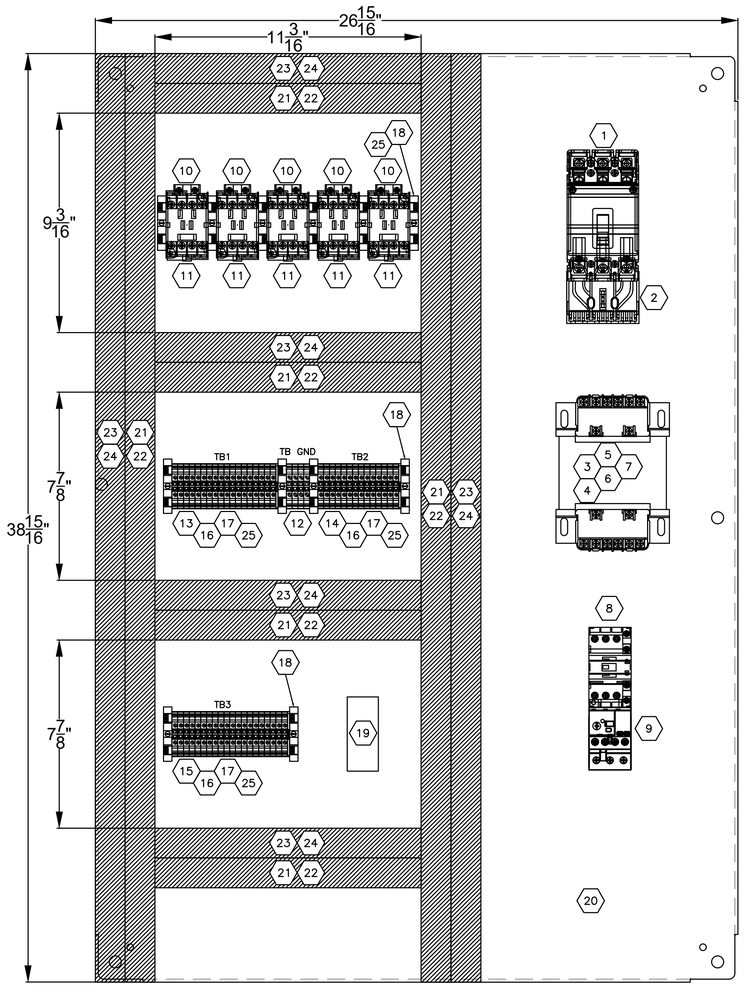
DESIGNED BY SCG	DRAWING MP-001
CHECKED BY TLL	
DRAWN BY SCG	SHEET 18
DATE 12/10/2025	OF 36
SCALE	
PROJ. NO. SGAL00070	



INTERNAL PANEL FRONT
SCALE: 1:3

LIFT STATION INTERNAL PANEL BILL-OF-MATERIALS

ITEM	QTY	DESCRIPTION	PART NUMBER	MANUFACTURER
1	1	Power Defense Molded Case Circuit Breaker, Frame 1, 3 Pole, 30A, 100KAIC/240V, Standard Line and Load Terminals	PDG13M0030TFFJ	Eaton
2	1	Multi-Wire Terminals, 3 Conductors Per Phase, 14-2 AWG, With Terminal Shield	PDG1X3TA1253W	Eaton
3	1	500VA, 208-120 1-Phase Transformer	PH500MGJ	Hammond
4	1	Primary Fuse Kit, 4 Fuse Clips, 4 Mounting Screws, 1 Jumper Wire	PFK7	Hammond
5	1	Secondary Fuse Kit, 2 Fuse Clips, 2 Mounting Screws, 3 Voltage Links	SFK7	Hammond
6	4	Primary Fuses, 3A 600V Class CC Fuse, Current-Limiting, Time-Delay	HCTR3	Edison
7	2	Secondary Fuses, 6A 250V Class Midget Fuse, Current-Limiting, Time-Delay	MEN6	Edison
8	1	Contactor, 32A, 3 Pole, C Frame, 120V 60Hz Coil	XTCE032C10A	Eaton
9	1	C440 Electronic Overload Relay, 9-40A Range, C Frame, NO-NC Contacts, Selectable Class Trip	XTOE045CCS	Eaton
10	5	120VAC 60Hz Coil, 4 Pole Relay, 2- N.O. & 2- N.C. 10A Contacts	700-CF220D	Allen Bradley
11	5	Varistor MOV Surge Suppressor, 56-136VAC, 78-180VDC	100-FSV136	Allen Bradley
12	4	Ground Terminal Block, 6.2mm	XBUT4PE	Eaton
13	18	TB1 Terminal Block, 6.2mm	XBUT4	Eaton
14	14	TB2 Terminal Block, 6.2mm	XBUT4	Eaton
15	20	TB3 Terminal Block, 6.2mm	XBUT4	Eaton
16	3	XBUT4 Terminal Block End Covers	XBACUT10	Eaton
17	2	Terminal Block, Jumper 50 Pos XBUT4	XBAFBS506	Eaton
18	12	End Bracket for Terminal Block	XBAES35C	Eaton
19	1	MiniCAS by Pump Manufacturer	N/A	N/A
20	1	Subpanel, 42"H X 30"W	SCE-42P30	Saginaw Controls
21	AR	1" Width, 3" Depth, 6' Length, Light Grey Narrow Slotted Panduit (For DC)	F1X3LG6	Panduit
22	AR	1.25" Width, 0.35" Depth, 6' Length, Light Grey Panduit Cover (FOR DC)	C1LG6	Panduit
23	AR	1" Width, 3" Depth, 6' Length, Light Grey Narrow Slotted Panduit (For AC)	F1X3LG6	Panduit
24	AR	1.25" Width, 0.35" Depth, 6' Length, Light Grey Panduit Cover (FOR AC)	C1LG6	Panduit
25	AR	Slotted Din Rain, Top Hat Style, 35mmx7.5mm (1 Meter Required)	DKN3575ST-2	Machine Pro Products
26				
27				
28				
29				
30				

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MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025

LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

TYPICAL LIFT STATION PUMP PANEL INTERNAL LAYOUT

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DESIGNED BY	SCG
CHECKED BY	TLL
DRAWN BY	SCG
DATE	12/10/2025
SCALE	1:3
PROJ. NO.	SGAL00070
DRAWING	MP-010
SHEET	19 OF 36

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PROJECT INFORMATION:
FILE PATH: C:\Pms\Vm1-east-pw-02\dms22923\
FILE NAME: MP-010 LIFTSTATION PUMP PANEL INTERIOR LAYOUT.dwg
LAST PLOTTED: 10-Mar-2026 11:52AM
LAST SAVE BY: sgambill

Float Bypass Panel Conduit/Cable Schedule

Description	Conduit Size	Conduit #	Conductor Type	Wire Size (AWG)	Wire Length (Ft)	Wire Number	Terminal Location Cabinet Side	Terminal Location Field Side
Float Bypass Panel Power	1" Rigid Metal	9	MTW	14	20	XXXX	Float Bypass Panel CB3002	RTU Panel
						COM	Float Bypass Panel TB2–1	RTU Panel
Float Bypass Panel Control Power OK	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–4	RTU Panel
						XXXX	Float Bypass Panel TB3–5	RTU Panel
Float Bypass Panel High Level Alarm	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–6	RTU Panel
						XXXX	Float Bypass Panel TB3–7	RTU Panel
Float Bypass Panel Float Bypass Activated	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–8	RTU Panel
						XXXX	Float Bypass Panel TB3–9	RTU Panel
Float Bypass Panel Low Level Alarm	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–10	RTU Panel
						XXXX	Float Bypass Panel TB3–11	RTU Panel
Float Bypass Panel Pump(s) Off	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–12	RTU Panel
						XXXX	Float Bypass Panel TB3–13	RTU Panel
Float Bypass Panel Lead Pump Start	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–14	RTU Panel
						XXXX	Float Bypass Panel TB3–15	RTU Panel
Float Bypass Panel Lag Pump Start	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–16	RTU Panel
						XXXX	Float Bypass Panel TB3–17	RTU Panel
Float Bypass Panel SPD OK	1" Rigid Metal			14	20	XXXX	Float Bypass Panel TB3–1	RTU Panel
						XXXX	Float Bypass Panel TB3–2	RTU Panel
Float Bypass Panel Reset	1" Rigid Metal			14	20	3042A	Float Bypass Panel TB3–18	RTU Panel
						3040	Float Bypass Panel TB3–19	RTU Panel
Float Bypass Panel Level Indicating Transmitter	3/4" Rigid Metal	10	Belden 8760 18 AWG 1 Pair Shielded Cable 300V or Approved Equal	16	20	CABLE 3095A Black Wire	Float Bypass Panel Level Indicator Terminal I+	RTU Panel
						CABLE 3095A White Wire	Float Bypass Panel Level Indicator Terminal I–	RTU Panel
						CABLE 3095A Shield	Float Bypass Panel GND	RTU Panel
Lift Station Float Bypass Activated	1" Rigid Metal	11	MTW	14	20	2009	Float Bypass Panel TB3–20	Lift Station Panel 1 TB3–1
						2009A	Float Bypass Panel TB3–21	Lift Station Panel 1 TB3–3
Lift Station Pump 1 Start	1" Rigid Metal			14	20	2009	Float Bypass Panel TB3–22	Lift Station Panel 1 TB3–2
						2006A	Float Bypass Panel TB3–23	Lift Station Panel 1 TB3–6
Lift Station Float Bypass Activated	1" Rigid Metal	12	MTW	14	20	2009	Float Bypass Panel TB3–20	Lift Station Panel 2 TB3–1
						2009A	Float Bypass Panel TB3–21	Lift Station Panel 2 TB3–3
Lift Station Pump 2 Start	1" Rigid Metal			14	20	2009	Float Bypass Panel TB3–24	Lift Station Panel 2 TB3–2
						2006A	Float Bypass Panel TB3–25	Lift Station Panel 2 TB3–6
Level Switch High Level Alarm	1" Rigid Metal	13	XHHW	14	50	3029	Float Bypass Panel Isolation Amplifier 4.1	Level Switch (LSHH)
						3027	Float Bypass Panel Isolation Amplifier 4.3	Level Switch (LSHH)
Level Switch Low Level Alarm	1" Rigid Metal			14	50	3033	Float Bypass Panel Isolation Amplifier 5.1	Level Switch (LSLL)
						3031	Float Bypass Panel Isolation Amplifier 5.3	Level Switch (LSLL)
Level Switch Pumps Off	1" Rigid Metal			14	50	3056	Float Bypass Panel Isolation Amplifier 4.1	Level Switch (LSL)
						3054	Float Bypass Panel Isolation Amplifier 4.3	Level Switch (LSL)
Level Switch Lead Pump Start	1" Rigid Metal			14	50	3060	Float Bypass Panel Isolation Amplifier 5.1	Level Switch (LSN1)
						3058	Float Bypass Panel Isolation Amplifier 5.3	Level Switch 1 (LSN1)
Level Switch Lag Pump Start	1" Rigid Metal			14	50	3075	Float Bypass Panel Isolation Amplifier 5.1	Level Switch (LSN2)
						3073	Float Bypass Panel Isolation Amplifier 5.3	Level Switch (LSN2)
Float Bypass Panel Level Indicating Transmitter	3/4" Rigid Metal	14	Belden 8760 18 AWG 1 Pair Shielded Cable 300V or Approved Equal	16	20	CABLE 3095 Black Wire	Float Bypass Panel Level Indicator Terminal P+	Level Transmitter Red Wire
						CABLE 3095 White Wire	Float Bypass Panel Level Indicator Terminal mA+	Level Transmitter Black Wire
						CABLE 3095 Shield	Float Bypass Panel GND	Level Transmitter Shield

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PROJECT INFORMATION:
FILE PATH: C:\pms\lm1-east-pw-02\dms22923\
FILE NAME: E2_DUPLEX_SYSTEM FLOAT BYPASS CONDUIT & CABLE SCHEDULE.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 11:03AM
LAST SAVE BY: sgambill

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

DUPLEX SYSTEM FLOAT BYPASS CONDUIT & CABLE SCHEDULE

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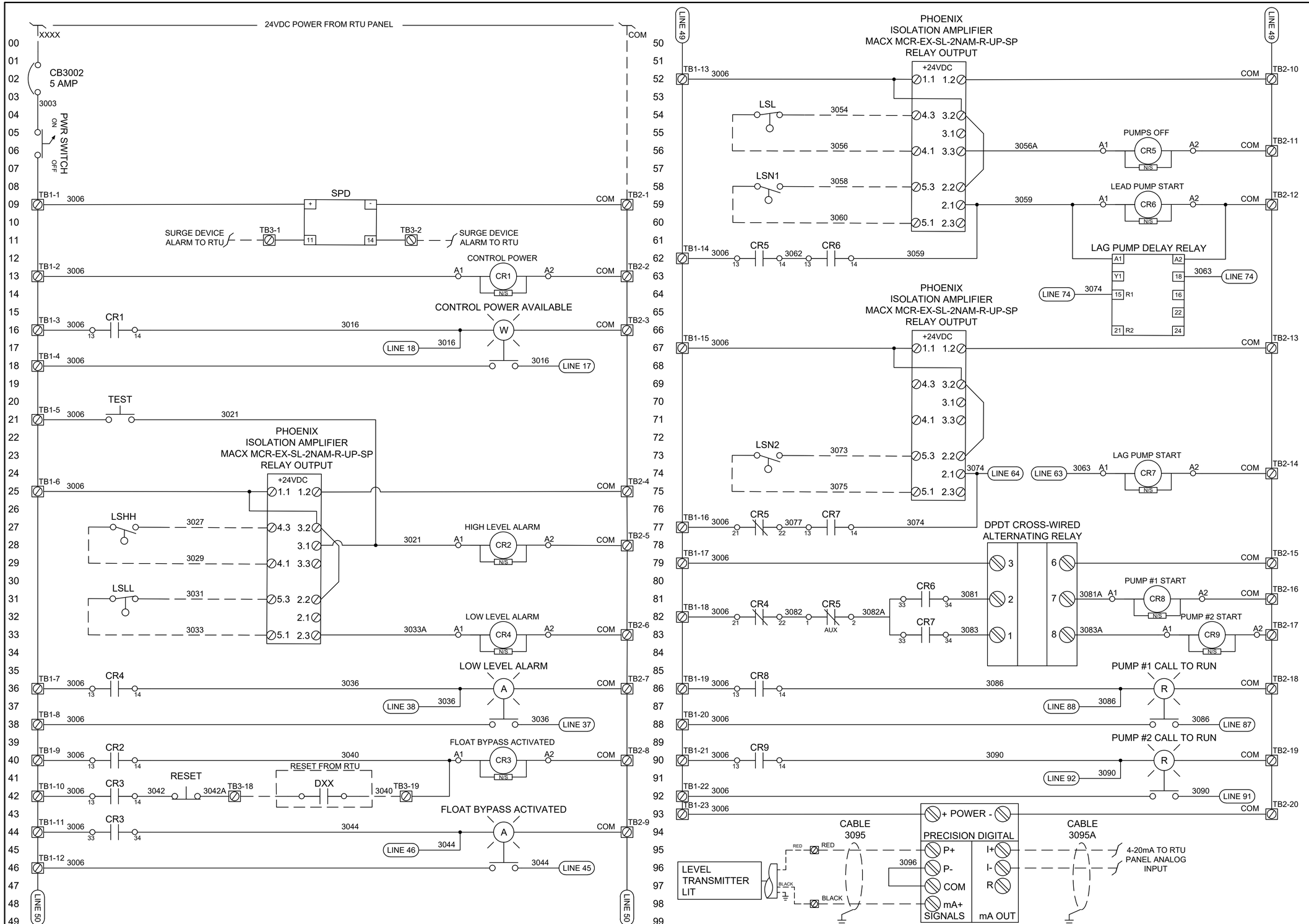
DATE	12/10/2025
SCALE	
PROJ. NO.	SGAL00070
DRAWING	E-2
SHEET	20
OF	36



PROJECT INFORMATION:
FILE PATH: C:\tms\1m1-east-pw-02\tms22923\
FILE NAME: EP-130 DUPLEX SYSTEM FLOAT BYPASS 24VDC CONTROL SCHEMATIC.dwg
LAST SAVED: 12/10/2025, 11:10:04 AM
LAST SAVE BY: sgambill

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XX-XX-2025
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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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DUPLEX SYSTEM FLOAT BYPASS 24VDC CONTROL SCHEMATIC

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DRAWN BY SCG	SHEET 21
DATE 12/10/2025	OF 36
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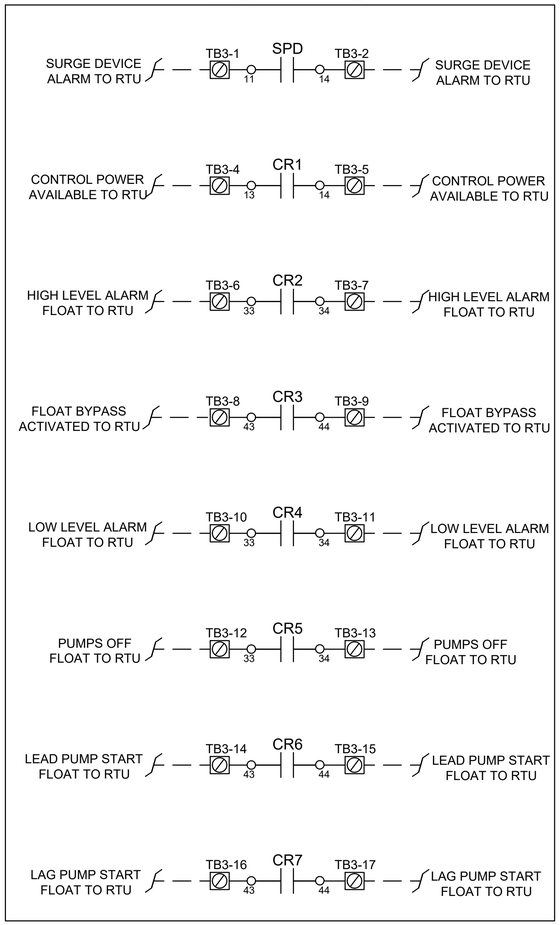
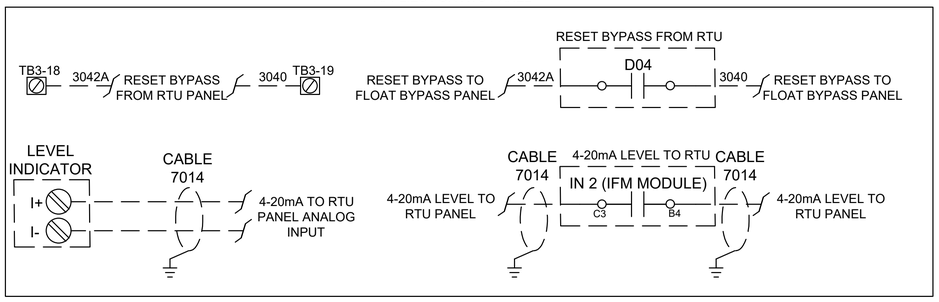
PROJ. NO. SGAL00070	

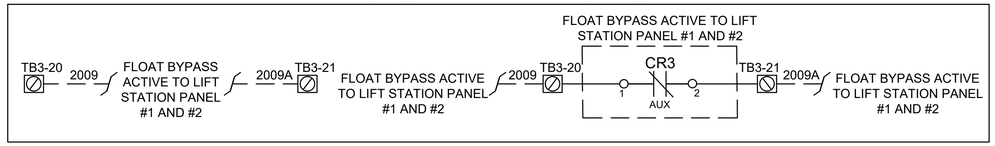
TERMINALS FOR SCADA INTERFACE
APPLIES FOR RTU PANEL



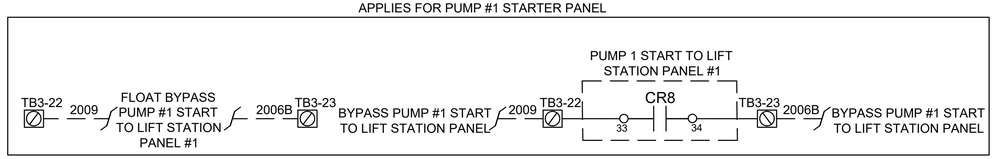
TERMINALS FOR SCADA INTERFACE
APPLIES FOR RTU PANEL



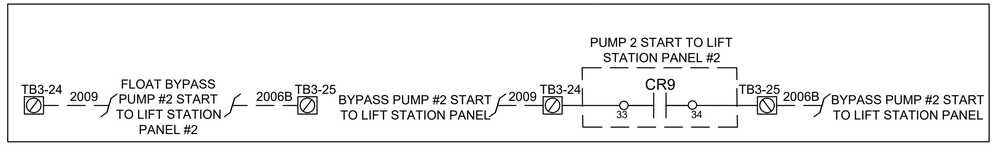
TERMINALS FOR LIFT STATION PUMP PANELS
INTERFACEAPPLIES FOR BOTH PUMP STARTER PANELS



TERMINALS FOR LIFT STATION PUMP PANELS INTERFACE
APPLIES FOR PUMP #1 STARTER PANEL



TERMINALS FOR LIFT STATION PUMP PANELS INTERFACE
APPLIES FOR PUMP #2 STARTER PANEL



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PROJECT INFORMATION:
FILE PATH: C:\pns\tm1-east-pw-02\dms2292\
FILE NAME: EP-140 DUPLEX SYSTEM FLOAT BYPASS
FILE SAVED: DATE AND TIME: 10 Mar 2026, 11:20AM
LAST SAVE BY: sgombili

NO.	DATE	REVISIONS
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026

BY	CHKD
SCG	TJH

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PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL MICHAEL E. GABLE ENGINEER PE-070535

XX-XX-2025
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

PENNSYLVANIA AMERICAN WATER COMPANY

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

DUPLEX SYSTEM FLOAT BYPASS RELAY CONTROL SCHEMATIC

T&M AND
YOUR GOALS. OUR MISSION.
74 WEST BROAD STREET, STE 300
BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

OFFICES LOCATED IN:
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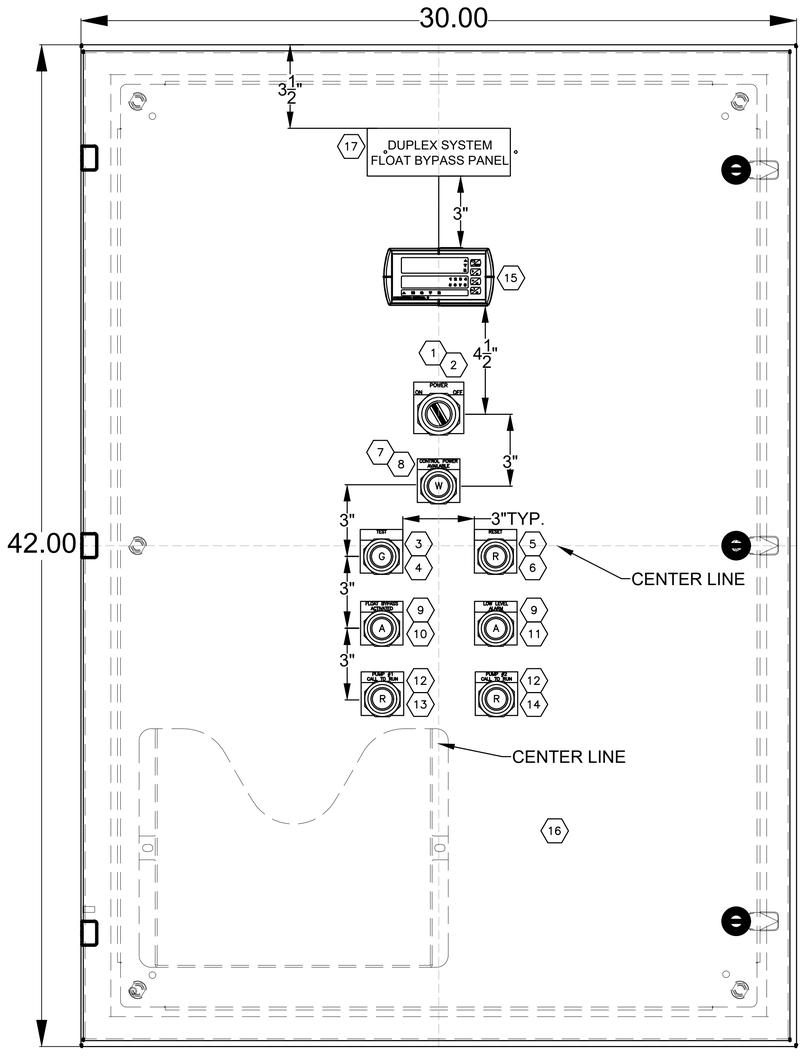
DESIGNED BY SCG	DRAWING EP-140
CHECKED BY TLL	
DRAWN BY SCG	SHEET 22
DATE 12/10/2025	OF 36
SCALE	
PROJ. NO. SGAL00070	



EXTERNAL PANEL FRONT - SECTION VIEW

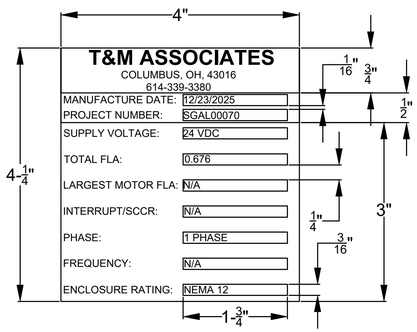
SCALE: 1:3

DUPLEX SYSTEM FLOAT BYPASS EXTERNAL PANEL BILL-OF-MATERIALS

ITEM	QTY	DESCRIPTION	PART NUMBER	MANUFACTURER
1	1	HOA 2 Postion Selector Switch, 30mm, Maintained, 1N.O. 1N.C. Contacts	800T-H2A	Allen Bradley
2	1	Custom Pushbutton Legend Plate with text "POWER" on 1st line, "ON" on 2nd line-left side, and "OFF" on 2nd line-right side	800T-X559E	Allen Bradley
3	1	Test Momentary Pushbutton, Green, 30mm, 1N.O. - 1N.C. Contacts	800T-A1A	Allen Bradley
4	1	Test Pushbutton Legend Plate	800T-X554	Allen Bradley
5	1	Reset Momentary Pushbutton, Red, 30mm, 1N.O. - 1N.C. Contacts	800T-A6A	Allen Bradley
6	1	Reset Pushbutton Legend Plate	800T-X538	Allen Bradley
7	1	Push to Test Pilot Light, 30mm, 1N.O. 1N.C. Contacts, Full Voltage LED, White	800T-QTH2W	Allen Bradley
8	1	Custom Pushbutton Legend Plate with text "CONTROL POWER" on 1st line and "AVAILABLE" on 2nd line	800T-X559E	Allen Bradley
9	2	Push to Test Pilot Light, 30mm, 1N.O. 1N.C. Contacts, Full Voltage LED, Amber	800T-QTH2A	Allen Bradley
10	1	Custom Pushbutton Legend Plate with text "FLOAT BYPASS" on 1st line and "ACTIVATED" on 2nd line	800T-X559E	Allen Bradley
11	1	Custom Pushbutton Legend Plate with text "LOW LEVEL" on 1st line and "ALARM" on 2nd line	800T-X559E	Allen Bradley
12	2	Push to Test Pilot Light, 30mm, 1N.O. 1N.C. Contacts, Full Voltage LED, Red	800T-QTH2A	Allen Bradley
13	1	Custom Pushbutton Legend Plate with text "PUMP #1" on 1st line and "CALL TO RUN" on 2nd line	800T-X559E	Allen Bradley
14	1	Custom Pushbutton Legend Plate with text "PUMP #2" on 1st line and "CALL TO RUN" on 2nd line	800T-X559E	Allen Bradley
15	2	Level Indicator, Analog Input, Analog Output, LED Display, 24VDC (1-Spare)	PD6000-7R3	Precision Digital
16	1	Enclosure, 42" x 30" x 12", Carbon Steel	SCE-42EL3012 LP	Saginaw Engineering
17	1	6" Length x 2" Width White Phenolic Nameplate with 3/8" Black Text in Arial Font, First Line: "DUPLEX SYSTEM", Second Line: "FLOAT BYPASS PANEL"	N/A	Electro Controls
18	1	Custom T&M Associates Nameplate	N/A	Electro Controls
19				
20				
21				

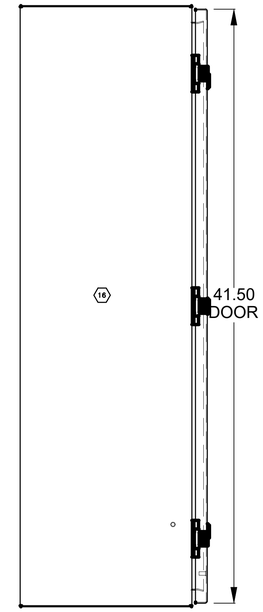
NOTES:

1. ALL FONT SHALL BE IN ARIAL.
2. "T&M ASSOCIATES" SHALL BE $\frac{1}{4}$" FONT SIZE. REST SHALL BE $\frac{1}{8}$" FONT SIZE.
3. NAMEPLATE SHALL BE BLUE LETTERING ON WHITE BACKGROUND.



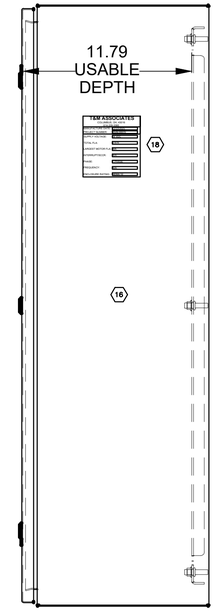
PANEL NAMEPLATE DETAIL

SCALE: 1:3



EXTERNAL PANEL LEFT-SECTION VIEW

SCALE: 1:5



EXTERNAL PANEL RIGHT-SECTION VIEW

SCALE: 1:5

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PROJECT INFORMATION:
FILE PATH: C:\Jms\Jm1-east-pw-02\Jms22923\
FILE NAME: MP-101 DUPLEX SYSTEM FLOAT BYPASS PANEL EXTERIOR LAYOUT.dwg
LAST PLOTTED: 10 MAR 2026, 11:04AM
LAST SAVE BY: sgambill

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

MICHAEL E. GABLE, P.E.
PROFESSIONAL ENGINEER

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STATE OF PA LICENSE No. PE-070535

PENNSYLVANIA AMERICAN WATER COMPANY

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EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

DUPLEX SYSTEM FLOAT BYPASS PANEL EXTERIOR LAYOUT

T&M AND ASSOCIATES
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BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

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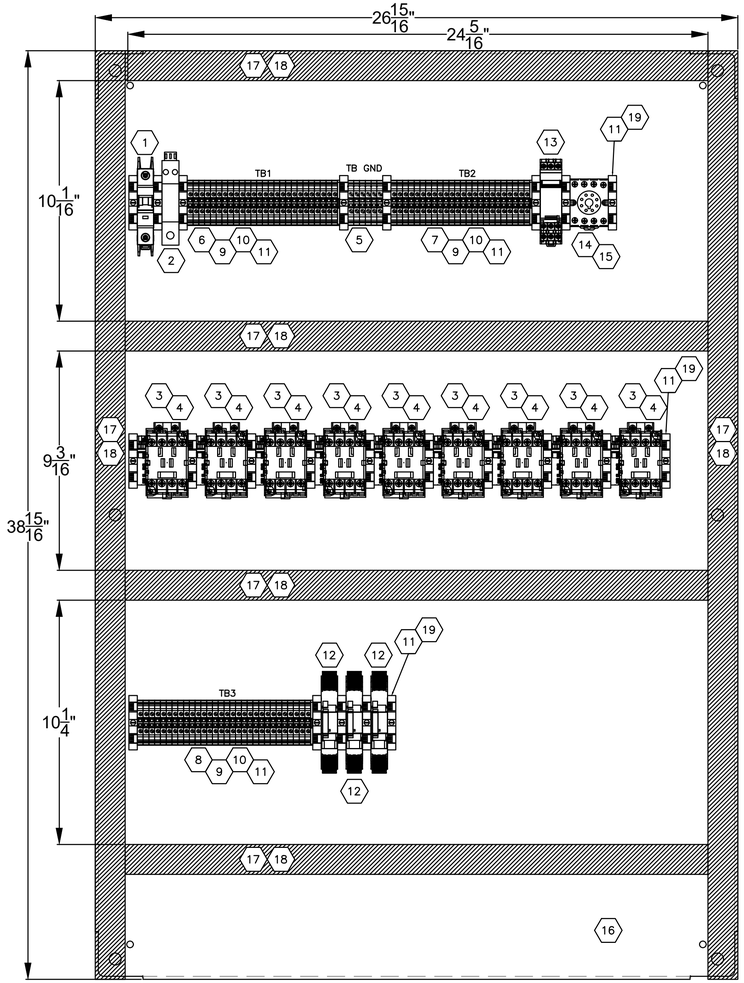
DESIGNED BY	SCG
CHECKED BY	TLL
DRAWN BY	SCG
DATE	12/10/2025
SCALE	
PROJ. NO.	SGAL00070
DRAWING	MP-101
SHEET	23 OF 36



INTERNAL PANEL FRONT
SCALE: 1:3

DUPLEX SYSTEM FLOAT BYPASS INTERNAL PANEL BILL-OF-MATERIALS

ITEM	QTY	DESCRIPTION	PART NUMBER	MANUFACTURER
1	1	5A Circuit Breaker, 48VDC, 1-Pole, D-Curve	FAZ-D5-1-NA-L-SP	Eaton
2	1	Surge Supressor Monitoring Device, 24VDC, Remote Signaling	DS220S-24DC	Citel
3	10	24VDC Coil w/Diode, 4 Pole Relay, 3- N.O. & 1-N.C. 10A Contacts (1-Spare)	700-CF310EJ	Allen Bradley
4	10	Side Mount Aux Contact Block, 2-N.C. Contacts (1-Spare)	100-SA02	Allen Bradley
5	6	Ground Terminal Block, 6.2mm	XBUT4PE	Eaton
6	26	TB1 Terminal Block, 6.2mm	XBUT4	Eaton
7	24	TB2 Terminal Block, 6.2mm	XBUT4	Eaton
8	30	TB3 Terminal Block, 6.2mm	XBUT4	Eaton
9	3	XBUT4 Terminal Block End Covers	XBACUT10	Eaton
10	2	Terminal Block, Jumper 50 Pos XBUT4	XBAFBS506	Eaton
11	23	End Bracket for Terminal Block	XBAES35C	Eaton
12	4	Signal Isolator Rleay Output, 2 Channel, SIL 2 (1-Spare)	2924249	Phoenix Contact
13	2	Time Delay Relay, 24VDC, 8A Contacts, Multifunction Delay (1-Spare)	RE22R2MMU	Schneider
14	2	Alternating Relay, X-Wired, 24VDC, Toggle Switch (1-Spare)	261-DXT-24	Time Mark
15	1	8 Pin Socket Base, 10A Contacts	51X120	Time Mark
16	1	Subpanel, 42"H X 30"W	SCE-42P30	Saginaw Controls
17	AR	1" Width, 3" Depth, 6' Length, Light Grey Narrow Slotted Panduit (For DC)	F1X3LG6	Panduit
18	AR	1.25" Width, 0.35" Depth, 6' Length, Light Grey Panduit Cover (FOR DC)	C1LG6	Panduit
19	AR	Slotted Din Rain, Top Hat Style, 35mmx7.5mm (1 Meter Required)	DKN3575ST-2	Machine Pro Products
20				
21				
22				
23				
24				

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/26	REVISED PER PAW LETTER DATED 02/12/2026	SCG	TJH

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EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

DUPLEX SYSTEM FLOAT BYPASS PANEL INTERNAL LAYOUT

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DESIGNED BY SCG	DRAWING MP-110
CHECKED BY TLL	
DRAWN BY SCG	SHEET 24
DATE 12/10/2025	OF 36
SCALE 1:3	
PROJ. NO. SGAL00070	

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PROJECT INFORMATION:
FILE PATH: C:\pms\rm1-east-pw-02\dms22923\...
FILE NAME: MP-110 DUPLEX SYSTEM FLOAT BYPASS PANEL INTERIOR LAYOUT.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 11:08AM
LAST SAVE BY: sgambill

ELECTRICAL SITE PLAN
1" = 20'

20' 10' 0 20' 40'
1" = 20'

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/2026	DETAIL AND PREFAB BUILDING UPDATES	DAM	DWJ

DOMINIC A. MOFFITT, P.E.
PROFESSIONAL ENGINEER

3/10/2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-095121

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

ELECTRICAL SITE PLAN

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DESIGNED BY	DAM
CHECKED BY	DWJ
DRAWN BY	DAM
DATE	10-29-2025
SCALE	AS NOTED
PROJ. NO.	SGAL00070
DRAWING	E-4
SHEET	34 OF 36

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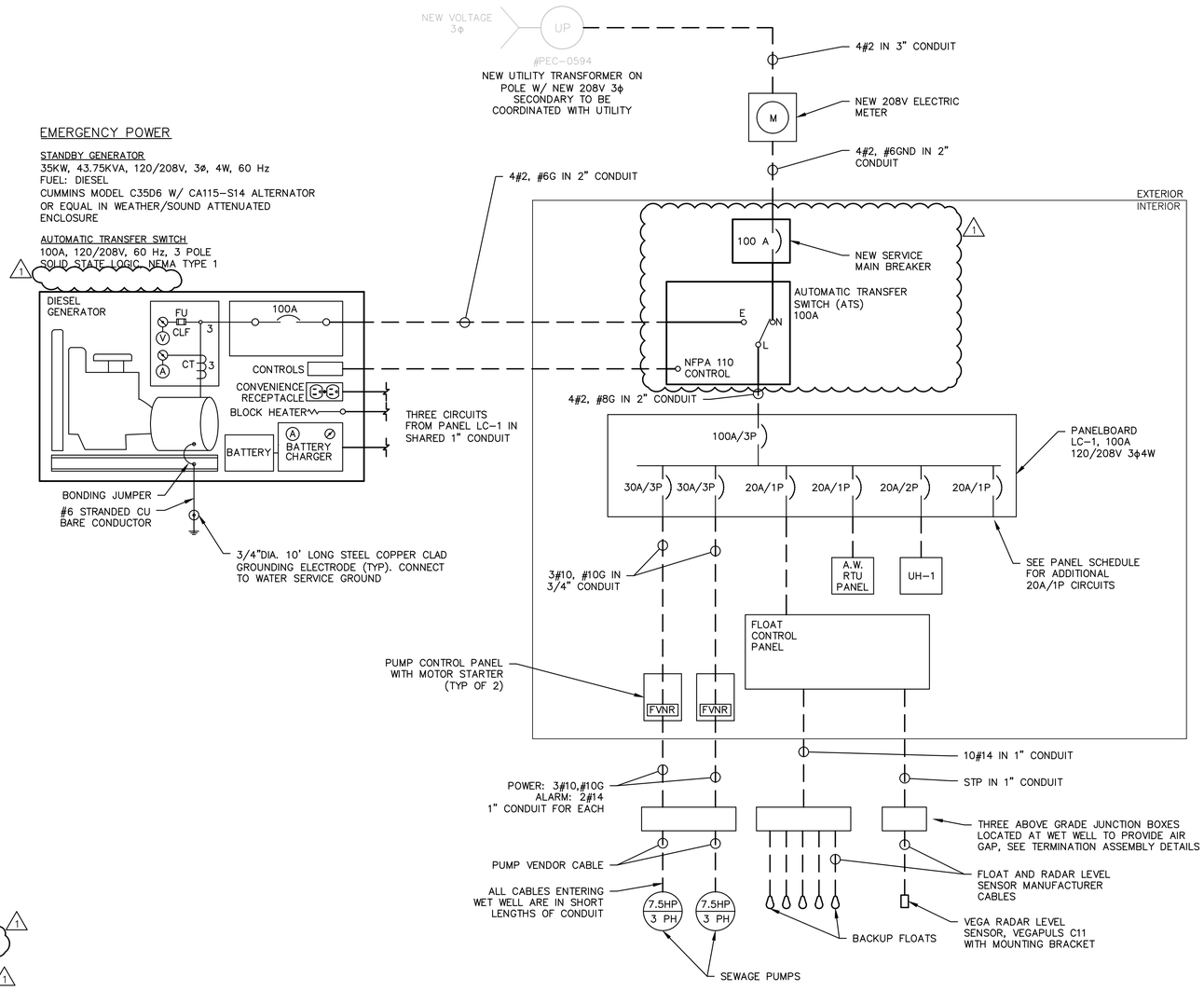
PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\Pump Station Plans\
FILE NAME: SGAL00070_E1.dwg
LAST SAVED: Tue, 10 Mar 2026, 4:23PM
LAST SAVE BY: dmoffitt

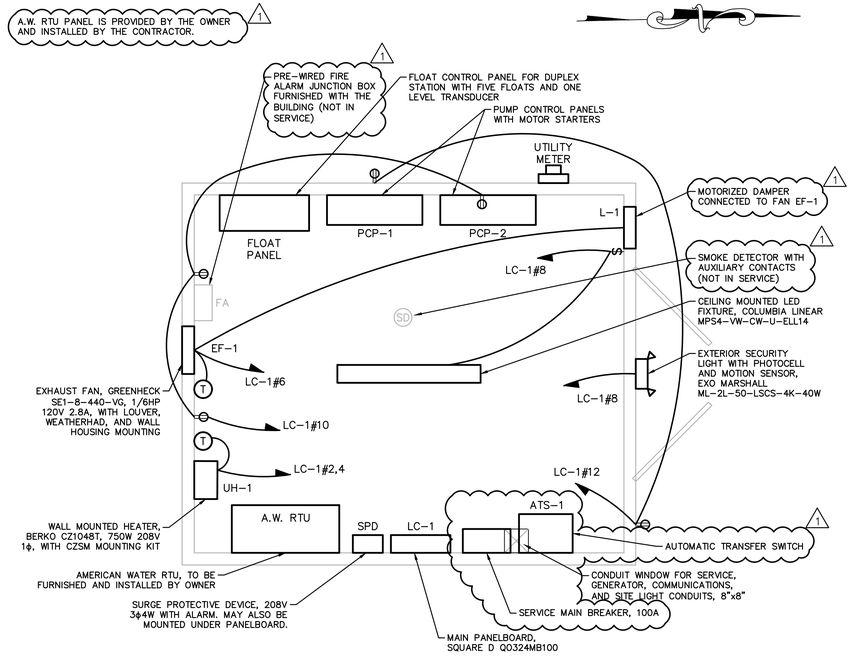
LOCATION: PUMP STATION CONTROL BUILDING								MFG: SQUARE D TYPE: QO MOUNT: SURFACE	
22KA/C									
PANEL LC-1		120 / 208 VOLTS	3 PHASE	4 WIRE		125A AMP		MAINS: 100A	
CKT #	SERVES	WIRE & CONDUIT	TRIP POLE	LOAD	LOAD	TRIP POLE	WIRE & CONDUIT	SERVES	CKT #
1	PUMP 1 CONTROL PANEL PCP-1	3#10, #10G, 1"C	30/3	7.56	0.75	20/2	2#12, #12G, 3/4"C	UH-1	2
3									4
5					0.34	20/1	2#12, #12G, 3/4"C	EF-1	6
7	PUMP 2 CONTROL PANEL PCP-2	3#10, #10G, 1"C	30/3	7.56	0.05	20/1	2#12, #12G, 3/4"C	LIGHTING	8
9					0.54	20/1	2#12, #12G, 3/4"C	INDOOR RECEPTACLES	10
11					0.36	20/1	2#12, #12G, 3/4"C	OUTDOOR RECEPTACLES	12
13	FLOAT CONTROL PANEL	2#12, #12G, 3/4"C	20/1	0.1	0.1	20/1	2#12, #12G, 3/4"C	FIRE ALARM PANEL	14
15	AMERICAN WATER RTU	2#12, #12G, 3/4"C	20/1	0.1	0.04	20/1	2#10, #10G, 1"C	SITE LIGHT	16
17					0.6	20/1	2#10, #10G, 1"C	GENERATOR CHARGER	18
19					0.6	20/1	2#10, #10G, 1"C	GENERATOR HEATER	20
21					0.18	20/1	2#10, #10G, 1"C	GENERATOR RECEPT	22
23									24
25						30/3	3#10, #10G, 3/4"C	SURGE PROTECTIVE DEVICE	26
27									28
29									30
				15.32	3.56		18.88 kVA	52.41 A	

1

PANEL SCHEDULE
N.T.S.



ONE LINE DIAGRAM
N.T.S.



ELECTRICAL FLOOR PLAN
1/2" = 1'-0"

1' 6" 0 1' 2' 3' 4'
1/2" = 1'-0"

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/2026	DETAIL AND PREFAB BUILDING UPDATES	DAM	DWJ

DOMINIC A. MOFFITT, P.E.
PROFESSIONAL ENGINEER

3/10/2026
LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-095121

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

ELECTRICAL FLOOR PLAN AND DIAGRAM

YOUR GOALS. OUR MISSION.
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DESIGNED BY DAM	DRAWING E-5
CHECKED BY DWJ	
DRAWN BY DAM	SHEET 35 OF 36
DATE 10-29-2025	
SCALE AS NOTED	
PROJ. NO. SGAL00070	

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\Pump Station Plans\
FILE NAME: SGAL00070_E1.dwg
LAST SAVED DATE AND TIME: 10 Mar 2026, 4:23PM
LAST SAVE BY: dmoffitt

ELECTRICAL CONSTRUCTION NOTES:

1. THE ELECTRICAL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE OR ANY OTHER STATE OR LOCAL CODE HAVING JURISDICTION.

2. ALL CONDUIT RUNS ARE DIAGRAMMATICALLY SHOWN ON THE DRAWINGS. THE FINAL ROUTING OF CONDUITS SHALL BE DETERMINED BY THE ELECTRICAL CONTRACTOR AND APPROVED BY THE ENGINEER. CONDUIT SHALL BE INSTALLED IN A MANNER TO PREVENT CONFLICTS WITH EQUIPMENT AND STRUCTURAL CONDITIONS. EXPOSED CONDUITS SHALL BE INSTALLED PARALLEL TO BEAMS AND WALLS. CONDUIT SHALL BE TERMINATED SO AS TO PERMIT NEAT CONNECTIONS TO EQUIPMENT.

3. EXISTING UNDERGROUND PIPE, CONDUIT AND APPURTENANCES ARE NOT SHOWN. CONTRACTOR SHALL LOCATE ALL EXISTING SUBSURFACE EQUIPMENT WHICH MAY CONFLICT WITH NEW CONSTRUCTION SO AS TO AVOID CONFLICTS OR DAMAGE.

4. UTILITY COMPANY WORK SHALL BE COORDINATED BY THE CONTRACTOR. ANY ASSOCIATED FEES AND COSTS SHALL BE PAID BY THE CONTRACTOR. CONTRACTOR SHALL PAY UTILITY COMPANY IN ADVANCE TO ENSURE THE CONTRACTOR MEETS ITS SCHEDULE.

5. WIRE SIZES SHOWN ON PLANS MAY BE OVERSIZED TO ACCOMMODATE VOLTAGE DROP. CONTRACTOR MAY ELECT TO TAP DOWN WIRE SIZE AT SOURCE AND/OR APPLIANCE IN A LISTED MANNER COMPLIANT WITH THE CODE.

6. CONTRACTOR SHALL PROVIDE APPURTENANCES AS REQUIRED (TRANSFORMERS, RELAYS, ETC.) TO PROVIDE THE PROPER POWER SUPPLY FOR ANY VOLTAGES REQUIRED FOR A COMPLETE INSTALLATION. ANY VOLTAGE SUPPLIES REQUIRED BY THE SUBMITTED EQUIPMENT, FOR POWER OR CONTROLS, SHALL BE INCLUDED.

7. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE GROUNDING SYSTEM IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. ELECTRICAL WIRE RACEWAYS, APPARATUS AND PANEL ENCLOSURES AND OTHER NON-CURRENT CARRYING METAL PARTS SHALL BE MECHANICALLY JOINED TO FORM A CONTINUOUS CONDUCTING METALLIC PATH AND ASSURE ELECTRICAL CONTINUITY OF THE GROUNDING CIRCUITS. THE STRANDED COPPER BONDING JUMPER CABLES AND/OR GROUND WIRES SHALL BE INSTALLED WHERE REQUIRED. THE SURFACE WHERE GROUNDING CONNECTIONS ARE TO BE MADE SHALL BE CLEAN AND DRY. STEEL SURFACES SHALL BE GROUND OR FILED TO REMOVE ALL SCALE, RUST, GREASE AND DIRT. COPPER AND GALVANIZED STEEL SHALL BE CLEANED WITH EMERY CLOTH TO REMOVE OXIDE BEFORE MAKING CONNECTIONS.
   - 7.1. MOTOR AND POWER DISTRIBUTION EQUIPMENT SHALL BE EFFECTIVELY GROUNDED USING A GROUND CONDUCTOR.
   - 7.2. CONTROL AND INSTRUMENTATION EQUIPMENT SHALL BE EFFECTIVELY GROUNDED USING A GROUND CONDUCTOR, METALLIC RACEWAY, OR A COMBINATION OF THE TWO.

8. THE TYPE CONDUIT SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED:

APPLICATION	TYPE
INDOOR LOCATIONS	PVC-COATED RMC BELOW 8', SCH. 40 PVC ABOVE 8'
OUTDOOR ABOVE GRADE LOCATIONS	PVC-COATED RMC
OUTDOOR BELOW GRADE LOCATIONS	SCH. 40 PVC
TO OR FROM HAZARDOUS (CLASSIFIED) AREAS	RMC, PVC-COATED RMC WHERE SPECIFIED
WITHIN HAZARDOUS (CLASSIFIED) AREAS	~~PVC-COATED RMC~~
ELECTRIC SERVICE	SCH. 80 PVC
OTHER AREAS	SCH. 40 PVC

9. THE POWER AND CONTROL WIRING SHALL BE STRANDED COPPER CONDUCTOR WITH THHW INSULATION RATED 600 VOLTS. SERVICE WIRING SHALL BE AS POWER WIRING BUT HAVE "XHHW" TYPE INSULATION. MINIMUM SIZE OF POWER WIRING SHALL BE #12 AWG. CONTROL WIRING SHALL BE #14 AWG.

10. THE ELECTRICAL APPARATUS SUCH AS SWITCHES, RECEPTACLES, CONTROL DEVICES, PANELS, ETC., ARE SHOWN IN THEIR APPROXIMATE LOCATION. ACTUAL LOCATION OF THESE APPARATUS SHALL BE DETERMINED BY CHECKING JOB SITE AND OTHER TRADE DRAWINGS. FINAL LOCATION SHALL BE APPROVED BY THE ENGINEER. SWITCHES AND DISCONNECTS MOUNTING HEIGHT SHALL BE 4'-6" MIN. ABOVE FINISHED FLOOR OR GRADE UNLESS OTHERWISE NOTED.

11. A 1/8" NYLON PULL CORD SHALL BE PULLED INTO ALL CONDUITS NOT CONTAINING WIRES.

12. ALL PVC TYPE CONDUIT EXCEPT ELECTRIC SERVICE CONNECTIONS SHALL INCLUDE A GROUNDING CONDUCTOR IN ADDITION TO THOSE THAT ARE SHOWN ON THE DRAWING.

13. ALL FIELD WIRING TERMINATIONS SHALL BE MADE AT TERMINALS LOCATED IN THE INDIVIDUAL COMPARTMENTS OR ENCLOSURES. USE OF WIRE NUTS OR DIRECT WIRING WILL NOT BE ACCEPTED. ALL TERMINATION POINTS MUST BE IDENTIFIED IN THE SHOP DRAWINGS AND PERMANENTLY / CLEARLY MARKED IN ACCORDANCE WITH THE SPECIFICATION REQUIREMENTS. TERMINATOR MATERIALS SHALL BE SIZED FOR THE INSTALLED CONDUCTORS.

14. ALL WIRES SHALL BE NEATLY BUNDLED AND TAGGED TO INDICATE THE CONNECTED DEVICE. EACH WIRE SHALL BE COLOR CODED AND TAGGED WITH A PLASTIC SLEEVE TYPE WIRING TAG. WIRING SHALL BE TAGGED AT EACH POINT OF TERMINATION.

15. CONDUIT INSTALLATION INTO EQUIPMENT WITH EXPOSED LIVE COMPONENTS SHALL BE ROUTED FOR BOTTOM ENTRY WHERE POSSIBLE OR SEALED IN A WATERTIGHT MANNER ACCEPTABLE TO THE ENGINEER.

16. ALL 90 DEGREE ELBOWS AND CONDUIT PENETRATING CONCRETE SHALL BE PVC COATED GALVANIZED RIGID STEEL.

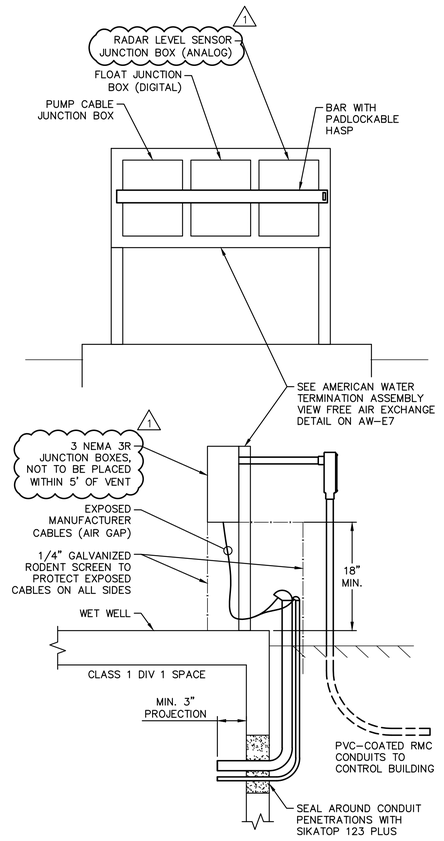
17. ALL RELAYS AND CONTACTORS SHALL HAVE A SUFFICIENT AMOUNT OF CONTACTS TO SATISFY THE CONTRACT REQUIREMENTS AND ONE SPARE.

18. ALL DEVICES AND APPARATUS FURNISHED SHALL BE NEW AND SHALL BE UL LISTED.

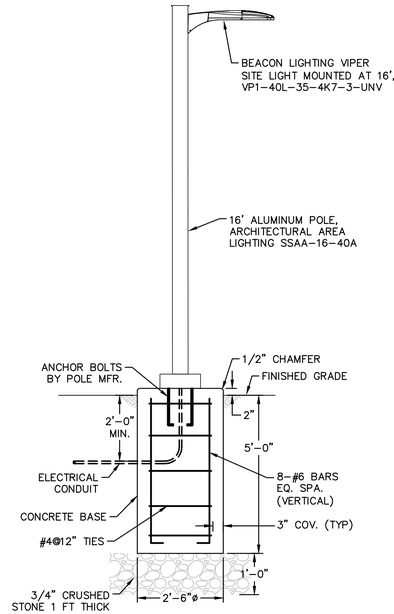
19. THE WIRING DIAGRAMS, QUANTITY AND SIZE OF WIRES AND CONDUIT REPRESENT A SUGGESTED ARRANGEMENT BASED UPON SELECTED STANDARD COMPONENTS OF ELECTRICAL EQUIPMENT. MODIFICATIONS ACCEPTABLE TO THE ENGINEER MAY BE MADE BY THE CONTRACTOR TO ACCOMMODATE EQUIPMENT ACTUALLY PURCHASED. THE BASIC SEQUENCE AND METHOD OF CONTROL MUST BE MAINTAINED AS INDICATED ON THE DRAWINGS AND/OR SPECIFICATION.

20. DISCONNECT AND REMOVE EXISTING CONDUIT, WIRING, POWER AND CONTROL DEVICES ASSOCIATED WITH EQUIPMENT TO BE DEMOLISHED EXCEPT WHERE OTHERWISE INDICATED TO BE REUSED. REMOVE ALL WIRE AND EXPOSED CONDUIT.

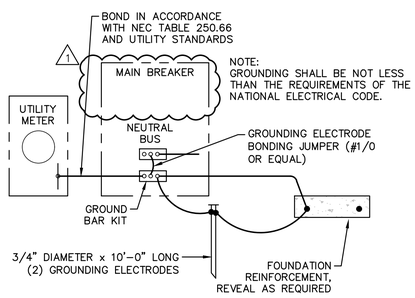
21. ALL CIRCUIT BREAKERS FOR MOTOR-OPERATED EQUIPMENT SHALL BE EQUIPPED WITH LOCK-OUT / TAG-OUT ACCESSORY.



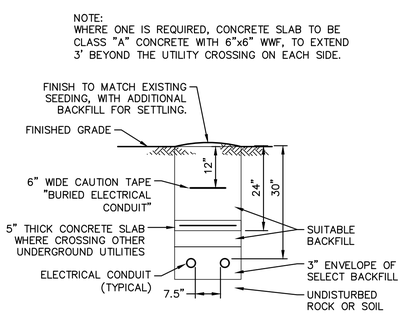
WET WELL CONDUIT DETAIL
SCALE: NONE



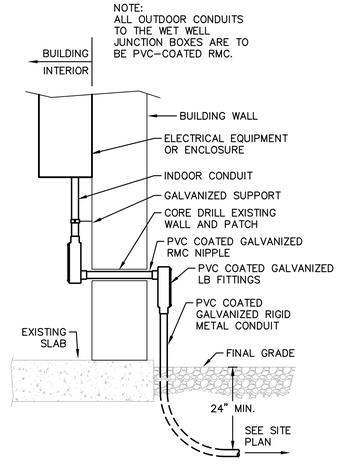
LIGHT POLE MOUNTING DETAIL
SCALE: NONE



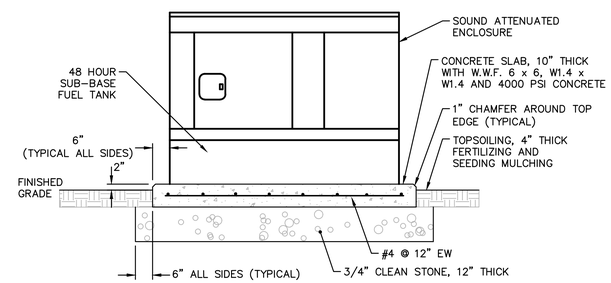
GROUNDING SYSTEM DETAIL
SCALE: NONE



UNENCASED CONDUIT BURIAL DETAIL
SCALE: NONE



CONDUIT ENTRY DETAIL
SCALE: NONE



GENERATOR AND CONCRETE DETAILS
SCALE: 1/2"=1'

NO.	DATE	REVISIONS	BY	CHKD
1	3/10/2026	DETAIL AND PREFAB BUILDING UPDATES	DAM	DWJ

DOMINIC A. MOFFITT, P.E.
PROFESSIONAL ENGINEER

3/10/2026

LICENSED PROFESSIONAL ENGINEER
STATE OF PA LICENSE No. PE-095121

PENNSYLVANIA AMERICAN WATER COMPANY

DOE RUN ROAD PUMP STATION
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, COMMONWEALTH OF PENNSYLVANIA

ELECTRICAL DETAILS

T&M ASSOCIATES
YOUR GOALS. OUR MISSION.
74 WEST BROAD STREET, STE 300
BETHLEHEM, PA 18018
TEL 610-625-2999
FAX 610-625-2969

OFFICES LOCATED IN:
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DESIGNED BY	DAM
CHECKED BY	DWJ
DRAWN BY	DAM
DATE	10-29-2025
SCALE	AS NOTED
PROJ. NO.	SGAL00070
DRAWING	E-6
SHEET	36 OF 36

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\Pump Station Plans\
FILE NAME: SGAL00070_TL.dwg
LAST SAVED DATE: 10 Mar 2026, 4:23PM
LAST SAVE BY: dmoffitt

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Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-5.2

Construction Plans for Doe Run Water and Wastewater

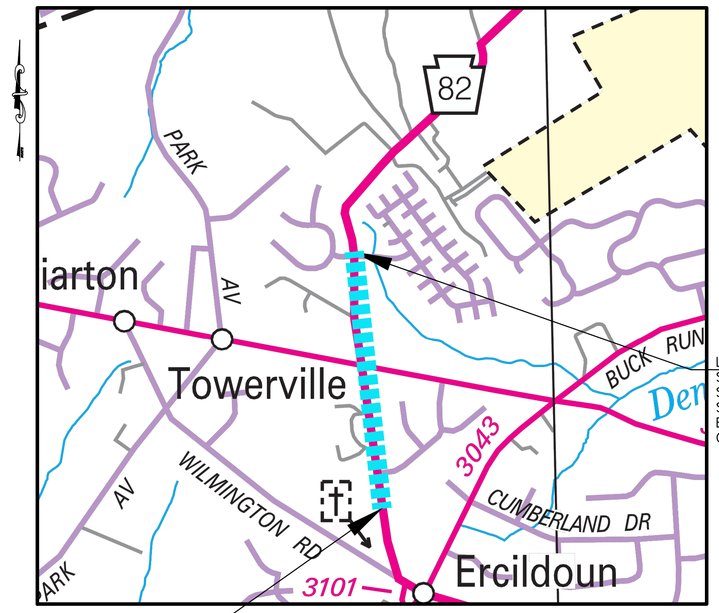
ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO. 20232512731.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	1 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
2	PER PENNDOT SITE MEETING ON 12/04/2025	12/22/25	PRG
3	ADDED FIRE HYDRANT LOCATIONS PER FIRE MARSHAL APPROVAL	01/06/26	PRG
4	GRAVITY SANITARY MAIN INVERT ADJUSTMENTS	01/09/26	PRG
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	INDEX MAP
3	CONSTRUCTION PLAN 1
4	CONSTRUCTION PLAN 2
5	CONSTRUCTION PLAN 3
6	PROFILE SHEET 1
7	PROFILE SHEET 2
8	PROFILE SHEET 3
9	CONSTRUCTION DETAILS
10	CONSTRUCTION DETAILS
11	CONSTRUCTION DETAILS
12	MAINTENANCE AND PROTECTION OF TRAFFIC 1
13	MAINTENANCE AND PROTECTION OF TRAFFIC 2



LIMIT OF WORK
SR 0082
STA 613+30
SEGMENT 0382 OFFSET 1518
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY

LIMIT OF WORK
SR 0082
STA 581+50
SEGMENT 0372 OFFSET 1360
EAST FALLOWFIELD TOWNSHIP
CHESTER COUNTY

LOCATION MAP
SCALE: 1"=1000' (1"=0.189 MI)
1000' 0 500' 1000' 2000'
1 INCH = 1000 FEET

LEGEND
- PROJECT
- STATE HIGHWAY
- UNITED STATES TRAFFIC ROUTE
- PENNSYLVANIA TRAFFIC ROUTE
- TOWNSHIP ROAD
- INCORPORATED BOROUGH
- TOWNSHIP LINE

HOP APPLICATION #389522
DRAWINGS FOR UTILITY ROADWAY OPENING PERMIT

STATE ROUTE 0082 - DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PA

FROM STA. 581+50.00 TO STA. 613+30.00 LENGTH 3180.0 FT. 0.602 MI.
FROM SEG. 0372 OFFSET 1360 TO SEG. 0382 OFFSET 1518

REFERENCE TO EXISTING HIGHWAY OCCUPANCY PERMIT NO.: 06120853

THIS PLAN INCORPORATES PREVIOUSLY APPROVED WATER MAIN WORK FROM HOP APPLICATION NO. 361739 (PERMIT # 06120853) AND INTRODUCES A NEW SANITARY LINE INSTALLATION WITH SOME MINOR UPDATES TO THE WATERLINE WORK.

DESIGN DESIGNATION

S.R. 0082 – (DOE RUN ROAD)

HIGHWAY CLASSIFICATION – URBAN/MINOR ARTERIALS

DESIGN SPEED – 40 MPH
PAVEMENT WIDTH – 22 FEET
SHOULDER WIDTH – 1 FEET LEFT – 1 FEET RIGHT

K – 9
D – 63
T – 9

TRAFFIC DATA

EXISTING ADT[1] – 3,465 Vehicles
354 Trucks per day (10% Trucks)

FUTURE DESIGN
YEAR ADT (2031) – 3,583 VEHICLES
358 TRUCKS PER DAY (10% TRUCKS)

TRAFFIC DATA BASED ON PENNDOT'S INTERNET TRAFFIC MONITORING SYSTEM (iTMAS) WEBSITE.

ENGINEER:

T&M ASSOCIATES
2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
PHONE: (215) 282-7850
FAX: (215) 627-3459
EMAIL: CJENSEN@TANDMASSOCIATES.COM

APPLICANT:

PENNSYLVANIA AMERICAN WATER COMPANY
852 WESLEY DRIVE
MECHANICSBURG, PA 17055
PHONE: (800) 565-7292
EMAIL: GERALD.DEBALKO@AMWATER.COM

GRAPHIC SCALES

HORIZ: 25 0 25 50
(IN FEET)
1 inch =25 ft.

VERT: 2.5 0 2.5 5
(IN FEET)
1 inch =2.5 ft.

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025
DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY
UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA
HOP APPLICATION NO: 389522
COVER SHEET

2000 MARKET STREET, SUITE 800
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FAX 215-627-3459
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DRAWING	CVR
DESIGNED BY: PRG	DATE: 10/24/2025
CHECKED BY: BGS	SCALE: AS NOTED
DRAWN BY: PRG	PROJECT NO.: SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070-CVR.dwg
LAST SAVED DATE AND TIME: 12 Feb 2026, 12:56PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	2 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
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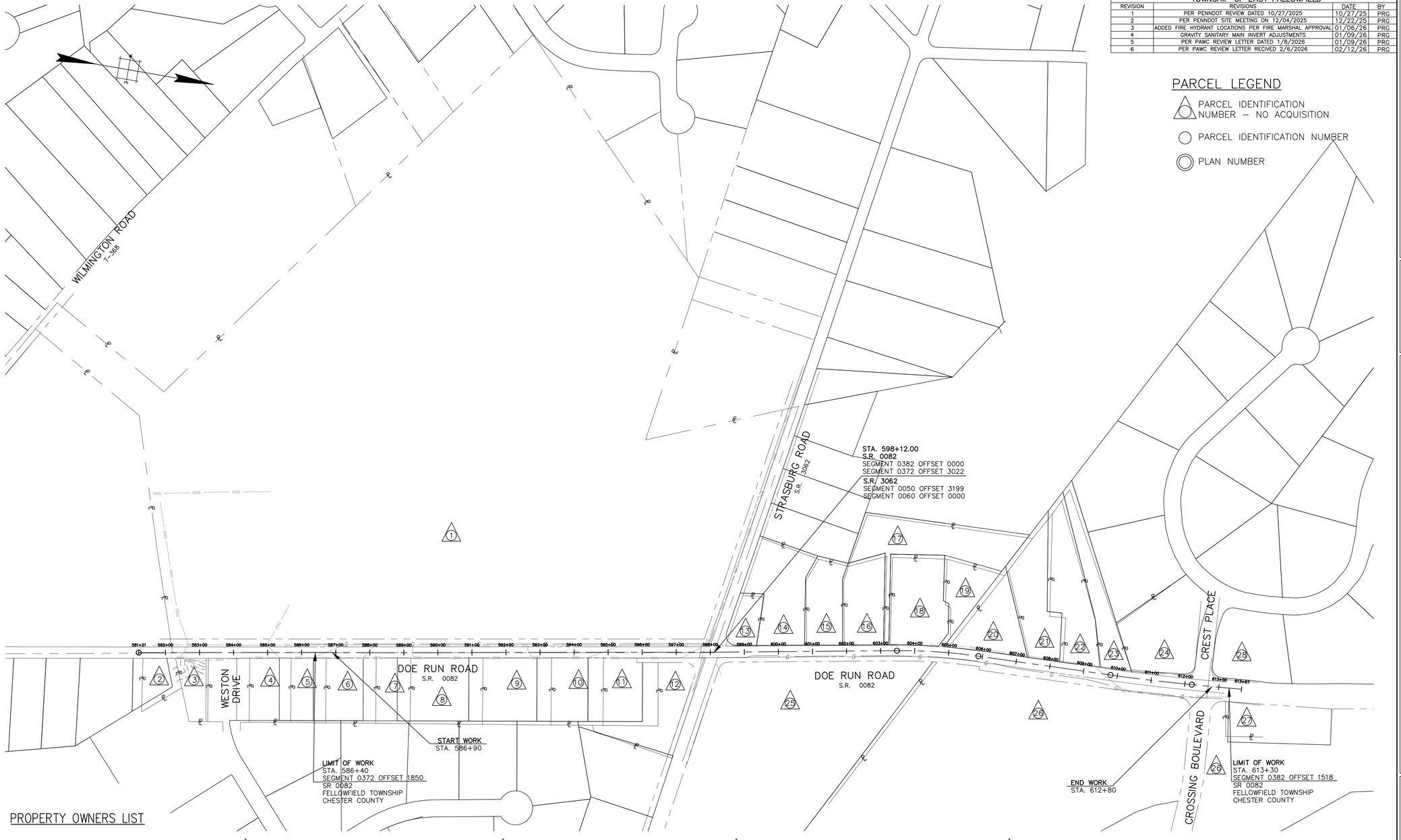
4	GRAVITY SANITARY MAIN INVERT ADJUSTMENTS	01/09/26	PRG
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG



PARCEL LEGEND

- PARCEL IDENTIFICATION NUMBER – NO ACQUISITION
- PARCEL IDENTIFICATION NUMBER
- PLAN NUMBER

PROPERTY OWNERS LIST

1. COATESVILLE AREA SCHOOL DISTRICT APN: 47-4-133
2. KEVIN MOYER APN: 47-7-50
3. KEVIN MOYER APN: 47-7-151
4. WAYNE V JR & ROBIN L CRISWELL APN: 47-4-149.1
5. JAMES GARVEY JR APN: 47-4-147
6. ALISON KAIRER & SCOTT DANIEL ALLEWELT APN: 47-4-146
7. CAROLE M QUINN APN: 47-4-145
8. KYLE MATTY CHERKAS & KAITLYN COOPER APN: 47-4-144
9. THOMAS R SCOTT APN: 47-4-143
10. VERONICA PINEDA APN: 47-4-142
11. CHRISTOPHER D & ELISABETH V GEERS APN: 47-4-141
12. BRIAN F JR & MARKISHA T LOMAX APN: 47-4-153.2
13. KIMBERLY & RICHARD TOMASSETTI APN: 47-4-49
14. JACOB E & MEGHAN E MAXWELL APN: 47-4-48
15. THOMAS P & LAURIE KNECHT APN: 47-4-50
16. HOWARD L & CAROLYN J HOLLAND APN: 47-4-52
17. DEAN R & SHIRLEY A VANHORN APN: 47-4-59
18. DEANE & ANITA MADSEN APN: 47-4-53
19. A-N-D PROPERTIES LLC APN: 47-4-54
20. A-N-D PROPERTIES LLC APN: 47-4-55.1
21. CHARLES KOPANSKI & MARY ANN V CZEREDARCZUK APN: 47-4-57
22. SCOTT R HUGHES APN: 47-4-56
23. CONSTANTINE W & LAMBRINE SVOKOS APN: 47-4-58
24. JOHN H & JACKIE MOSES APN: 47-4-62.30
25. EAST FALLOWFIELD TOWNSHIP APN: 47-4-92.1
26. EAST FALLOWFIELD TOWNSHIP APN: 47-4-599
27. EAST FALLOWFIELD TOWNSHIP APN: 47-4-91.2
28. JOSEPH J & DEBRA E ANGELOTTI APN: 47-4-62.7

GRAPHIC SCALE
150' 75' 0 150' 300'
(IN FEET)
1 inch = 150 ft.

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025
DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522

INDEX MAP

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

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DRAWING IDX

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

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PROJECT INFORMATION:
FILE PATH: C:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070_IDX.dwg
LAST SAVED DATE AND TIME: 21 Oct 2025, 2:11PM
LAST SAVE BY: pgallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	3 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
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3	ADDED FIRE HYDRANT LOCATIONS PER FIRE MARSHAL APPROVAL	01/06/26	PRG
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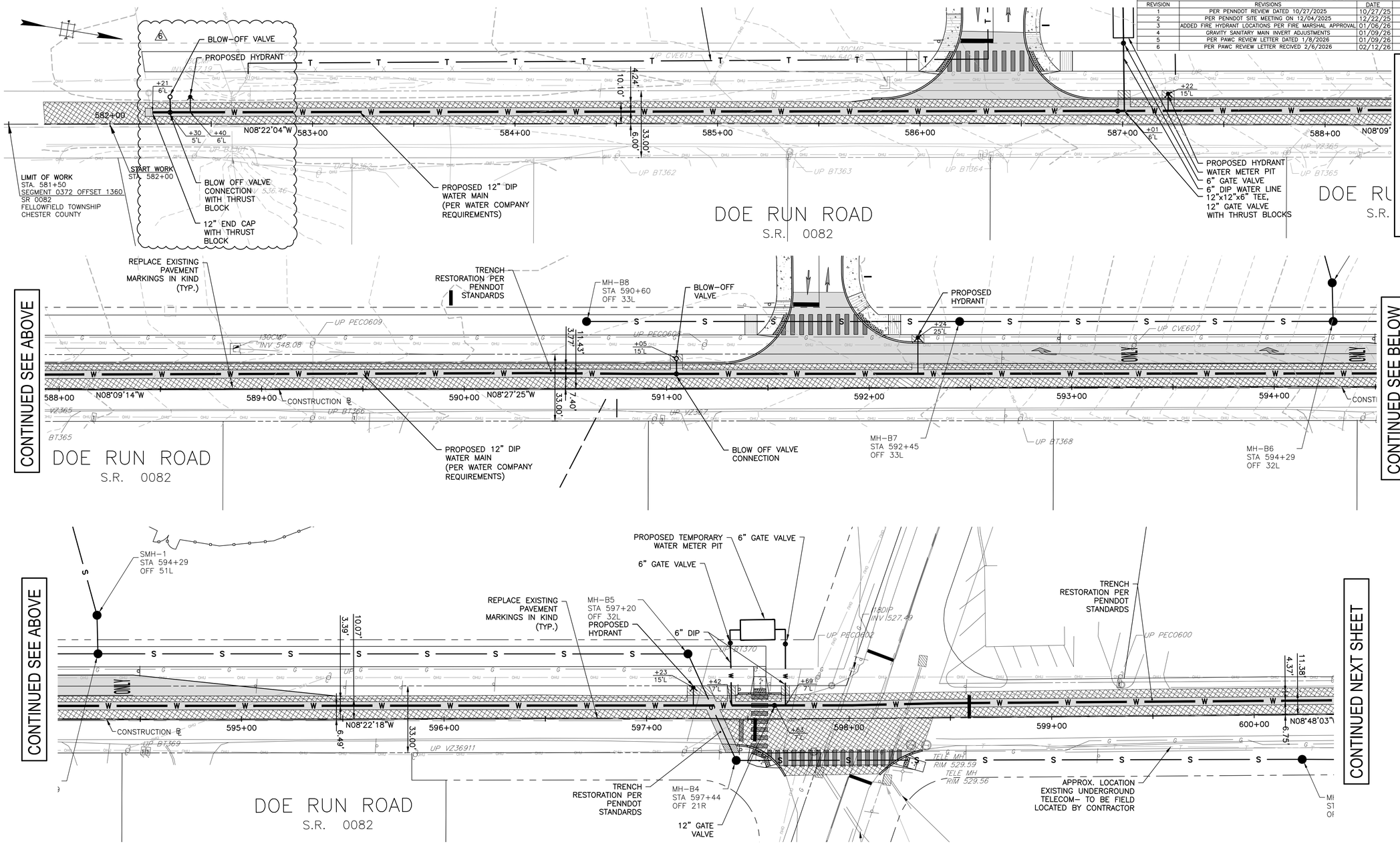

SUMMARY OF PROJECT COORDINATES
(BASED ON PA STATE PLANE COORDINATE SYSTEM)

CONSTR ℄ STATE ROUTE	STATION	POINT	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	CURVE RADIUS
0082	586+36.37	ANG. PT	230992.51	2503531.98					
0082	588+63.49	ANG. PT	231217.34	2503499.77	N08°09'14"W	227.12'	–	–	–
0082	594+07.14	ANG. PT	231755.07	2503419.81	N08°27'25"W	543.65'	–	–	–
0082	598+12.00	ANG. PT	232155.62	2503360.87	N08°22'18"W	404.86'	–	–	–
0082	603+47.98	P.C.	232685.29	2503278.86	N08°48'03"W	535.98'	–	–	–
0082	605+87.94	P.T.	232924.29	2503260.03	–	–	N04°30'16"W	293.74'	1,600.00'
0082	609+79.78	P.C.	233316.13	2503258.61	N00°12'28"W	391.84'	–	–	–
0082	612+20.22	P.T.	233556.45	2503251.96	–	–	N01°34'55"W	240.42'	5,000.00'
0082	612+53.90	P.O.L.	233590.08	2503250.22	N02°57'47"W	33.67'	–	–	–

NOTE: TEMPORARY WATER METER LOCATION AT STA. 597+55. TO BE REMOVED BY OTHERS UPON EXTENSION OF PAWC FRANCHISE AREA.

TRENCH OPENING DIMENSIONS

UTILITY	LENGTH LF±	OPENING IN PAVEMENT SF±	OPENING IN SHOULDER SF±	OPENING OUTSIDE SHOULDER SF±
12" DIP WATER MAIN	3,025	12,000	450	250
8"&10" GRAVITY SANITARY SEWER	25	140	40	45
4" SANITARY FORCE MAIN	300	1,850	50	0

OPENING IN UNPAVED AREAS WITHIN PENNDOT R-O-W

MILL AND OVERLAY ROADWAYS WITHIN PENNDOT R-O-W

PAVEMENT RESTORATION ROADWAYS WITHIN PENNDOT R-O-W

GRAPHIC SCALE
25' 12.5' 0 25' 50'
(IN FEET)
1 inch = 25 ft.

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025 DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

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PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION PLAN

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
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www.tandmassociates.com

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DRAWING CP-1

DESIGNED BY PRG	DATE 10/24/2025
CHECKED BY BGS	SCALE AS NOTED
DRAWN BY PRG	PROJECT NO. SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: CP-1 Construction Plan.dwg
LAST SAVED DATE AND TIME: 12 Feb 2026, 1:11PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	4 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
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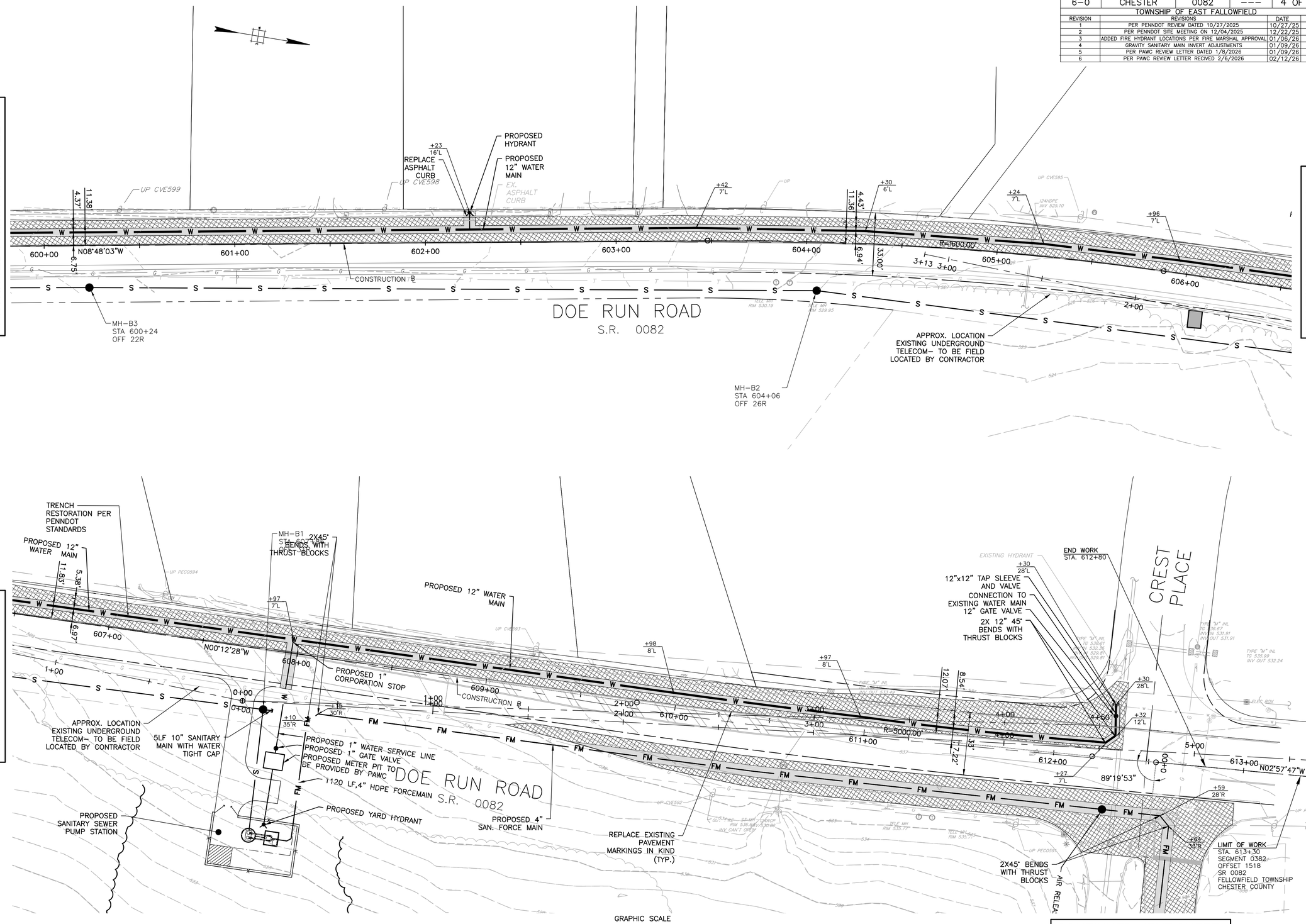
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG

CONTINUED FROM PRIOR SHEET

CONTINUED SEE BELOW



CONTINUED SEE ABOVE

CONTINUED NEXT SHEET

OPENING IN UNPAVED AREAS WITHIN PENNDOT R-O-W

MILL AND OVERLAY ROADWAYS WITHIN PENNDOT R-O-W

PAVEMENT RESTORATION ROADWAYS WITHIN PENNDOT R-O-W

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit Son & Water\
FILE NAME: SGAL00070_CP-2.dgn
LAST SAVED DATE AND TIME: 12 Feb 2026, 1:11PM
LAST SAVE BY: Pgallo

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

10/24/2025
DATE

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PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS

S.R. 0082 DOE RUN ROAD

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION PLAN

2000 MARKET STREET, SUITE 800
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OFFICES LOCATED IN:
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DRAWING CP-2

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	5 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
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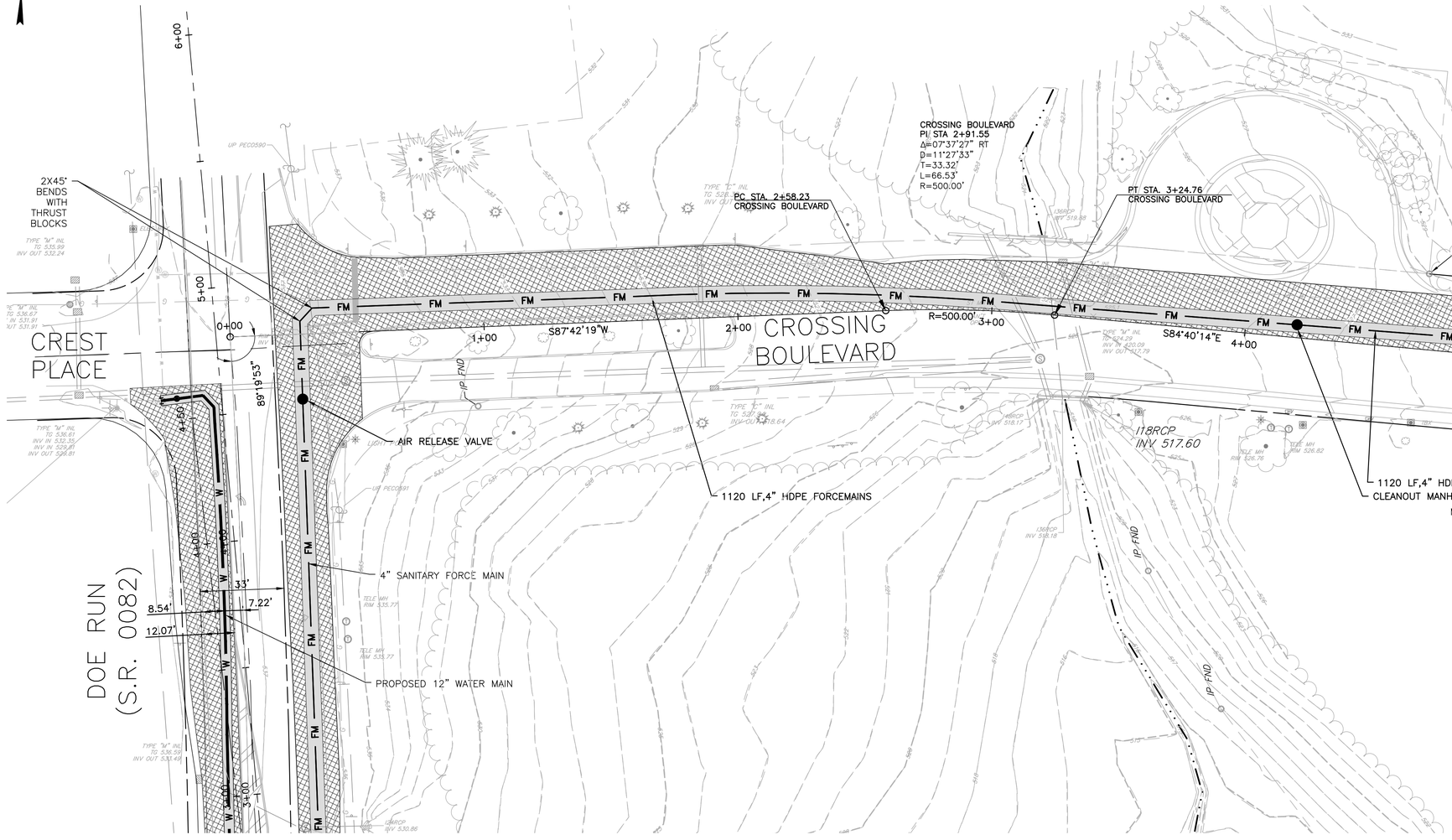

CONTINUED FROM PRIOR SHEET

SUMMARY OF PROJECT COORDINATES
(BASED ON PA STATE PLANE COORDINATE SYSTEM)

CONSTR ℄	STATION	POINT	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	CURVE RADIUS
CROSSING BOULEVARD	0+00.00	P.O.L.	233590.08	2503250.22	S87°42'19"W	258.23'	–	–	–
CROSSING BOULEVARD	2+58.23	P.C.	233600.42	2503508.24	–	–	S88°28'57"E	66.48'	500.00'
CROSSING BOULEVARD	3+24.76	P.T.	233598.66	2503574.70	S84°40'14"E	204.13'	–	–	–
CROSSING BOULEVARD	5+28.89	P.C.	233579.70	2503777.95	–	–	S87°50'47"E	74.89'	287.52'
CROSSING BOULEVARD	6+03.99	P.O.C.	233582.51	2503852.78					

LEGEND

EXISTING		PROPOSED
℄	PROPERTY LINE	
	TOWNSHIP RIGHT-OF-WAY	
	PENNDOT LEGAL RIGHT-OF-WAY	
⊡	CONCRETE MONUMENTS	■
○	IRON PINS	○
	EDGE OF PAVEMENT	
	CURB	
	TREES	
	WOODED LIMITS	

EXISTING		PROPOSED
	ROADWAY CENTERLINE	
	UTILITY POLE	
STORM MH	STORM SEWER	
S	SANITARY SEWER	S
	SANITARY SEWER FORCE MAIN	FM
WV	POTABLE WATER	W
GV	NATURAL GAS	
OHU	OVERHEAD UTILITY	

OPENING IN UNPAVED AREAS WITHIN PENNDOT R-O-W

MILL AND OVERLAY ROADWAYS WITHIN PENNDOT R-O-W

PAVEMENT RESTORATION ROADWAYS WITHIN PENNDOT R-O-W AND CROSSING BOULEVARD

GRAPHIC SCALE
25' 12.5' 0 25' 50'
(IN FEET)
1 inch = 25 ft.

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070_CP-3.dwg
LAST SAVED DATE AND TIME: 12 Feb 2026, 1:11PM
LAST SAVE BY: PGallo

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025 DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION PLAN

T&M ASSOCIATES
2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING CP-3

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	6 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

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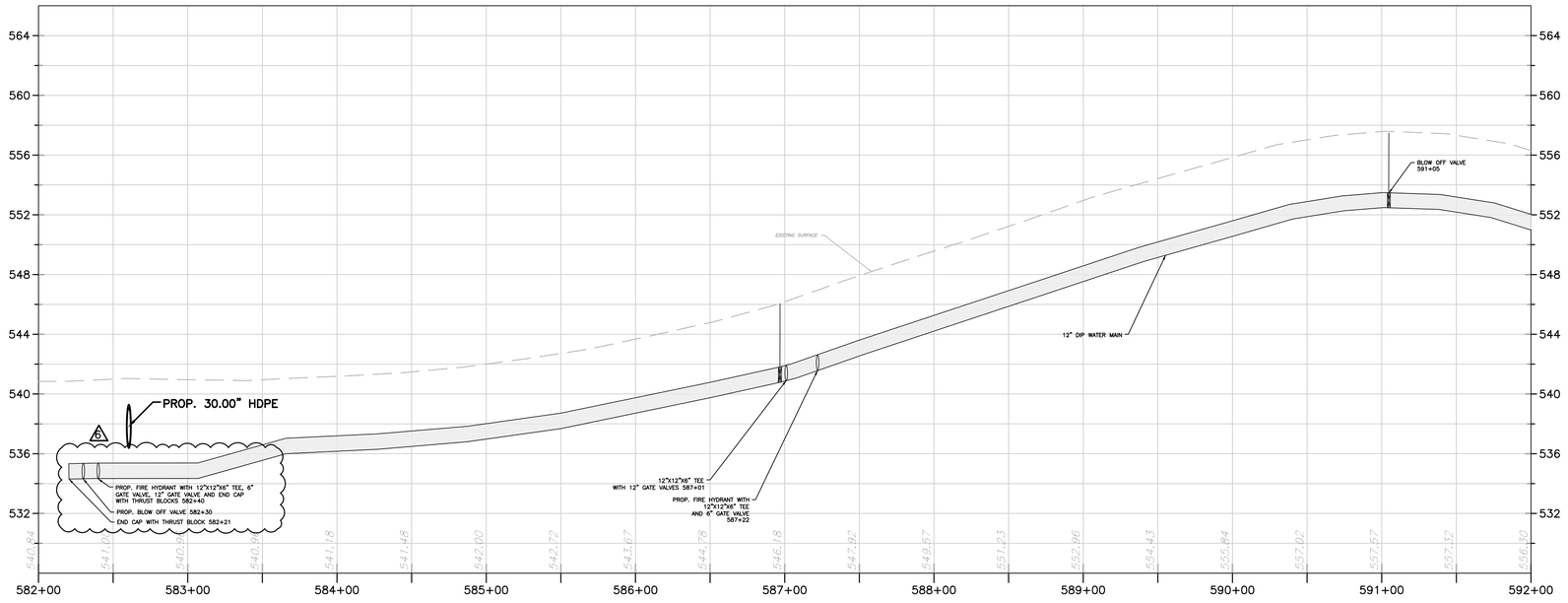
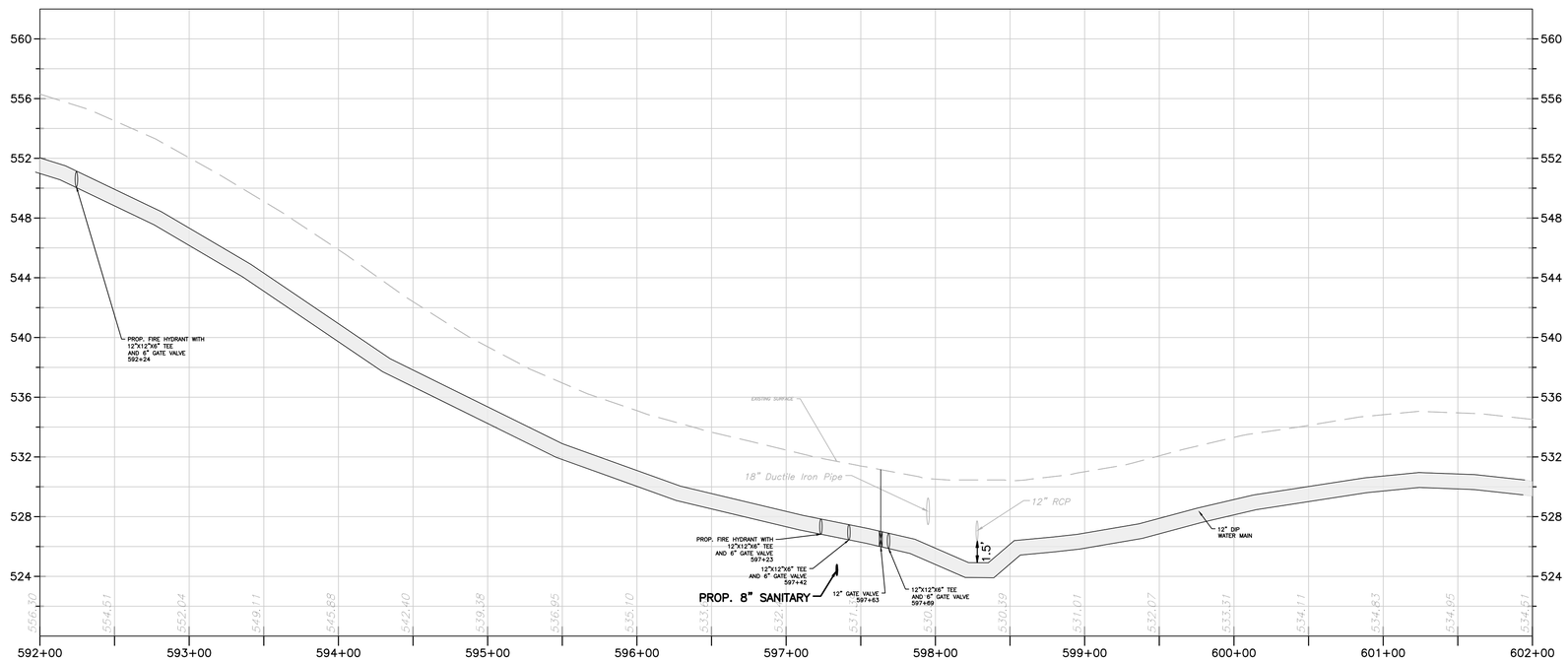


DOE RUN ROAD – S.R. 0082
STA 582+00 TO 592+00



DOE RUN ROAD – S.R. 0082
STA 592+00 TO 602+00

LEGEND

EXISTING GRADE

FINISHED GRADE

HORIZONTAL GRAPHIC SCALE

50' 25' 0 50' 100'

(IN FEET)

1 inch = 50 ft.

VERTICAL GRAPHIC SCALE

5' 2.5' 0 5' 10'

(IN FEET)

1" = 5'

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

10/24/2025
DATE

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

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PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
WATER AND SANITARY SEWER PROFILES

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DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING PRF-1

DESIGNED BY PRG	DATE 10/24/2025
CHECKED BY BGS	SCALE AS NOTED
DRAWN BY PRG	PROJECT NO. SGAL00070

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FILE NAME: SGAL00070_PRF-1.dgn
LAST SAVED DATE AND TIME: 12 Feb 2026, 1:10PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	7 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
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LEGEND

EXISTING GRADE

FINISHED GRADE

HORIZONTAL GRAPHIC SCALE

50' 25' 0 50' 100'

(IN FEET)

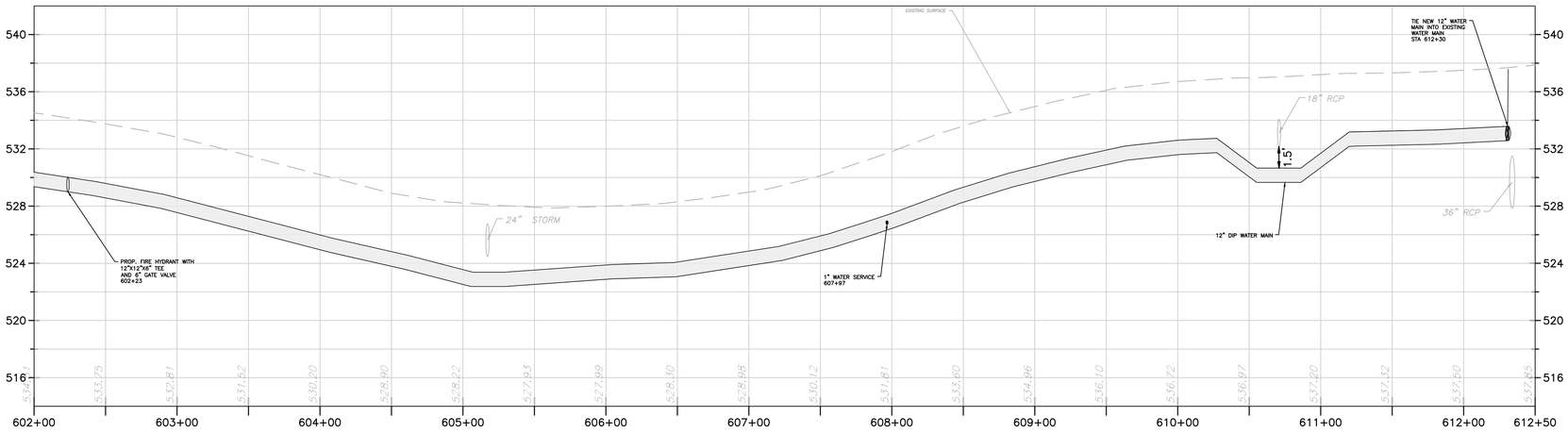
1 inch = 50 ft.

VERTICAL GRAPHIC SCALE

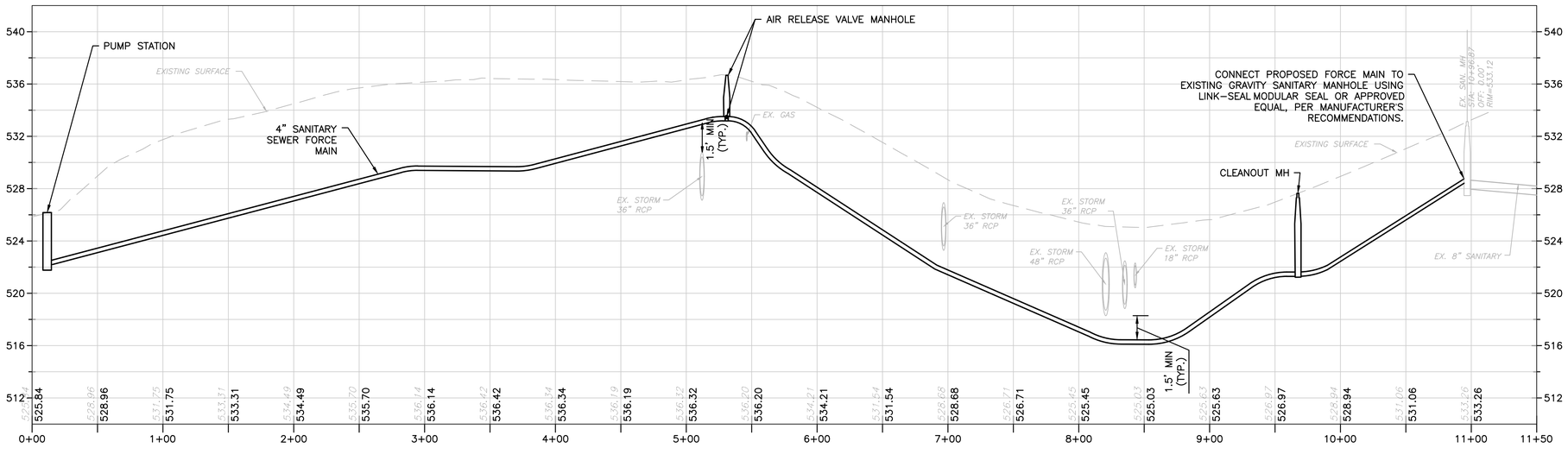
5' 2.5' 0 5' 10'

(IN FEET)

1" = 5'



DOE RUN ROAD – S.R. 0082
STA 602+00 TO 612+50



SANITARY FORCE MAIN
STA 0+00 TO 11+50

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

10/24/2025
DATE

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PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
WATER AND SANITARY SEWER PROFILES

2000 MARKET STREET, SUITE 800
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TEL 215-282-7850
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OFFICES LOCATED IN:
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DRAWING PRF-2

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070-PRF-2.dgn
LAST SAVED DATE AND TIME: 12 Feb 2026, 1:10PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	8 OF 13

TOWNSHIP OF EAST FALLOWFIELD

REVISION	REVISIONS	DATE	BY
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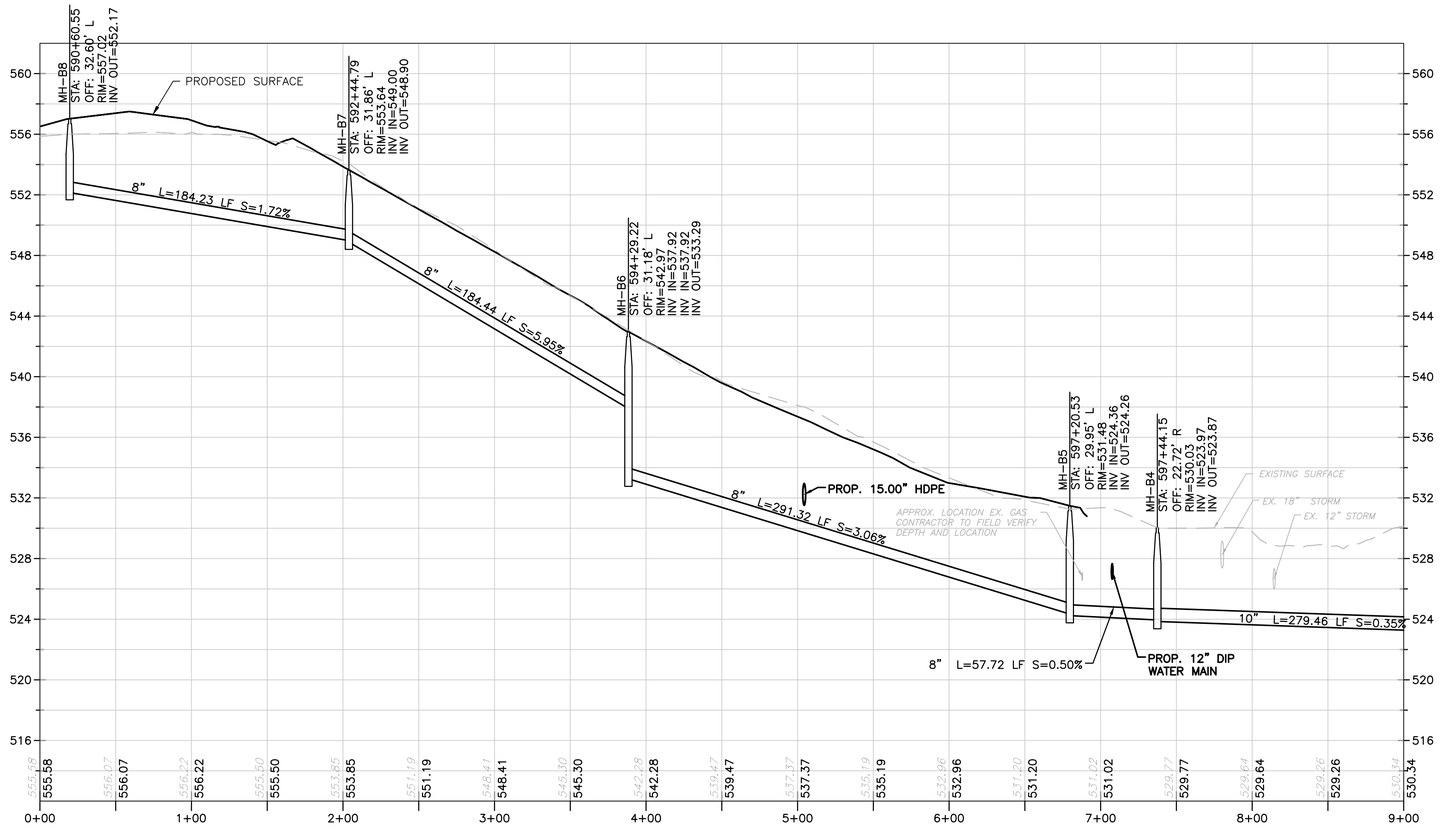
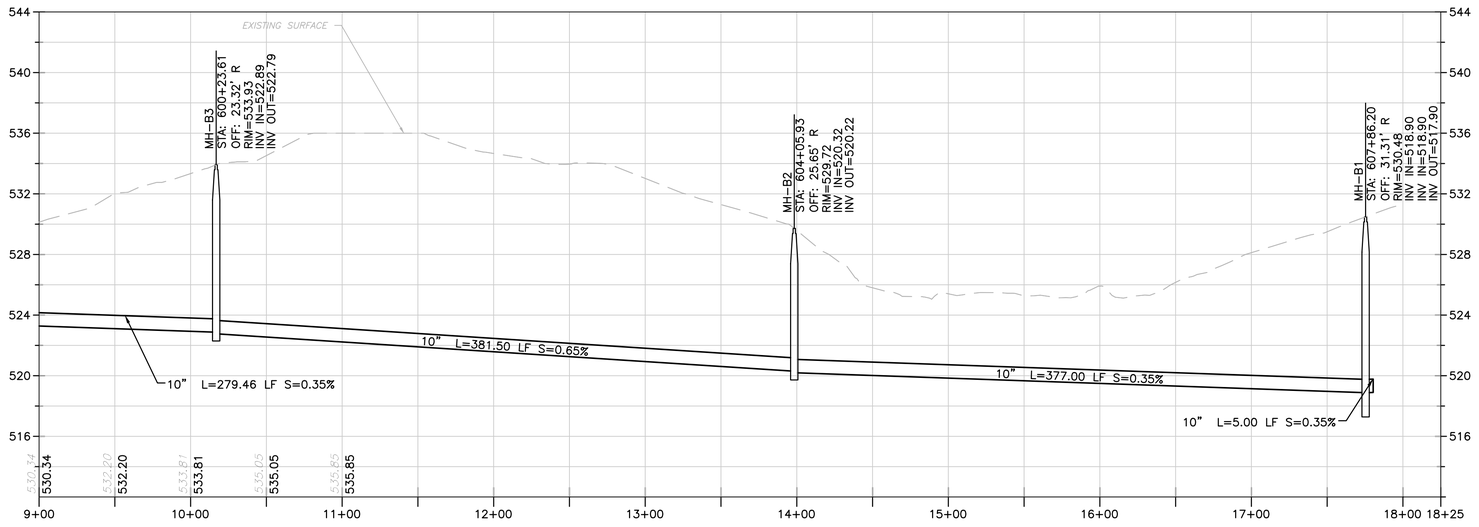
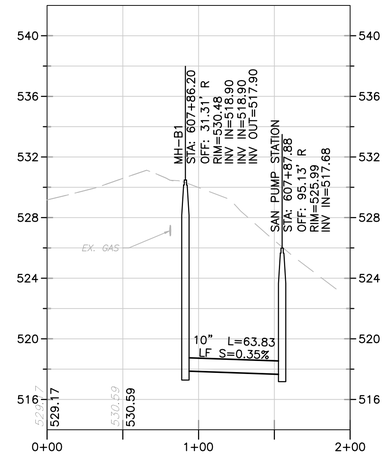


SANITARY MAIN
STA 0+00 TO 9+00



SANITARY MAIN
STA 9+00 TO 18+25



SMH-B1 TO PUMP STATION
STA 0+00 TO 2+00

HORIZONTAL
GRAPHIC SCALE

50' 25' 0 50' 100'

(IN FEET)

1 inch = 50 ft.

VERTICAL
GRAPHIC SCALE

5' 2.5' 0 5' 10'

(IN FEET)

1" = 5'

LEGEND

EXISTING GRADE

FINISHED GRADE

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE76464

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

10/24/2025
DATE

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

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PENNSYLVANIA AMERICAN WATER COMPANY

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S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
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DRAWING PRF-3

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

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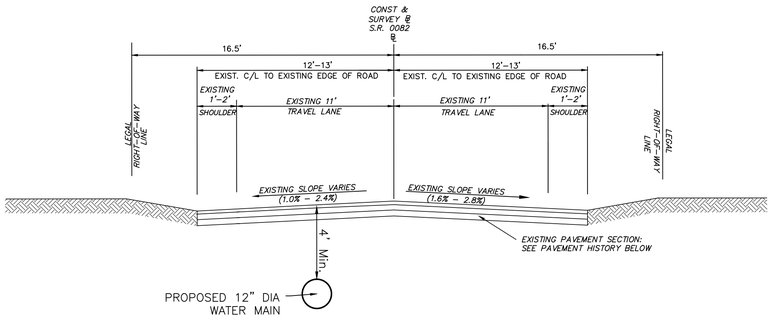


TYPICAL ROADWAY CROSS SECTION
DOE RUN ROAD (S.R. 0082)

NORMAL SECTION
STA. 581+50.00 (SEG. 0372/01360) TO STA. 613+30.00 (SEG. 0382/1518)

N.T.S.

NOTES:

1. WHERE PROPOSED PAVEMENT CONNECTS TO EXISTING PAVEMENT, SAW CUT THE EXISTING PAVEMENT TO NEAT CLEAN VERTICAL EDGE AND APPLY BITUMINOUS TACK COAT FOR THE FULL LENGTH OF THE CONNECTION FOR THE 1.5" SURFACE COURSE. SEAL THE ENTIRE VERTICAL FACE OF THE SAWCUT WITH CRAFCO SUPERFLEX.
2. THE PROPOSED GRADED AGGREGATE BASE COURSE MUST BE FIELD-ADJUSTED AS NECESSARY SUCH THAT, WHERE IT INTERFACES WITH EXISTING PAVEMENT, IT WILL EFFECTIVELY TIE INTO THE EXISTING DRAINAGE LAYER TO ALLOW FOR CONTINUOUS SUBSURFACE DRAINAGE.
3. FIELD ADJUSTMENTS SHALL BE MADE AS NECESSARY TO PROVIDE A SMOOTH TRANSITION BOTH VERTICALLY AND HORIZONTALLY FROM EXISTING TO PROPOSED PAVING SECTION.
4. IF EXISTING CONCRETE IS DISTURBED DURING CONSTRUCTION, IT SHALL BE REQUIRED TO REPLACE IT IN KIND AND TO THE NEAREST JOINT.
5. LEGAL RIGHT-OF-WAY INFORMATION WAS OBTAINED THROUGH A SUBMITTAL TO RECORD RETENTION REQUEST AT DISTRICT 6-0, COMMONWEALTH OF PENNSYLVANIA, FORM 989 (R1-23-59), ROAD DOCKET VOLUME L PAGE 94, ORIGINAL PAPERS VOLUME 109 PAGE 66. (33' WIDE). ALSO, COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF TRANSPORTATION, DRAWINGS FOR CONSTRUCTION DRAWINGS, LEG. ROUTE 360 SECTIONS M01, IN CHESTER COUNTY, FROM STA. 597+75.00 TO STA. 712+00.00, PLANS PREPARED BY PICKERING, CORTS & SUMMERSON, INC. NEWTOWN, PA, RECOMMENCED ON SEPTEMBER 17, 1986.

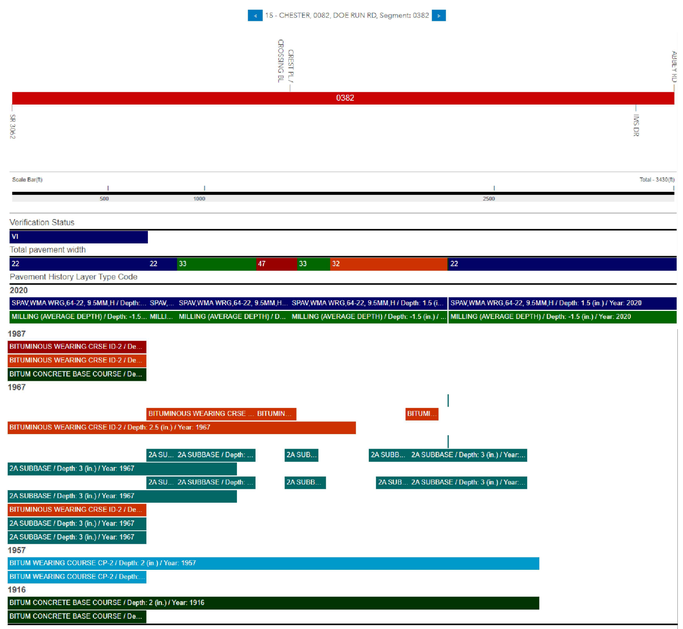
DETAILS OTHER THAN THOSE INDICATED ARE ON ONE OF THE FOLLOWING STANDARD DETAILS FROM PENNDOT PUBLICATION 72M AND PUBLICATION 111.

STANDARD DRAWING	NUMBER DRAWING DATE
RC-22M	FEB 8, 2019
RC-28M	SEP 1, 2023
RC-30M	FEB 27, 2023
RC-38M	SEP 15, 2016
RC-39M	NOV 30, 2021
RC-45M	FEB 19, 2021
RC-46M	FEB 19, 2021
RC-64M	FEB 19, 2021
RC-65M	DEC 17, 2019
RC-67M	FEB 19, 2021
TC-8602	JUN 13, 2013

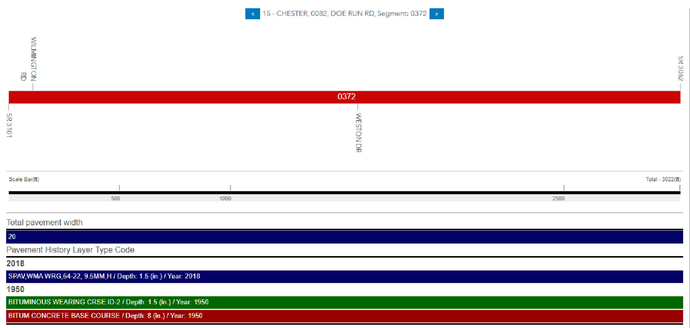
THE PERMITTEE IS REQUIRED TO PROVIDE THE CONTRACTOR WITH COPIES OF THE MOST CURRENT APPLICABLE RC DRAWINGS FROM PENNDOT PUBLICATION 72M AND PUBLICATION 111.

RECORD OF EXISTING TYPES OF ROADWAY PAVEMENT
(OBTAINED FROM PennDOT ONLINE PAVEMENT HISTORY ON 06/19/2024)

S.R. 0082 SEGMENT 0382



S.R. 0082 SEGMENT 0372



DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	9 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

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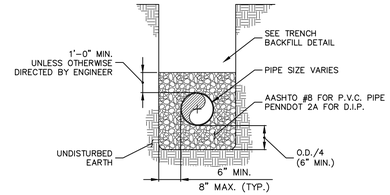
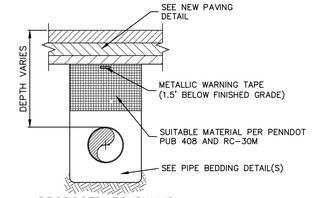
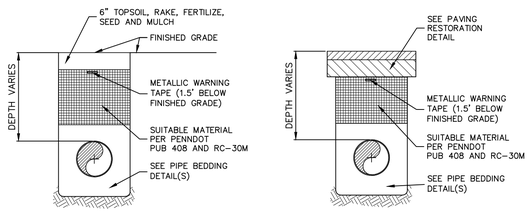


PIPE BEDDING
NOT TO SCALE



PROPOSED ROADWAYS WITHIN PENNDOT R-O-W



UNPAVED AREAS WITHIN PENNDOT R-O-W

EXISTING ROADWAYS WITHIN PENNDOT R-O-W

NOTES:

1. TRENCH COMPACTION TO BE TESTED, AT THE DEVELOPERS EXPENSE, IN ACCORDANCE WITH PENNDOT PUB 408, LATEST REVISION, AS REQUIRED BY PENNDOT.
2. CLEAN FILL MUST BE APPROVED BY PENNDOT PRIOR TO PLACEMENT IN THE TRENCH.
3. AREAS AROUND MANHOLES, INLETS, AND OTHER APPURTENANCES SHALL BE HAND COMPACTED AS DIRECTED BY PENNDOT.
4. SPECIAL CONDITIONS OF HIGHWAY OCCUPANCY PERMIT SHALL SUPERSEDE THIS DETAIL.
5. NO SLAG MATERIAL PERMITTED.
6. IF WATER IS ENCOUNTERED IN THE EXCAVATION TRENCH, AASHTO #57 AGGREGATE MUST BE USED.
7. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH PENNDOT SPECIFICATIONS, FORM 408 AND 67 PA CODE SECTION 459.
8. UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO COLLECT IN EXCAVATED TRENCHES. ANY WATER IN THE TRENCHES SHALL BE REMOVED THROUGH A PUMPED WATER FILTER BAG.

BACKFILL - TRENCH-PENNDOT
NOT TO SCALE

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025
DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS

S.R. 0082 DOE RUN ROAD

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION DETAILS

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING DTL-1

DESIGNED BY PRG	DATE 10/24/2025
CHECKED BY BGS	SCALE AS NOTED
DRAWN BY PRG	PROJECT NO. SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\Utility Permit San & Water\
FILE NAME: SGAL00070_DTL-1.dwg
LAST SAVED DATE AND TIME: 09 Jan 2026, 3:30PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	10 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
2	PER PENNDOT SITE MEETING ON 12/04/2025	12/22/25	PRG
3	ADDED FIRE HYDRANT LOCATIONS PER FIRE MARSHAL APPROVAL	01/06/26	PRG
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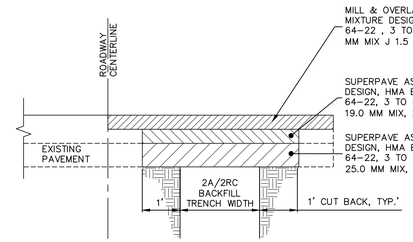
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG

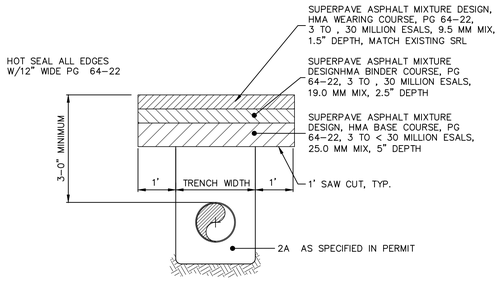


COMMENTS:

1. REPLACE PAVEMENT MARKINGS
2. ALL PAVEMENT MARKINGS ARE DURABLE (I.E. EPOXY RESIN , HOT THERMOPLASTIC)
* MATCH EXISTING OR WHICHEVER IS GREATER

STATE ROAD PAVING RESTROTATION FOR PARALLEL TRENCHING WITHIN TRAVEL LANE

NOT TO SCALE



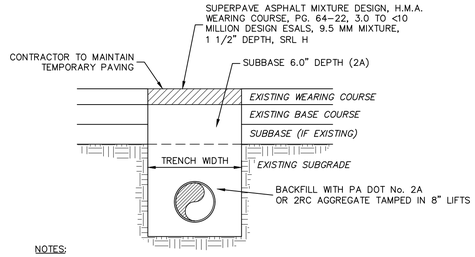
NOTE:
MATCH EXISTING DEPTHS IF GREATER

COMMENTS:

1. EXPOSED VERTICAL AND HORIZONTAL SURFACES SHALL BE PREPARED AS PER PUB. 408, SECTION 409.3(g)
2. MINIMUM OF 1 FOOT PAVEMENT CUTBACK, EXCAVATED OLD AND TEMPORARY MATERIAL RECOMPACT SUB-GRADE, TACK ALL VERTICAL EDGES. INSTALL ONLY BASE COURSE AND BENDER COURSE IN ONE DAY.
3. PERMANENT RESTORATION TO BE MINIMUM 90 DAYS UNLESS FLOWABLE FILL IS USED.

FLEXIBLE PAVEMENT RESTORATION

NOT TO SCALE

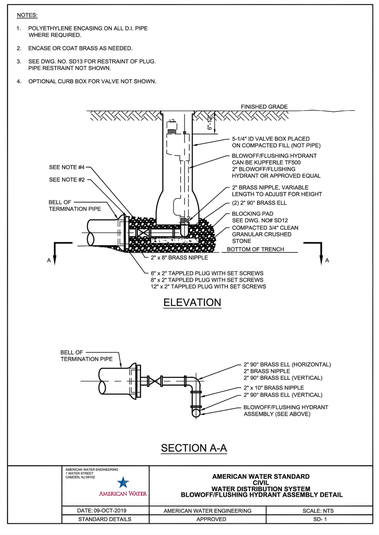


NOTES:

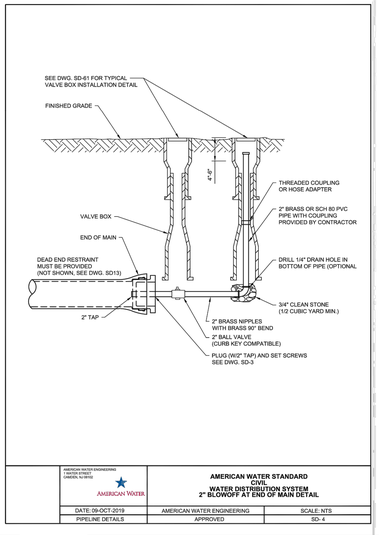
1. MAINTAIN IN ACCORDANCE WITH PENNDOT PUBLICATION 408.

TEMPORARY PAVEMENT RESTORATION

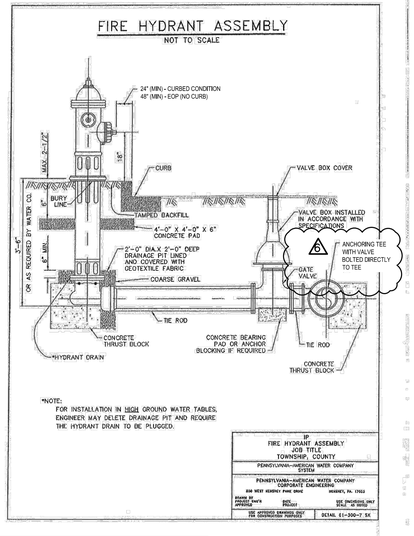
NOT TO SCALE



AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM BLOWOFF/FLUSHING HYDRANT ASSEMBLY DETAIL	
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: NTS
STANDARD DETAILS	APPROVED	SD- 1

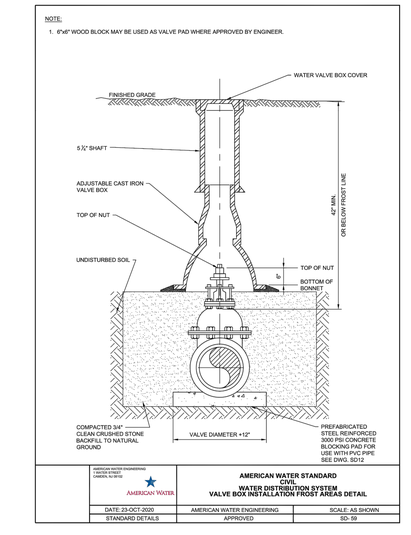


AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM 2" BLOWOFF AT END OF MAIN DETAIL	
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: NTS
PIPELINE DETAILS	APPROVED	SD- 4

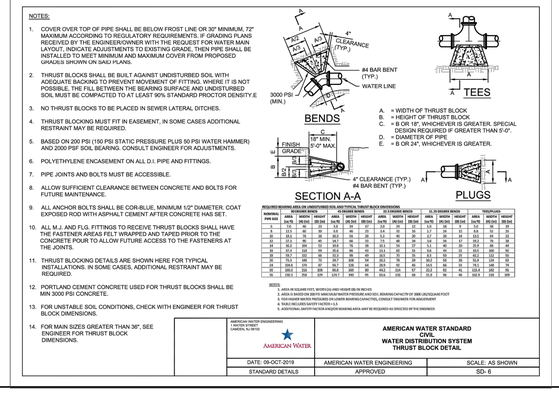


*NOTE:
FOR INSTALLATION IN HIGH GROUND WATER TABLES, ENGINEER MAY DELETE DRAINAGE PIT AND REQUIRE THE HYDRANT DRAIN TO BE PLUGGED.

HP FIRE HYDRANT ASSEMBLY JOB TITLE TOWNSHIP, COUNTY	
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM	
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033	
DRAWN BY: PROJECT MGR'S APPROVAL: DATE: 10/24/22	SEE ENGINEERS SEAL FOR REGISTRATION
THE APPROVED ENGINEERS SEAL AND SIGNATURE APPEARS HERE	DETAIL: E1-200-7 SK



AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM VALVE BOX INSTALLATION FROST AREAS DETAIL	
DATE: 23-OCT-2020	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 59

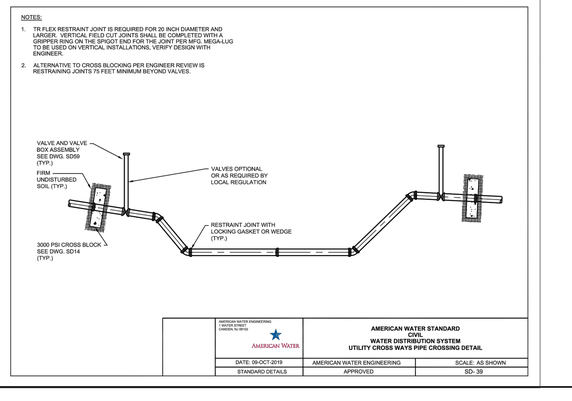


REQUIRED BEARING AREA (IN SQUARE FEET) AND THRUST BLOCK DIMENSIONS

NOMINAL PIPE SIZE	90° BENDS				45 DEGREE BENDS				22.5 DEGREE BENDS				TEES/DEAD ENDS			
	AREA	A=B	B=C	WEIGHT	AREA	A=B	B=C	WEIGHT	AREA	A=B	B=C	WEIGHT	AREA	A=B	B=C	WEIGHT
4	1.0	1ft	1ft	1.5	0.5	1ft	1ft	1.5	0.3	1ft	1ft	1.5	1.0	1ft	1ft	1.5
6	2.3	2ft	1ft	3.5	1.2	1ft	1ft	3.5	0.6	1ft	1ft	3.5	2.3	2ft	1ft	3.5
8	4.0	2ft	2ft	6	2.1	2ft	2ft	6	1.1	2ft	2ft	6	4.0	2ft	2ft	6
10	6.3	3ft	2ft	9	3.2	2ft	2ft	9	1.6	2ft	2ft	9	6.3	3ft	2ft	9
12	9.0	3ft	3ft	13	4.6	3ft	3ft	13	2.3	3ft	3ft	13	9.0	3ft	3ft	13
14	12.3	4ft	3ft	17	6.3	3ft	3ft	17	3.2	3ft	3ft	17	12.3	4ft	3ft	17
16	16.0	4ft	4ft	22	8.2	4ft	4ft	22	4.1	4ft	4ft	22	16.0	4ft	4ft	22
18	20.3	5ft	4ft	28	10.3	4ft	4ft	28	5.2	4ft	4ft	28	20.3	5ft	4ft	28
20	25.0	5ft	5ft	34	12.8	5ft	5ft	34	6.4	5ft	5ft	34	25.0	5ft	5ft	34
24	36.0	6ft	6ft	49	18.4	5ft	5ft	49	9.2	5ft	5ft	49	36.0	6ft	6ft	49
30	56.3	8ft	7ft	76	28.8	6ft	6ft	76	14.4	6ft	6ft	76	56.3	8ft	7ft	76
36	81.0	9ft	9ft	110	41.4	7ft	7ft	110	20.7	7ft	7ft	110	81.0	9ft	9ft	110
42	110.3	11ft	10ft	150	56.3	8ft	8ft	150	28.2	8ft	8ft	150	110.3	11ft	10ft	150
48	144.0	12ft	12ft	195	73.5	9ft	9ft	195	36.8	9ft	9ft	195	144.0	12ft	12ft	195
54	182.3	14ft	13ft	247	93.1	10ft	10ft	247	46.6	10ft	10ft	247	182.3	14ft	13ft	247
60	225.0	15ft	15ft	305	114.9	11ft	11ft	305	57.5	11ft	11ft	305	225.0	15ft	15ft	305

NOTES:
1. AREA IN SQUARE FEET, WIDTHS AND HEIGHT (B) IN INCHES
2. ASSUMES MAXIMUM EARTH AND WATER PRESSURE AND SOIL BEARING CAPACITY OF 2000 LBS/SQUARE FOOT
3. CONSULT ENGINEER FOR ADJUSTMENTS FOR OTHER BEARING CAPACITIES, CONSULT ENGINEER FOR ANCHORAGE
4. SOLID THICKNESS EARTH THICKNESS = 0.5
5. ADDITIONAL SAFETY FACTOR AND/OR BEARING AREA MAY BE REQUIRED AS DIRECED BY THE ENGINEER

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM THRUST BLOCK DETAIL	
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 6



AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL WATER DISTRIBUTION SYSTEM UTILITY CROSS WAYS PIPE CROSSING DETAIL	
DATE: 09-OCT-2019	AMERICAN WATER ENGINEERING	SCALE: AS SHOWN
STANDARD DETAILS	APPROVED	SD- 39

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER
10/24/2025
DATE
COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION DETAILS

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING	DTL 2
DESIGNED BY: PRG	DATE: 10/24/2025
CHECKED BY: BGS	SCALE: AS NOTED
DRAWN BY: PRG	PROJECT NO.: SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070_DTL2.dwg
LAST SAVED DATE AND TIME: 09 Jan 2026, 3:30PM
LAST SAVE BY: PGallo

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	11 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
2	PER PENNDOT SITE MEETING ON 12/04/2025	12/22/25	PRG
3	ADDED FIRE HYDRANT LOCATIONS PER FIRE MARSHAL APPROVAL	01/06/26	PRG
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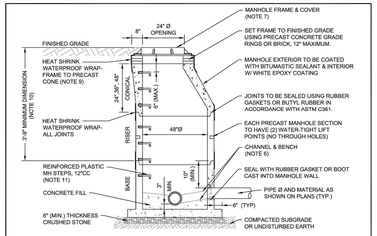
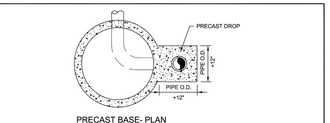
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG



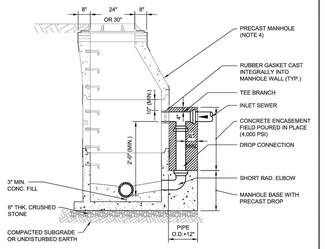
NOTES:

1. PRECAST CONCRETE MANHOLE SHALL CONFORM TO ASTM C478, WITH A MIN. COMPRESSIVE STRENGTH OF 4000 PSI.
2. MAXIMUM DEPTH OF STANDARD 48" Ø MANHOLE SHALL BE 20 FEET, UNLESS OTHERWISE SPECIFIED. REFER TO DEEP MANHOLE DETAIL WHEN DEPTH EXCEEDS 20 FEET.
3. FOR 48" MANHOLE, MAXIMUM PIPE O.D. TO BE 31-1/2" FOR 180° THROUGH 135° DEFLECTION; 25" FOR 90° DEFLECTION.
4. INVERT IN TO BE 0.1' (MIN.) ABOVE INVERT OUT. MATCH CROWN ELEVATIONS WHEN PIPE SIZE CHANGES BETWEEN INLET AND OUTLET, WHERE APPROPRIATE (SEE NOTE 5).
5. DROP CONNECTION TO BE PROVIDED WHENEVER VERTICAL DISTANCE BETWEEN THE CROWN OF INLET PIPE AND THE CROWN OF OUTLET PIPE IS GREATER THAN 24".
6. CHANNEL HEIGHT TO BE 0.8 X PIPE ID. BENCH TO SLOPE 1" PER FT (MIN.) FROM MANHOLE WALL TO CHANNEL.
7. FRAME TO BE BOLTED TO PRECAST CONE OR TOP SLAB PER DETAILS GSS-77 &/OR GSS-78, AS APPLICABLE.
8. FINISH GRADE SHALL BE FLUSH WITH TOP OF COVER ON MANHOLE FRAME AND COVER, UNLESS NOTED OTHERWISE.
9. FOR INSTALLATION OF HEAT SHRINKABLE MANHOLE ENCAPSULATING WRAP REFER TO DETAIL GSS-21.
10. WHEN MINIMUM DIMENSION OF 3'-9" IS NOT ATTAINABLE STANDARD MANHOLE-TYPE B SHALL BE USED, UNLESS NOTED OTHERWISE
11. INSTALL BOTTOM STEP 3" (MIN) AND 16-1/2" (MAX.) ABOVE BENCH. EMBED STEPS 3" (MIN.) WITH 5" (MIN.) PROJECTION.
12. WHEN MANHOLE DEPTH IS 16'-0" OR GREATER, SEE DETAIL GSS-63 FOR PIPE TO MANHOLE CONNECTION.
13. WHEN PIPE GRADE IS 10% OR LARGER, SEE DETAIL GSS-64 FOR PIPE TO MANHOLE CONNECTION.
14. FOR 15" AND LARGER SEWER PIPE, SEE DETAIL GSS-63 FOR PIPE TO MANHOLE CONNECTION.
15. MINIMUM SPACING BETWEEN ADJACENT PIPE O.D. SHALL BE 9". WHEN PIPE DIAMETER OF SMALLER ADJACENT PIPE IS 12" OR GREATER, CONTACT MANHOLE MANUFACTURER.

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE STANDARD 48" PRECAST MANHOLE- TYPE A	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-36



PRECAST BASE- PLAN

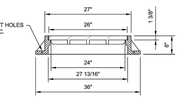


NOTES:

1. PROVIDE DROP MANHOLE CONNECTION WHEN VERTICAL DISTANCE BETWEEN INLET INVERT AND OUTLET INVERT IS 2'-0" OR GREATER.
2. DROP CONNECTION TO BE SAME DIAMETER AS INLET SEWER.
3. INVERT OF DROP CONNECTION SHALL BE EQUAL TO CENTERLINE OF OUTLET PIPE.
4. PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM C 478, WITH A MIN. COMPRESSIVE STRENGTH OF 4000 PSI. REFER TO DETAIL GSS-36 OR GSS-11 FOR PRECAST MANHOLE REQUIREMENTS.
5. ORIENTATION OF PIPES SHOWN HEREON ARE FOR ILLUSTRATIVE PURPOSES ONLY. FOR ACTUAL LOCATION SEE PLANS.

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE OUTSIDE DROP MANHOLE CONNECTION	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-34

PLAN

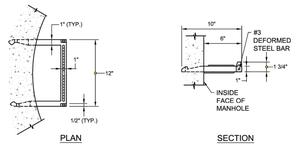


SECTION

NOTES:

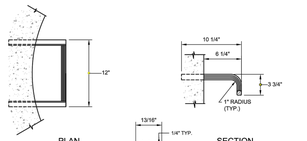
1. FRAME TO BE ANCHORED TO MANHOLE IN ACCORDANCE WITH THE REQUIREMENTS SHOWN ON DETAILS GSS-77 & GSS-78.
2. FRAME AND COVER SHALL BE HEAVY DUTY RATED FOR TRAFFIC PER AASHTO HIGHWAY LOADING CLASS H-20.
3. ALL COVERS SHALL HAVE A CIRCUMFERENTIAL GROOVE MACHINED INTO THE COVER SEAT FOR FLEXIBLE GASKET.
4. ALL COVERS SHALL HAVE NON-PENETRATING PICKHOLES. COVERS LOCATED IN ROADWAYS SHALL HAVE AN ANTI-SKID SURFACE PATTERN.
5. WHERE WATERTIGHT MANHOLES ARE SPECIFIED OR OTHERWISE MAY BE SUBJECTED TO FLOODING, REFER TO DETAIL GSS-42A. WHERE LIGHT DUTY MANHOLES ARE SPECIFIED OR IN NON-TRAFFIC AREAS, REFER TO DETAIL GSS-42B.
6. ALL SANITARY MANHOLE COVERS SHALL HAVE THE WORDS "SANITARY SEWER" CAST INTO THE COVER USING 2" LETTERS.
7. FRAME AND COVER TO BE EJ GROUP, INC. MODEL 1207Z1, UNLESS SPECIFIED OTHERWISE.

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE MANHOLE FRAME & COVER - 24-INCH HEAVY DUTY	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-42



PLAN SECTION

REINFORCED PLASTIC STEP



PLAN SECTION

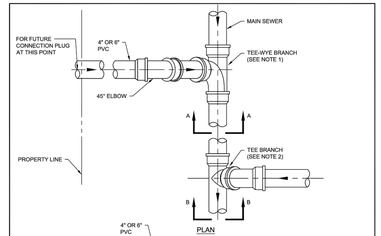
SECTION THRU RUNG

ALUMINUM STEP

NOTES:

1. PROVIDE A HEAVY COAT OF BITUMINOUS PAINT ON ALUMINUM SURFACES IN CONTACT WITH CONCRETE.
2. ALUMINUM STEP TO BE EGE1-76 ALUMINUM ALLOY.

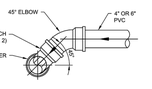
AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE MANHOLE STEPS	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-17



SECTION A-A

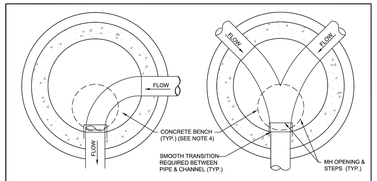
NOTES:

1. USE TEE-WYE FOR CONNECTIONS TO SEWER MAINS HAVING SLOPES OF 1% OR LESS. ORIENT TEE-WYE AS SHOWN WITH RESPECT TO FLOW.
2. USE TEE FOR CONNECTIONS TO SEWER MAINS HAVING SLOPES GREATER THAN 1%.
3. SHC AT PROPERTY LINE SHALL TERMINATE IN ACCORDANCE WITH DETAIL GSS-94.
4. WHEN ELEVATION DIFFERENCE BETWEEN INVERTS OF SHC AND SEWER MAIN EXCEEDS 2 FEET, USE DROP HOUSE CONNECTION (SEE DETAIL GSS-86).



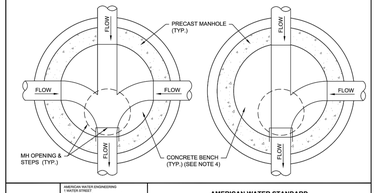
SECTION B-B

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE 4 & 6 INCH SEWER HOUSE CONNECTIONS TO PROPOSED MAIN	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-88

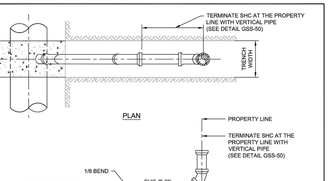


CHANNEL LINING NOTES:

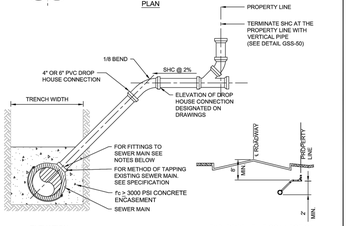
1. CHANNEL LINING SHALL BE EITHER BRICK OR PRECAST CONCRETE. CHANNEL LINING 4" MIN. FOR BRICK CHANNELS AND 2" MIN. FOR PRECAST CONCRETE CHANNELS.
2. WIDTH OF CHANNEL SHALL MATCH INSIDE DIAMETER OF INCOMING AND OUTGOING PIPES. BLEND CHANNEL LINING FOR SMOOTH CONTOUR BETWEEN PIPES.
3. ALL INVERT ELEVATIONS SHALL BE AS SHOWN ON THE DRAWINGS. INVERT(S) IN TO BE 0.10' (MIN.) ABOVE INVERT OUT.
4. BENCHES TO SLOPE 1" PER FOOT TOWARDS CHANNEL. CHANNEL SLOPE TO BE 2.50% (MIN.)
5. DEPTH OF CHANNEL TO BE 0.8 X PIPE I.D.
6. ANGLE(S) BETWEEN OUTLET PIPE AND INLET PIPE(S) SHALL BE NO LESS THAN 90°.



AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE PLAN OF TYPICAL CHANNELIZATION MAINLINE SEWER MANHOLES	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-70



PLAN

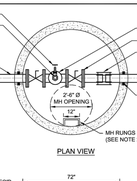


ELEVATION TYP. PROFILE AT CONNECTION

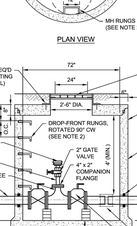
CONNECTION TO SEWER MAIN NOTES:

1. USE THIS SEWER CONNECTION DETAIL WHEN THE DEPTH OF COVER OVER SEWER MAIN IS BETWEEN 10 FT AND 13 FT.
2. FOR SEWERS LARGER THAN 15" CONNECT TO MANHOLE.
3. TO PROPOSED SEWERS 15" AND SMALLER, USE A TEE.
4. TO EXISTING PVC 4" THRU 15" PVC SEWERS MAINS, USE SADDLE.
5. TO EXISTING DIP 12" AND SMALLER SEWER MAINS, USE SADDLE.
6. TO EXISTING SEWER MAINS OTHER THAN PVC OR DIP:
   - A. SHC TO 4" SEWER MAINS USE TEE OR SADDLE.
   - B. SHC 6" THRU 12" SEWER MAINS USE SADDLE.
   - C. SHC TO 15" SEWER MAINS USE THIMBLE AND EPOXY TO MAIN LINE.

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE 4 & 6 INCH DROP HOUSE CONNECTION TO SEWER MAIN	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	GSS-86



PLAN VIEW

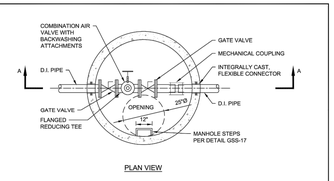


SECTION A-A

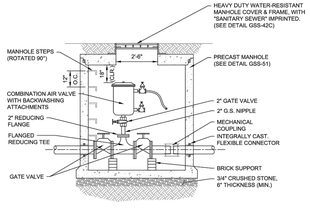
MANHOLE NOTES:

1. PRECAST MANHOLE TO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C478.
2. RUNGS TO BE COPOLYMER, REINFORCED POLYPROPYLENE OR ALUMINUM TYPE 6061-T6.
3. STANDARD MANHOLE FRAME AND COVER SHALL BE DESIGNED FOR THE TRUCK LIVE LOAD (HS-25 TRUCK WHEEL LOAD)

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE FORCE MAIN CLEANOUT MANHOLE	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	LPS-13

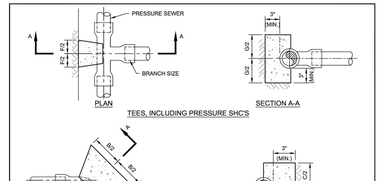


PLAN VIEW

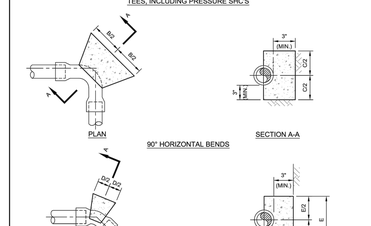


SECTION A-A

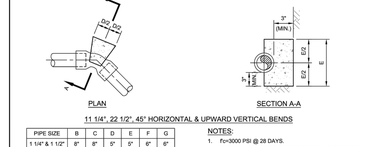
AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWERAGE SEWAGE COMBINATION AIR VALVE MANHOLE	
DATE: 01-MAY-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	LPS-17



TEES, INCLUDING PRESSURE SHC'S



90° HORIZONTAL BENDS



11 1/4", 22 1/2", 45° HORIZONTAL & UPWARD VERTICAL BENDS

PIPE SIZE	B	C	D	E	F	G
1 1/4" & 1 1/2"	8"	8"	5"	5"	6"	6"
2"	10"	10"	7"	7"	10"	10"
2 1/2"	10"	10"	7"	7"	10"	10"
3"	12"	12"	9"	9"	12"	12"
4"	26"	12"	12"	12"	16"	12"

NOTES:

1. f'c=3000 PSI @ 28 DAYS.
2. CARRY ALL BEARING SURFACES TO UNDISTURBED GROUND OR FIRM SUBGRADE.
3. BUTTRESS SIZED FOR 150 PSI.
4. SEE DETAIL TRS-21 FOR DOWNWARD VERTICAL BENDS.
5. DO NOT ENGAGE JOINTS.

AMERICAN WATER ENGINEERING 1 WATER STREET CAMDEN, NJ 08102	AMERICAN WATER STANDARD CIVIL SANITARY SEWER PRESSURE SEWER THRUST BLOCKS- PLASTIC PIPE	
DATE: 18-OCTOBER-2022	AMERICAN WATER ENGINEERING	SCALE: N.T.S.
STANDARD DETAILS	APPROVED	TRS-19

COMMONWEALTH OF PENNSYLVANIA — CHRISTOPHER W. JENSEN — REGISTERED PROFESSIONAL ENGINEER — NO. PE076464

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

10/24/2025
DATE

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
SERIAL NO.: 20232512731

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS

S.R. 0082 DOE RUN ROAD

EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO: 389522
CONSTRUCTION DETAILS

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING
DTL 3

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070 DTL 3.dwg
LAST SAVED DATE AND TIME: 09 Jan 2026, 3:30PM
LAST SAVE BY: Pgallo

PATA 107

1. Flaggers shall be clearly visible to traffic for a minimum distance of E.

2. For operations of 15 minutes or less:

   a) The ROAD WORK, ONE LANE ROAD, and FLAGGER SYMBOL signs are not required.

   b) All channelizing devices may be eliminated if a shadow vehicle is present and the operation does not proceed against normal traffic flow.

3. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.

Signs		
W20-1	W20-4	W20-7

Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space					
Speed	Channelizing Devices Spacing	Sign Spacing		Buffer Space	Roll Ahead Space
		Urban	Rural		
S (MPH)	2S (Feet)	A (Feet)	A (Feet)	E (Feet)	H (Feet)
25	50	100 - 200	500 - 800	155	150
30	60	100 - 200	500 - 800	200	150
35	70	100 - 200	500 - 800	250	150
40	80	350 - 500	500 - 800	305	150
45	90	350 - 500	500 - 800	360	150
50	100	350 - 500	500 - 800	425	250
55	110	350 - 500	500 - 800	495	250

Taper Lengths and Minimum Number Of Channelizing Devices		
Speed	50' Per Lane Taper	
S (MPH)	Length (Feet)	Minimum Number Of Devices
25	50	6
30	50	6
35	50	6
40	50	6
45	50	6
50	50	6
55	50	6

PATA 202-A

1. TTC devices are not required if the work space is outside the highway right-of-way, behind barrier, more than 2' behind curb, or 15' or more from the edge of the roadway.

2. When a shadow vehicle is not used, distance E is measured from the end of the taper to the beginning of the work space.

Signs			
W20-1	W21-5	W21-5BR	G20-2

Sign Spacing, Channelizing Device Spacing, Buffer Space, and Roll Ahead Space					
Speed	Channelizing Devices Spacing	Sign Spacing		Buffer Space	Roll Ahead Space
		Urban	Rural		
S (MPH)	2S (Feet)	A (Feet)	A (Feet)	E (Feet)	H (Feet)
25	50	100 - 200	500 - 800	155	150
30	60	100 - 200	500 - 800	200	150
35	70	100 - 200	500 - 800	250	150
40	80	350 - 500	500 - 800	305	150
45	90	350 - 500	500 - 800	360	150
50	100	350 - 500	500 - 800	425	250
55	110	350 - 500	500 - 800	495	250

Taper Lengths and Minimum Number Of Channelizing Devices		
Speed	Shoulder Taper: 1/3L	
S (MPH)	Length (Feet)	Minimum Number Of Devices
25	45	6
30	60	6
35	85	6
40	110	6
45	180	6
50	200	6
55	220	6

PATA 204 (Old PATA 9a L2) - Notes

1. Where traffic is required to use a shoulder, it must be a paved shoulder that is in good condition both during the period it is being used by traffic and also after the work is complete.

2. When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.

3. A no passing zone shall be established when an existing passing zone is present. A temporary double yellow pavement marking line shall be installed throughout the entire length of the work zone. Place a No Passing Zone (W14-3) sign at the start of the temporary double yellow pavement marking line (Across from the Road Work (W20-1) sign).

4. Refer to PATA 008 for reverse curve/turn signing.

Signs

W20-1 W5-5 W1-4R W1-4L W14-3 G20-2

Sign Spacing Chart

Condition	Distance A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type.
Example: either all "AHEAD" or XXX FEET.

Taper Length Formulas

S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	L = WS

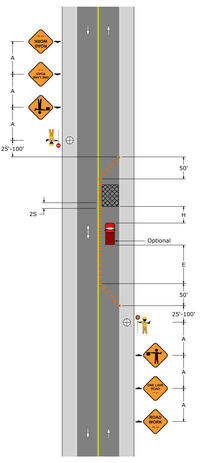
S = Regulatory Speed Limit
W = Width of Offset
L = Length

Distance and Spacing Quick Reference Chart

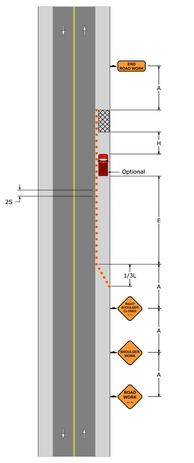
Speed	W	L	1/2L	1/3L	Min. Channelizing Devices Per Taper Type (Length)		D	E	H
MPH	Feet	Feet	Feet	Feet	L	1/2L, 1/3L, 50'	Feet	Feet	Feet
25	10	105	55	35	6	6	50	155	150
	11	115	60	40					
	12	125	65	45					
30	10	150	75	50	6	6	60	200	150
	11	165	85	55	7				
	12	180	90	60	7				
35	10	205	105	70	7	6	70	250	150
	11	225	115	75	8				
	12	245	125	85	8				
40	10	270	135	90	8	6	80	305	150
	11	295	150	100	9				
	12	320	160	110	9				
45	10	450	225	150	11	6	90	360	150
	11	495	250	165	12	7			
	12	540	270	180	13	7			
50	10	500	250	170	11	6	100	425	250
	11	550	275	185	12	7			
	12	600	300	200	13	7			
55	10	550	275	185	11	6	110	495	250
	11	605	305	205	12	7			
	12	660	330	220	13	7			

Note: Channelizing devices used in taper shall be equally spaced at ½ D Max.

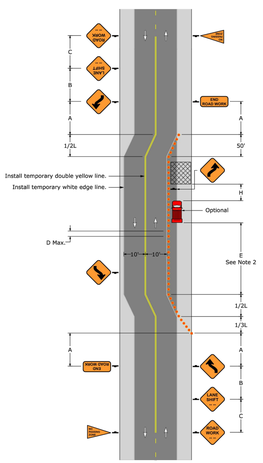
PATA 107

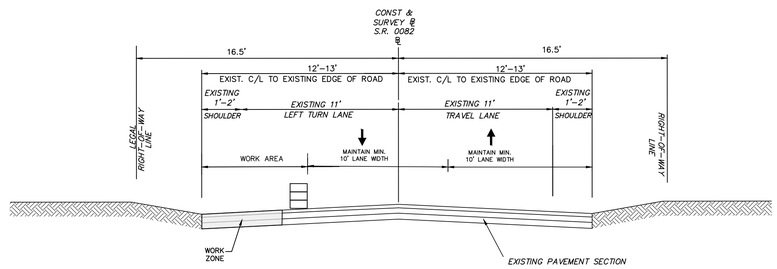


PATA 202-A



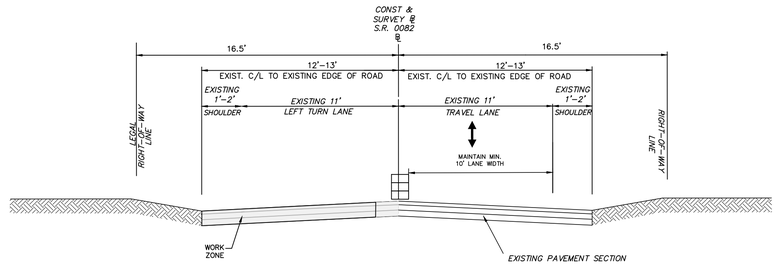
PATA 204 (Old PATA 9a L2)
Work Space On The Side Of Roadway





TYPICAL LONG TERM SECTION

S.R. 0082 – DOE RUN ROAD
NOT TO SCALE



TYPICAL SHORT TERM SECTION

S.R. 0082 – DOE RUN ROAD
NOT TO SCALE

TYPICAL SECTION LEGEND

- TRAFFIC THROUGH LANE FLOW ARROW
- TRAFFIC TURN ONLY FLOW ARROW
- CHANNELIZING DEVICE
- 4"/TW TEMPORARY PAVEMENT MARKINGS
- 4"/W PROPOSED PAVEMENT MARKINGS
- 6"/BW EXISTING PAVEMENT MARKINGS
- PROPOSED WORK

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
6-0	CHESTER	0082	---	12 OF 13
TOWNSHIP OF EAST FALLOWFIELD				

REVISION	REVISIONS	DATE	BY
1	PER PENNDOT REVIEW DATED 10/27/2025	10/27/25	PRG
2	PER PENNDOT SITE MEETING ON 12/04/2025	12/22/25	PRG
3	ADDED FIRE HYDRANT LOCATIONS PER FIRE MARSHAL APPROVAL	01/06/26	PRG
4	GRAVITY SANITARY MAIN INVERT ADJUSTMENTS	01/09/26	PRG
5	PER PAWC REVIEW LETTER DATED 1/8/2026	01/09/26	PRG
6	PER PAWC REVIEW LETTER RECIVED 2/6/2026	02/12/26	PRG

COMMONWEALTH OF PENNSYLVANIA — CHRISTOPHER W. JENSEN — REGISTERED PROFESSIONAL ENGINEER — ENGINEER NO. PE076464

CHRISTOPHER W. JENSEN, P.E.
LICENSED PROFESSIONAL ENGINEER

10/24/2025
DATE

COMMONWEALTH OF PENNSYLVANIA
LICENSE NO. PE076464-E

PENNSYLVANIA ONE CALL SYSTEM, INC. — SERIAL NUMBER 20232512731

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.

PENNSYLVANIA AMERICAN WATER COMPANY

UTILITY ROADWAY OPENING PERMIT PLANS
S.R. 0082 DOE RUN ROAD
EAST FALLOWFIELD TOWNSHIP, CHESTER COUNTY, PENNSYLVANIA

HOP APPLICATION NO.: 389522
MAINTENANCE AND PROTECTION OF TRAFFIC

2000 MARKET STREET, SUITE 800
PHILADELPHIA, PA 19103
TEL 215-282-7850
FAX 215-627-3459
www.tandmassociates.com

OFFICES LOCATED IN:
DELAWARE, INDIANA, KENTUCKY, MASSACHUSETTS, MICHIGAN, NEW JERSEY, OHIO, PENNSYLVANIA AND CALIFORNIA

DRAWING: TC1

DESIGNED BY	PRG	DATE	10/24/2025
CHECKED BY	BGS	SCALE	AS NOTED
DRAWN BY	PRG	PROJECT NO.	SGAL00070

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00070\Plans\HOP Plans\Utility Permit San & Water\
FILE NAME: SGAL00070_TC1.dwg
LAST SAVED DATE AND TIME: 12 Feb 2026, 12:53PM
LAST SAVE BY: PGallo

GENERAL NOTES – GENERAL ITEMS

1. DISTANCES SHOWN IN THIS PUBLICATION ARE MINIMUM STANDARDS AND MAY BE INCREASED SLIGHTLY TO FIT FIELD CONDITIONS. DO NOT INCREASE DISTANCES LABELED AS A MAXIMUM DISTANCE. CHANNELIZING DEVICE SPACING INTERVALS SHOULD BE MAINTAINED AS SHOWN ON PATA DRAWINGS AND SPACING CHARTS.
2. IT IS ESSENTIAL TO SATISFY THE NEEDS AND CONTROL OF ALL HIGHWAY USERS (INCLUDING MOTORISTS, BICYCLISTS, PEDESTRIANS, AND PERSONS WITH DISABILITIES IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990) TRAVELING THROUGH THE WORK ZONE. THIS ALSO APPLIES TO THE MANAGEMENT OF TRAFFIC INCIDENTS.
3. WHEN EXISTING PEDESTRIAN FACILITIES ARE DISRUPTED, CLOSED, OR RELOCATED, THE TEMPORARY FACILITIES SHALL BE DETECTABLE AND INCLUDE ACCESSIBILITY FEATURES CONSISTENT WITH THOSE PRESENT IN THE EXISTING FACILITY. SIDEWALK WIDTHS MUST BE 60" MINIMUM; HOWEVER THE WIDTH MAY BE REDUCED TO 48" IF 60"X60" PASSING AREAS ARE PROVIDED EVERY 200'. THE ACCESSIBLE PATH MUST BE 48" MINIMUM. BOTH PERMANENT AND TEMPORARY PEDESTRIAN FACILITIES MUST PROVIDE ACCESS TO PERSONS WITH DISABILITIES.
4. DO NOT PERFORM WORK OVER LANES OPEN TO LIVE TRAFFIC UNLESS EXPRESSLY AUTHORIZED BY THE DISTRICT TRAFFIC ENGINEER. WORK TAKING PLACE ON MAINTENANCE PLATFORMS, CATWALKS, OPEN BOOM TRUCKS, ETC., REQUIRES CLOSURE OF THE LANE OR LANES IMMEDIATELY BELOW. THIS RESTRICTION DOES NOT APPLY TO WORK WITHIN AN ENCLOSED ENVIRONMENT SUCH AS INSIDE A WALK-IN PERMANENT DYNAMIC MESSAGE SIGN.
5. ALL DETOURS INVOLVING STATE-DESIGNATED HIGHWAYS SHALL HAVE THE PRIOR APPROVAL OF PENNDOT. ALL DETOURS INVOLVING LOCAL HIGHWAYS SHALL HAVE THE PRIOR APPROVAL OF THE APPROPRIATE LOCAL AUTHORITIES.
6. TEMPORARY PAVEMENT MARKINGS ARE NOT REQUIRED FOR SHORT-TERM AND MOBILE OPERATIONS. WHEN TEMPORARY PAVEMENT MARKINGS ARE PLACED, ALL EXISTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER LENSES THAT CONFLICT WITH THE TEMPORARY TRAFFIC PATTERN SHALL BE REMOVED. TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED WHEN THE PERMANENT MARKINGS ARE REINSTALLED.
7. ALL WORKERS ENGAGED IN OR ENTERING INTO ANY FIELD OPERATION INVOLVING MAINTENANCE, CONSTRUCTION, DESIGN, SURVEYING, INSPECTION, TRAFFIC STUDIES, ETC. AND/OR ARE EXPOSED TO MOVING VEHICLES AND EQUIPMENT ARE REQUIRED TO WEAR HARD HATS, MEETING ANSI TYPE II REQUIREMENTS AND HIGH-VISIBILITY VESTS, T-SHIRTS OR SWEATSHIRTS WHICH MEET THE ANSI CLASS 2 OR 3 SAFETY GARMENT REQUIREMENTS. A RAINCOAT OR JACKET WHICH MEETS ANSI CLASS 2 OR 3 SAFETY GARMENT REQUIREMENTS MAY BE WORN DURING INCLEMENT WEATHER. FURTHERMORE:
   - ALL VISITORS AND OTHERS PRESENT ON A WORK SITE IN AN OFFICIAL CAPACITY MUST COMPLY WITH THE REQUIREMENTS DETAILED ABOVE.
   - PENNDOT EMPLOYEES SHALL REFER TO PUBLICATION 445, SAFETY POLICY MANUAL, AND ANY APPLICABLE PENNDOT MEMORANDA REGARDING PERSONAL PROTECTIVE EQUIPMENT (PPE) AND WORK ATTIRE.
   - EMERGENCY AND INCIDENT RESPONDERS AND LAW ENFORCEMENT PERSONNEL WITHIN THE TEMPORARY TRAFFIC CONTROL (TTC) ZONE SHOULD WEAR HIGH-VISIBILITY PUBLIC SAFETY VESTS THAT MEET THE PERFORMANCE REQUIREMENTS OF THE ANSI/SEA 207-2011 (SEE MUTCD, SECTION 1A.11), OR EQUIVALENT REVISIONS.
8. AUTHORIZED VEHICLES AS PROVIDED FOR IN TITLE 75, SECTION 102 (PENNSYLVANIA CONSOLIDATED STATUTES), ARE APPROVED TO BE EQUIPPED WITH FLASHING OR REVOLVING YELLOW WARNING LIGHTS. AUTHORIZED VEHICLES INCLUDE SHADOW VEHICLES, WORK VEHICLES, PRIVATE ESCORT VEHICLES, ETC. LIGHTS MUST BE ACTIVATED WHEN THE VEHICLE IS USED IN CONJUNCTION WITH AN ACTIVE OPERATION. WHITE FLASHING OR REVOLVING LIGHTS ARE NOT AUTHORIZED TO BE MOUNTED ON EMERGENCY VEHICLES AS PER THE PENNSYLVANIA CODE, CHAPTER 173. EMERGENCY VEHICLES ARE THOSE OPERATED BY STATE AND LOCAL POLICE, FIRE DEPARTMENTS, ETC.
9. PARKING MAY BE PROHIBITED ALONG CONVENTIONAL HIGHWAYS IN CONJUNCTION WITH ROAD WORK. COORDINATE WITH LOCAL AUTHORITIES TO REQUEST TEMPORARY PARKING PROHIBITION SIGNING AND ENFORCEMENT. PARKING IS PROHIBITED BY STATUTE ON ALL LIMITED ACCESS HIGHWAYS INCLUDING ENTRANCE AND EXIT RAMPS.
10. FOR ALL CONSTRUCTION PROJECTS INVOLVING ROAD WORK, A TEMPORARY TRAFFIC CONTROL (TTC) PLAN MUST BE INCLUDED OR PATA DRAWINGS MUST BE REFERENCED TO ADDRESS TEMPORARY TRAFFIC CONTROL. EXISTING TRAFFIC SIGNALS WITHIN THE WORK ZONE AND ALONG DETOUR ROUTES, IF MAY REQUIRE TIMING AND/OR PHASING MODIFICATIONS TO ACCOMMODATE TEMPORARY TRAFFIC PATTERNS. THE PRIMARY CONTRACTOR IS RESPONSIBLE TO SUBMIT A LETTER TO THE DISTRICT TRAFFIC ENGINEER TO EITHER CONFIRM THAT EXISTING TRAFFIC SIGNAL TIMING IS ADEQUATE TO CONTROL TEMPORARY TRAFFIC PATTERNS WITHOUT A SIGNIFICANT DECREASE IN THE LEVEL OF SERVICE, OR THAT TRAFFIC SIGNAL TIMING WILL REQUIRE MODIFICATION TO MAINTAIN ACCEPTABLE LEVELS OF SERVICE. THIS LETTER SHALL BE RECEIVED PRIOR TO PLACING LANE RESTRICTIONS. A COPY OF THE CAPACITY ANALYSIS REPORT MAY BE REQUESTED BY THE DISTRICT TRAFFIC ENGINEER. THE CONTRACTOR IS REQUIRED TO ABIDE BY THE TEMPORARY SIGNAL TIMING PROCESS PRIOR TO BEGINNING WORK IF SIGNAL MODIFICATIONS ARE RECOMMENDED BY THE DISTRICT TRAFFIC UNIT. REFER TO PUBLICATION 46, CHAPTER 12, AND PUBLICATION 149, CHAPTER 11.
11. MOBILE OPERATIONS (PATA 300 AND 600 SERIES) THAT OCCUPY A TRAVEL LANE SHALL PROCEED IN THE DIRECTION OF NORMAL TRAFFIC FLOW. MOBILE OPERATIONS TAKING PLACE OFF OF THE ROADWAY SHALL PROCEED IN THE SAME DIRECTION AS THE NEAREST LANE OF TRAFFIC

GENERAL NOTES – FLAGGER AND FLAGGING OPERATIONS

1. ALL FLAGGERS AT A MINIMUM SHALL HAVE TRAINING AS PER THE MOST CURRENT VERSION OF PUBLICATION 408, SECTION 901.3(Y), FLAGGER TRAINING. BECAUSE FLAGGERS ARE RESPONSIBLE FOR PUBLIC SAFETY AND MAKE THE GREATEST CONTACT WITH THE PUBLIC, IT IS ESSENTIAL TO PRACTICE SAFE TRAFFIC CONTROL AND PUBLIC CONTACT TECHNIQUES. FLAGGERS MUST DEMONSTRATE THE FOLLOWING ABILITIES:
   - RECEIVE AND COMMUNICATE SPECIFIC INSTRUCTIONS CLEARLY, FIRMLY, AND COURTEOUSLY.
   - MOVE AND MANEUVER QUICKLY IN ORDER TO AVOID DANGER FROM ERRANT VEHICLES. THIS MEANS A FLAGGER
   - SHALL NOT BE IN A SITTING POSITION AND NO VEHICLES SHALL BE PARKED NEAR THE FLAGGING STATION.
   - CONTROL SIGNALING DEVICES (SUCH AS STOP/SLOW PADDLES AND FLAGS) IN ORDER TO PROVIDE CLEAR AND POSITIVE GUIDANCE TO DRIVERS APPROACHING A TEMPORARY TRAFFIC CONTROL ZONE.
   - MAINTAIN SITUATIONAL AWARENESS, PROTECT THE WORK CREW, AND PROVIDE GUIDANCE AND DIRECTION TO THE TRAVELING PUBLIC.
2. FLAGGERS MUST BE CLEARLY VISIBLE TO TRAFFIC FOR A MINIMUM DISTANCE OF E. THIS DISTANCE IS BASED UPON THE SPEED LIMIT AND IS FOUND ON THE APPLICABLE PATA NOTES PAGE.
3. FLAGGERS MUST BE AWARE OF THE PUBLIC IMAGE THEY PROJECT AT ALL TIMES. BEHAVIOR THAT COULD BE CONSTRUED AS UNPROFESSIONAL, SUCH AS UTILIZING CELL PHONES FOR PERSONAL CONVERSATIONS, TEXTING, ETC., IS PROHIBITED WHILE PERFORMING FLAGGING DUTIES. FLAGGERS ACTIVELY PERFORMING TRAFFIC CONTROL DUTIES SHALL NOT PARTICIPATE IN WORK NOT DIRECTLY RELATED TO TRAFFIC CONTROL.
4. ADDITIONAL FLAGGERS SHALL BE UTILIZED TO MAINTAIN CONTROL OF TRAFFIC AT ALL SIDE ROADS, DRIVEWAYS, ETC. THAT INTERSECT THE WORK ZONE BETWEEN THE FLAGGER LOCATIONS. IF NECESSARY, PROVIDE ADDITIONAL FLAGGERS TO PROPERLY CONTROL ALL MOVEMENTS WITHIN AN INTERSECTION.
5. WHEN MULTIPLE FLAGGERS ARE USED, THEY SHALL BE IN COMMUNICATION WITH EACH OTHER AT ALL TIMES.
6. EXCEPT IN EMERGENCY SITUATIONS, EACH FLAGGER STATION SHALL BE ILLUMINATED AT NIGHT WITH A PORTABLE OVERHEAD LIGHTING SOURCE THAT PROVIDES AN AVERAGE LUMINANCE OF 5 FOOT CANDLES COVERING AN AREA OF 2,500 SQUARE FEET (APPROXIMATELY 50'X50' OR 28' RADIUS). THIS MAY BE ACHIEVED WITH LIGHTS OF 30,000 TO 40,000 LUMENS. THE LIGHTING SOURCE SHALL HAVE A MINIMUM COLOR TEMPERATURE OF 3,000 DEGREES AND A MAXIMUM OF 4,000 DEGREES. POSITION THE LIGHT SO FLAGGERS CAN BE SEEN AND NOT CAUSE EXCESSIVE GLARE TO MOTORISTS.
7. WHEN A HIGHWAY–RAIL GRADE CROSSING EXISTS WITHIN THE WORK ZONE, OR IT IS ANTICIPATED THAT QUEUES RESULTING FROM THE LANE CLOSURE MIGHT EXTEND THROUGH A HIGHWAY–RAIL GRADE CROSSING, PROVISIONS SHALL BE MADE TO ELIMINATE CONFLICTS, WHICH MAY REQUIRE PLACING A FLAGGER AT THE CROSSING. COORDINATION WITH THE RAILROAD IS REQUIRED.
8. IT IS RECOMMENDED THAT FLAGGERS STOP TRAFFIC FOR AS LITTLE TIME AS POSSIBLE.
9. THE STOP/SLOW PADDLE IS THE PRIMARY TRAFFIC CONTROL DEVICE USED BY FLAGGERS. THE STOP/SLOW PADDLE:
10. A RED FLAG SHALL BE USED AT INTERSECTIONS WHERE A SINGLE FLAGGER CONTROLS TRAFFIC APPROACHING FROM MORE THAN ONE DIRECTION. A RED FLAG MAY ALSO BE USED IN EMERGENCY SITUATIONS WHEN A STOP/SLOW PADDLE IS NOT AVAILABLE. IT IS UNACCEPTABLE TO CONTROL TRAFFIC WITH AN ORANGE FLAG THAT IS NORMALLY USED TO SUPPLEMENT WARNING SIGNS. RED FLAGS:
    - RECEIVE AND COMMUNICATE SPECIFIC INSTRUCTIONS CLEARLY, FIRMLY, AND COURTEOUSLY.
    - MOVE AND MANEUVER QUICKLY IN ORDER TO AVOID DANGER FROM ERRANT VEHICLES. THIS MEANS A FLAGGER
    - SHALL NOT BE IN A SITTING POSITION AND NO VEHICLES SHALL BE PARKED NEAR THE FLAGGING STATION.
    - CONTROL SIGNALING DEVICES (SUCH AS STOP/SLOW PADDLES AND FLAGS) IN ORDER TO PROVIDE CLEAR AND POSITIVE GUIDANCE TO DRIVERS APPROACHING A TEMPORARY TRAFFIC CONTROL ZONE.
    - MAINTAIN SITUATIONAL AWARENESS, PROTECT THE WORK CREW, AND PROVIDE GUIDANCE AND DIRECTION TO THE TRAVELING PUBLIC:
    - SHALL BE HELD UNDER CONTROL OF THE FLAGGER AT ALL TIMES. DO NOT SUPPORT THE PADDLE BY INSERTING THE SHAFT INTO A CHANNELIZING DEVICE, CART, OR OTHER DEVICE WHICH IS NOT LISTED IN PUBLICATION 35 – BULLETIN 15 AS AN APPROVED PADDLE SUPPORT DEVICE.
    - SHALL DISPLAY AN 18"MINIMUM STOP SIGN ON ONE FACE AND A DIAMOND SHAPED SLOW SIGN ON THE OPPOSITE FACE, BOTH OF WHICH SHALL BE RETROREFLECTIVE.
    - SHALL BE ATTACHED TO A SHAFT THAT HAS A MINIMUM LENGTH OF 72".
    - SHALL BE SOLID RED IN COLOR WITH NO STRIPES OR PATTERNS.
    - SHALL HAVE A MINIMUM SIZE OF 24" SQUARE.
    - SHALL BE SECURELY FASTENED TO A STAFF THAT HAS A LENGTH OF APPROXIMATELY 36".
    - SHALL BE WEIGHTED ON THE FREE EDGE SO THE FLAG WILL HANG VERTICALLY, EVEN IN HIGH WINDS.
    - SHALL BE RETROREFLECTIVE WHEN USED DURING NIGHTTIME OPERATIONS.
    - SHALL NOT BE WAVED AS A NOTICE FOR DRIVERS TO PROCEED.
11. FLAGGERS MAY BE REQUIRED TO CONTROL TRAFFIC AT SIGNALIZED INTERSECTIONS WHEN EXISTING SIGNAL TIMING/ PHASING IS NOT ADEQUATE TO CONTROL TRAFFIC IN WORK ZONES. TRAFFIC SIGNALS ARE OWNED, OPERATED, AND MAINTAINED BY THE LOCAL MUNICIPALITY IN WHICH THEY ARE LOCATED AND ARE PROGRAMMED TO OPERATE AUTOMATICALLY IN ACCORDANCE WITH TRAFFIC SIGNAL PERMITS ISSUED BY THE DEPARTMENT. DO NOT CONTROL TRAFFIC AT A SIGNALIZED INTERSECTION WITH A RED FLAG WHILE THE SIGNAL IS FUNCTIONING IN STANDARD GREEN–YELLOW–RED OPERATION. MUNICIPAL OFFICIALS AND/OR THE LOCAL POLICE DEPARTMENT SHALL BE CONTACTED TO PLACE THE SIGNAL IN FLASH MODE OR MANUAL CONTROL MODE. REQUESTS SHALL BE MADE IN ADVANCE AS COORDINATION OF RESOURCES MAY BE NECESSARY. LOCAL OFFICIALS MAY OPT TO HAVE POLICE MANUALLY CONTROL THE SIGNAL OR REQUIRE EFFORTS FROM THE MUNICIPAL SIGNAL CONTRACTOR. DO NOT OPEN A TRAFFIC SIGNAL CONTROL CABINET DOOR PRIOR TO RECEIVING APPROVAL FROM LOCAL AUTHORITIES. FLAGGING OPERATIONS MAY BEGIN WHEN THE SIGNAL IS PLACED IN FLASH MODE. IN LOCATIONS WHERE MULTIPLE SIGNALIZED INTERSECTIONS ARE LOCATED CLOSE TOGETHER, IT MAY BE NECESSARY TO PLACE MULTIPLE TRAFFIC SIGNALS IN FLASH MODE TO CONTROL TRAFFIC FLOW THROUGH THE WORK ZONE. USE ADDITIONAL FLAGGERS AS NECESSARY TO CONTROL TRAFFIC THROUGH EACH INTERSECTION. RETURN TRAFFIC SIGNAL OPERATION TO AUTOMATIC CONTROL IN ACCORDANCE WITH THE SIGNAL PERMIT IMMEDIATELY UPON CONCLUSION OF WORK.

GENERAL NOTES – EQUIPMENT, VEHICLES, AND MATERIAL

1. THE BUFFER SPACE SHALL BE KEPT FREE FROM WORK ACTIVITY AND STORAGE OF EQUIPMENT, VEHICLES, OR MATERIAL.
2. EQUIPMENT, VEHICLES, AND MATERIAL SHALL BE STORED A MINIMUM OF 30 FEET FROM THE EDGE OF THE NEAREST OPEN TRAVEL LANE, OR THEY SHALL BE ADEQUATELY STORED BEHIND A LONGITUDINAL BARRIER. IF THESE CRITERIA CANNOT BE MET, THAN STORE THESE ITEMS AS FAR AS PRACTICAL FROM THE NEAREST ROADWAY EDGE AND BEHIND BARRICADES, DRUMS, OR OTHER PROTECTIVE DEVICES. PUBLICATION 13M, DESIGN MANUAL 2, CHAPTER 12, TABLE 2.3, PRESENTS MINIMUM UNOBSTRUCTED DISTANCES THAT SHALL BE MAINTAINED BEHIND VARIOUS GUIDERAIL SYSTEMS.
3. IF SITE CONDITIONS PREVENT EQUIPMENT, VEHICLES, AND MATERIAL FROM BEING STORED AS INDICATED IN THE PREVIOUS NOTE OR IF THESE ITEMS ARE STAGED FOR USE IN AN OPERATION, THEN BARRICADES, DRUMS, OR OTHER PROTECTIVE DEVICES SHALL BE PLACED AROUND THESE ITEMS.
4. WORKER'S VEHICLES PARKED IN A WORK ZONE SHALL BE PLACED IN SUCH A MANNER THAT DOES NOT COMPROMISE THE SAFETY OF WORKERS, PEDESTRIANS, OR THE TRAVELING PUBLIC. PARKING BEHIND BARRIER IS MOST PREFERRED. IF BARRIER DOES NOT EXIST THEN POSITION VEHICLES OUTSIDE OF THE CLEAR ZONE, IF POSSIBLE.

GENERAL NOTES – TRAFFIC CONTROL DEVICES – PORTABLE CHANGEABLE MESSAGE SIGNS

1. PCMS MESSAGE TEXT INCLUDED WITH APPROVED TRAFFIC CONTROL PLANS SHALL BE DISPLAYED EXACTLY AS SHOWN. IF MESSAGES ARE NOT PROVIDED OR DESIRED, USE THE CRITERIA ESTABLISHED IN THE MUTCD, SECTION 2L.05, TO DEVELOP A MESSAGE AND CONTACT THE DISTRICT TRAFFIC UNIT, DISTRICT TRAFFIC MANAGEMENT CENTER (DTMC), OR REGIONAL TRAFFIC MANAGEMENT CENTER (RTMC) TO REQUEST APPROVAL PRIOR TO POSTING. ONCE A MESSAGE HAS BEEN APPROVED, REQUESTERS MAY RETAIN IT AND MAINTAIN A LOG OF PREVIOUSLY APPROVED MESSAGES FOR FUTURE POSTINGS. THE LOG SHOULD CONTAIN THE MESSAGE TEXT, REQUESTED DATE, APPROVED DATE, AND NAME OF APPROVER. ALTERATION OF A PREVIOUSLY APPROVED MESSAGE IS CONSIDERED A NEW MESSAGE AND REQUIRES APPROVAL. THIS IS TO ENSURE CONSISTENCY WITH PCMS MESSAGE CONTENT, PHASE, TIMING, AND APPEARANCE. PCMS BOARDS ARE AN IMPORTANT RESOURCE AND THEIR EFFECTIVENESS IS DEPENDENT UPON MANY FACTORS INCLUDING PROPER INSTALLATION, ACCURATE MESSAGE CONTENT, AND PANEL DISPLAYS. IMPROPER MESSAGES OR INCORRECT MESSAGE CONTENT WILL ERODE MOTORIST CONFIDENCE IN PCMS MESSAGES. REFER TO THE MUTCD, SECTIONS 2L AND 6F.60, FOR MORE INFORMATION ON PCMS MESSAGE STRUCTURE.
2. PCMS DEPLOYED ALONG THE ROADWAY SHOULD BE PLACED BEHIND BARRIER, IF PRACTICAL. WHERE BARRIER IS NOT AVAILABLE, PCMS SHOULD BE PLACED OFF THE SHOULDER AND OUTSIDE THE CLEAR ZONE. IF THERE ARE NO OPTIONS OTHER THAN TO PLACE A PCMS ON THE SHOULDER THEN IT SHALL BE PLACED AS FAR AS PRACTICAL FROM THE EDGE LINE WITH THE TRAILER HITCH FACING AWAY FROM ONCOMING TRAFFIC. DELINEATION (DRUMS ARE PREFERRED) IS REQUIRED WHEN THE PCMS IS PLACED WITHIN THE CLEAR ZONE AND NOT BEHIND BARRIER. REFER TO PATA 009 FOR FURTHER GUIDANCE.
3. PCMS MAY BE PLACED ON THE LEFT OR RIGHT SIDE OF THE ROADWAY. WHEN MULTIPLE PCMS ARE PLACED IN THE SAME DIRECTION OF TRAVEL, PLACE THEM ON THE SAME SIDE OF THE ROADWAY; SEPARATED FROM EACH OTHER BY A DISTANCE OF AT LEAST 1000' ON FREEWAYS AND EXPRESSWAYS AND AT LEAST 500' ON OTHER HIGHWAYS. PCMS SHOULD NOT BE LOCATED WITHIN AN INTERCHANGE EXCEPT FOR TOLL PLAZAS AND MANAGED LANES.

GENERAL NOTES – TRAFFIC CONTROL DEVICES – CHANNELIZED DEVICES

1. CONES SHALL ONLY BE USED DURING SHORT-TERM OPERATIONS. ALL CHANNELIZING DEVICES SHALL BE RETROREFLECTIVE WHEN USED DURING NIGHTTIME OPERATIONS.
2. DIRECTION INDICATOR BARRICADES MAY BE USED FOR ALL TAPERS APPROACHING A WORK ZONE. UTILIZATION IS RECOMMENDED ON TAPERS APPROACHING WORK ZONES ON FREEWAYS AND EXPRESSWAYS.
3. CHANNELIZING DEVICES MAY BE SUBSTITUTED FOR TEMPORARY LONGITUDINAL EDGE LINE PAVEMENT MARKINGS SHOWN ON ANY PATA 200 OR 500 SERIES DRAWING. IF CHANNELIZING DEVICES ARE USED IN PLACE OF LONGITUDINAL EDGE LINES, THEY SHALL BE SPACED AT A DISTANCE (IN FEET) EQUAL TO THE REGULATORY SPEED LIMIT; FOR EXAMPLE A 45 MPH SPEED LIMIT REQUIRES 45' SPACING. CHANNELIZING DEVICES CANNOT BE SUBSTITUTED FOR TAPER EDGE LINE PAVEMENT MARKINGS.
4. CHANNELIZING DEVICES PLACED ALONG A CONVENTIONAL HIGHWAY CENTERLINE SHOULD BE PLACED ON THE SAME SIDE OF THE DOUBLE YELLOW LINE AS THE WORK SPACE, THEREBY REDUCING THE IMPACT TO MOTORISTS TRAVELING ON THE OPPOSITE SIDE OF THE ROADWAY. WHEN THE TYPE OF WORK REQUIRES DEVICES TO BE PLACED ON OR ALONG THE OPPOSITE SIDE OF A CENTERLINE OR LANE LINE, ENSURE THAT MINIMUM LANE WIDTH OF 10' IS PROVIDED.
5. TAPERS WITHIN A LANE SHALL UTILIZE A MINIMUM OF 6 CHANNELIZING DEVICES, HOWEVER, MORE MAY BE REQUIRED BASED UPON THE REGULATORY SPEED LIMIT AND LANE WIDTH. SHOULDER TAPERS CONSISTING OF 6 CHANNELIZING DEVICES ARE REQUIRED WHEN CLOSING PAVED SHOULDERS THAT HAVE A WIDTH OF 8' OR MORE. SHOULDER TAPERS ARE OPTIONAL WHEN CLOSING UNPAVED SHOULDERS OR THOSE LESS THAN 8' IN WIDTH.
6. BARRICADES AND VERTICAL PANELS WITH STRIPES SHALL HAVE ALTERNATING ORANGE AND WHITE RETROREFLECTIVE STRIPES SLOPING DOWNWARD AT AN ANGLE OF 45 DEGREES IN THE DIRECTION VEHICULAR TRAFFIC IS TO PASS.
7. CHANNELIZING DEVICES USED TO FORM A TAPER OR LONGITUDINAL LINE MUST BE ALL OF A SINGLE TYPE AND IDENTICAL IN SIZE AND APPEARANCE. FOR EXAMPLE, CONES, DRUMS, BARRICADES, AND VERTICAL PANELS MAY NOT BE INTERMIXED WITHIN THE SAME TAPER OR LONGITUDINAL LINE, HOWEVER, THE TYPE OF DEVICE USED IN A TAPER MAY DIFFER FROM THE TYPE OF DEVICE USED IN A LONGITUDINAL LINE.
8. TRUCK MOUNTED EQUIPMENT SUCH AS SPEED DISPLAY TRAILERS, PORTABLE CHANGEABLE MESSAGE SIGNS, ETC. LOCATED ON THE SHOULDER OR WITHIN THE CLEAR ZONE MUST BE DELINEATED WITH CHANNELIZING DEVICES. DRUMS ARE THE MOST PREFERRED CHANNELIZER FOR DELINEATION BECAUSE THEY ARE HIGHLY VISIBLE, HAVE GOOD TARGET VALUE, GIVE THE APPEARANCE OF BEING FORMIDABLE OBSTACLES AND, THEREFORE, COMMAND THE RESPECT OF ROAD USERS. ALSO, DRUMS ARE GENERALLY USED IN SITUATIONS WHERE THEY WILL REMAIN IN PLACE FOR A PROLONGED PERIOD OF TIME. IF THE TRAILER IS LOCATED BEHIND BARRIER THEN DELINEATION IS NOT REQUIRED. REFER TO PATA 009 FOR FURTHER GUIDANCE.

GENERAL NOTES – TRAFFIC CONTROL DEVICES – SIGNS AND WARNING LIGHTS

1. WARNING SIGNS FOR TEMPORARY TRAFFIC CONTROL SHALL HAVE ORANGE BACKGROUND AND BLACK BORDER/LEGEND. WARNING SIGNS FOR INCIDENT MANAGEMENT AREAS SHALL HAVE PINK BACKGROUND WITH BLACK BORDER/LEGEND. ORANGE WARNING SIGNS MAY BE USED IN INCIDENT MANAGEMENT AREAS. PINK SIGNS ARE NOT AVAILABLE.
2. SIGN SHEETING SHALL BE OF AN APPROVED TYPE AND LISTED IN PUBLICATION 35 (BULLETIN 15). SIGNS MANUFACTURED WITH A MESH OR TRANSPARENT QUALITY ARE PROHIBITED. REFER TO THE 2011 TRAFFIC SIGN SHEETING IDENTIFICATION GUIDE IN APPENDIX B OF THIS PUBLICATION OR PUBLICATION 46, EXHIBITS 2–3 AND 2–4, FOR RETRO–REFLECTIVE MATERIAL AND LEVEL INFORMATION. SIGNS BEARING TYPE VIII SHEETING OR BETTER REFLECTIVE MATERIAL ARE CONSIDERED EQUIVALENT AND INTERCHANGEABLE.
3. WHEN TRAFFIC CONTROL SIGNS ARE PLACED IN A TEMPORARY TRAFFIC CONTROL AREA, ALL PERMANENT SIGNS THAT PROVIDE A CONFLICTING MESSAGE SHALL BE COVERED OR REMOVED. SEE PUBLICATION 408, SECTION 901.3(A), FOR DETAILS ON COVERING SIGNS.
4. WHEN A FLAGGER AHEAD (W20–7) SIGN IS DISPLAYED, A FLAGGER MUST BE PRESENT. COVER OR REMOVE THIS SIGN IMMEDIATELY UPON CONCLUSION OF FLAGGING DUTIES.
5. WHEN NOT IN USE, REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES FROM THE ROADWAY AND COVER WARNING SIGNS OR TURN SIGNS FROM THE VIEW OF TRAFFIC WHILE REMAINING IN THE UPRIGHT POSITION.
6. DO NOT MOUNT TEMPORARY TRAFFIC CONTROL WARNING SIGNS ONTO EXISTING SIGN INSTALLATIONS UNLESS THE PERMANENT SIGN HAS BEEN REMOVED FROM THE POST. WITH THE EXCEPTION OF SUPPLEMENTAL ADVISORY SPEED OR DISTANCE PLAQUES, DO NOT MOUNT MULTIPLE WARNING SIGNS ON THE SAME POST. THE MINIMUM LATERAL AND VERTICAL SPACING STANDARDS DESCRIBED BELOW ARE CONSIDERED ADEQUATE TIME TO READ, COMPREHEND, AND REACT TO EACH SIGN AND POSTING MULTIPLE SIGNS ON THE SAME POST MAY PROVIDE TOO MUCH INFORMATION TO MOTORISTS, REQUIRE MODIFICATION TO MAINTAIN ACCEPTABLE LEVELS OF SERVICE. THIS LETTER SHALL BE RECEIVED PRIOR TO PLACING LANE RESTRICTIONS. A COPY OF THE CAPACITY ANALYSIS REPORT MAY BE REQUESTED BY THE DISTRICT TRAFFIC ENGINEER. THE CONTRACTOR IS REQUIRED TO ABIDE BY THE TEMPORARY SIGNAL TIMING PROCESS PRIOR TO BEGINNING WORK IF SIGNAL MODIFICATIONS ARE RECOMMENDED BY THE DISTRICT TRAFFIC UNIT. REFER TO PUBLICATION 46, CHAPTER 12, AND PUBLICATION 149, CHAPTER 11.
   - LATERAL SPACING: 2' MINIMUM FROM THE EDGE OF THE SHOULDER TO THE NEAREST EDGE OF THE SIGN.
   - VERTICAL SPACING: 7' MINIMUM FROM THE PAVEMENT SURFACE TO THE BOTTOM EDGE OF THE SIGN.
7. SIGN SIZES AND SIGN PLACEMENTS BASED UPON TYPE OF HIGHWAY CAN BE FOUND IN APPENDIX A. REFER TO PUBLICATION 236 HANDBOOK OF APPROVED SIGNS FOR ADDITIONAL AND MOST CURRENT INFORMATION.
8. DO NOT PLACE SIGN SUPPORTS ON SIDEWALKS, BICYCLE FACILITIES, OR AREAS DESIGNATED FOR PEDESTRIAN OR BICYCLE TRAFFIC UNLESS THERE ARE NO SUITABLE ALTERNATIVE LOCATIONS; AN EXCEPTION IT MADE FOR SIGNS RELATED TO SIDEWALK AND/OR BICYCLE FACILITY CLOSURES WHICH ARE DIRECTED TOWARDS PEDESTRIANS AND BICYCLISTS. IF SIGN SUPPORTS ARE PLACED ON SIDEWALKS, AN ACCESSIBLE PATH OF 48"MINIMUM WIDTH SHALL BE PROVIDED. THIS ACCESSIBLE PATH MUST REMAIN FREE FROM SIGNS, SIGN SUPPORTS, HORIZONTAL PANELS, TYPE III BARRICADE RAILS, MATERIAL STORAGE, ETC. REFER TO PATA 010 FOR FURTHER GUIDANCE.
9. INSTALL ADDITIONAL SIGNING IN ADVANCE OF THE ROAD WORK (W20–1) SIGN WHERE TRAFFIC APPROACHING THE WORK ZONE IS QUEUED BEYOND ALL ADVANCE WARNING SIGNS. ADDITIONAL SIGNS MAY INCLUDE THE BE PREPARED TO STOP (W3–4) SIGN, LANE CLOSED (W20–5 SERIES) SIGNS, PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS), OR OTHER STANDARD SIGNS AS APPROPRIATE.
10. AS A GENERAL RULE, SIGNS SHALL BE LOCATED ON THE RIGHT–HAND SIDE OF THE ROADWAY. ON DIVIDED HIGHWAYS AND ONE–WAY ROADWAYS WHERE IT IS PHYSICALLY POSSIBLE, SIGNS SHOULD ALSO BE PLACED ON THE LEFT–HAND SIDE OF THE ROADWAY.
11. ATTACH RED TYPE B FLASHING LIGHTS TO ALL STOP SIGNS WHICH ARE INSTALLED ON A TEMPORARY BASIS; ATTACH YELLOW TYPE B FLASHING LIGHTS TO ALL TEMPORARY YIELD SIGNS.
12. STANDARD ORANGE FLAGS OR YELLOW FLASHING WARNING LIGHTS MAY BE USED IN CONJUNCTION WITH WARNING SIGNS; PRACTICE CONSISTENCY ACROSS ANY GIVEN TYPE OF SUPPLEMENTAL FLAG OR LIGHT. THE FLAG SHALL BE 12" MINIMUM SIZE AND SHALL BE ATTACHED TO A TEMPORARY WARNING SIGN EACH WARNING SIGN INSTALLATION IN A WORK ZONE SHALL HAVE THE SAME NUMBER OF FLAGS OR LIGHTS. DO NOT BLOCK THE SIGN FACE WITH FLAGS OR LIGHTS. WHITE FLASHING LIGHTS ARE RESERVED FOR USAGE WITH THE ACTIVE WORK ZONE WHEN FLASHING (W21–19) SIGN OF ACT 229 AND IN CONJUNCTION WITH STOP/SLOW PADDLES. REFER TO PUBLICATION 46, CHAPTER 6.10, AND THE MUTCD, SECTION 6F.83, FOR GUIDANCE ON FLASHING LIGHTS.
13. SIGNS SPECIFIC TO AN OPERATION (SUCH AS MOWING OR UTILITY WORK) MAY BE USED AS AN ALTERNATIVE TO THE ROAD WORK AHEAD (W20–1) OR ROAD WORK NEXT XX MILES (G20–1) SIGNS WHERE APPROPRIATE. FOR EXAMPLE, A ROAD WORK NEXT XX MILES (G20–1) SIGN MAY BE USED IN LIEU OF THE ROAD WORK AHEAD (W20–1) SIGN ON ANY CONSTRUCTION OR MAINTENANCE JOB TWO MILES OR MORE IN LENGTH, WHERE TRAFFIC IS MAINTAINED THROUGH THE JOB.
14. DO NOT UTILIZE PORTABLE SIGN SUPPORTS ON LONG TERM OPERATIONS WHERE THE SIGN WILL BE DISPLAYED FOR MORE THAN 3 CONSECUTIVE DAYS.
15. WHEN DISTANCES ARE POSTED ON TEMPORARY TRAFFIC CONTROL SIGNS WITH A 'MILES' UNIT OF MEASURE, DISPLAY THE DISTANCE IN TERMS OF WHOLE MILES OR FRACTIONS WITH DENOMINATORS OF 2, 4, AND 8 (FOR EXAMPLE, 1/2 MILE, 1/4 MILE, 3/8 MILE, ETC.) THE USE OF DECIMALS FOR THIS PURPOSE IS PROHIBITED.
16. STATIONARY WARNING SIGNS MAY BE OMITTED FOR MOBILE OPERATIONS IF WARNING SIGNS ARE MOUNTED ON WORK VEHICLES, SHADOW VEHICLES, OR TRAILERS THAT MOVE ALONG WITH THE OPERATION.

GENERAL NOTES – TRAFFIC CONTROL SETUP AND REMOVAL

1. TEMPORARY TRAFFIC CONTROL ZONES ARE TO BE SET UP BY U

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-6. In the Application's Section 11, PAWC-WD indicated that the Main Extension includes 1,760 linear feet (LF) of eight-inch diameter wastewater gravity main and 1,700 LF of four-inch diameter wastewater force main. Conversely, in the Application's Section 13, PAWC-WD detailed in a table therein that the Main Extension includes 1,760 LF of eight-inch diameter wastewater gravity main and 955 LF of two-inch diameter wastewater force main. Please provide responses to the following:

a. Explain the apparent discrepancy between the diameter and length of the wastewater force main described in the Application's Sections 11 and 13; and

b. Provide a revised breakdown of estimated pipe sizes, lengths, and material types for wastewater mains and service laterals, and descriptions and quantities for all related facilities (i.e., Pump Station, manholes, etc.).

Response:

a. The gravity sewer line will utilize both 8" and 10" PVC piping. The forcemain will be 4". Please see Doe Run Pump Station plans at **Attachment A-5.1**

b. Please see revised itemized cost breakdown for the gravity sewer link and forcemain at **Attachment A-6.1**. Please see pump station cost estimate at **Attachment A-6.2**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-6.1

Itemized Cost Breakdown for Gravity Sewer Line and Forcemain

South Brandywine HOP Change Order Proposal Revised

CE#27

Iron Eagle Excavating LLC

705 Hartman Station Rd

Lancaster, PA 17601

Contact: **Randall Weaver**

Phone: **717-821-3863**

Fax:

Quote To: Boro Construction

Phone:

Fax:

Job Name: South Brandywine

Date of Plans:

Revision Date:

ITEM	DESCRIPTION	QUANTITY	UNIT		AMOUNT
	Sanitary Sewer				
600	8" SDR-26	740.00	LF		174,225.60
605	10" SDR-26	1,100.00	LF		272,261.00
610	4" SDR-21 FM	1,070.00	LF		170,718.50
615	MH	8.00	EA		119,581.44
616	FM C.O. MH	1.00	EA		14,840.89
617	FM ARV	1.00	EA		16,108.84
	Sanitary Sewer Subtotal				**767,736.27**

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-6.2

Itemized Cost Breakdown for Pump Station

COATSVILLE AREA SCHOOL DISTRICT DOE RUN RD PUMP STATION OPINION OF PROBABLE COST 11/14/2025, Rev. 04/29/26					
ITEM DESCRIPTION	QUANTITY	UNIT	UNIT COST	ITEM TOTAL	DIVISION TOTAL
Mobilization/Demobilization	1	LS	$ 30,000.00	$ 30,000	
Maintenance & Protection of Traffic	1	LS	$ 12,000.00	$ 12,000	
Strip and Stockpile Topsoil	1	LS	$ 1,500.00	$ 1,500	
Erosion & Sedimentation Control					
Compost Sock J Hook - 18"	227	LF	$ 15.00	$ 3,405	
Inlet protection	3	EA	$ 200.00	$ 600	
Temporary Construction Fence	779	LF	$ 5.00	$ 3,895	
Rock Construction Entrance	1	EA	$ 7,500.00	$ 7,500	
Erosion Control Blanket	555	SY	$ 2.50	$ 1,388	
Earthwork	1	LS	$ 25,000.00	$ 25,000	
Landscaping -Seeding & Stabilization General	1,792	SY	$ 2.50	$ 4,480	
Paving					
6" 2A Modified Stone - Driveway	212	SY	$ 85.00	$ 18,020	
2.5" 12.5mm Bituminous Wearing Course - Driveway	212	SY	$ 45.00	$ 9,540	
Utilities					
10" SDR 26 PVC Gravity Sewer (From Pump Station to ROW)	79	LF	$ 125.00	$ 9,875	
4" HDPE DR-11 PVC Force Main (From Pump Station to ROW)	88	LF	$ 100.00	$ 8,800	
Gravity Connection to Sanitary Manhole on Doe Run Rd	1	EA	$ 2,000.00	$ 2,000	
3/4" Frost Free Yard Hydrant	1	EA	$ 2,000.00	$ 2,000	
1" HDPE Water Lateral	1	LS	$ 5,000.00	$ 5,000	
1" Curb Stop	1	EA	$ 500.00	$ 500	
Tie-in to Waterline on Doe Run Rd	1	LS	$ 1,500.00	$ 1,500	
Supply and Installation of Pump Station and Meter Pit	1	LS	$ 150,000.00	$ 150,000	
Stormwater					
Inlets (Type M, Standard Box)	2	EA	$ 4,500.00	$ 9,000	
Trench Drain	12	LF	$ 150.00	$ 1,800	
8" HDPE	3	LF	$ 40.00	$ 120	
12" HDPE	31	LF	$ 50.00	$ 1,550	
End Wall (D-W) 18"	2	EA	$ 3,000.00	$ 6,000	
Rip Rap	3	EA	$ 4,000.00	$ 12,000	
6'H Chain Link Fence	128	LF	$ 170.00	$ 21,760	
12'W (total width) Double Swing Chain Link Fence Gate	1	EA	$ 1,500.00	$ 1,500	
Pre Fab Pre- Cast Building	1	LS	$ 200,000.00	$ 200,000	
Coordination with Electrical and Controls Contractor	1	LS	$ 5,000.00	$ 5,000	
As-Built Plans	1	LS	$ 15,000.00	$ 15,000	
Inspections	1	LS	$ 15,000.00	$ 15,000	
SITE CONSTRUCTION BUDGET SUB-TOTAL					**$ 585,733**
SITE CONSTRUCTION BUDGET TOTAL					**$ 585,733**

ELECTRICAL CONSTRUCTION					
Mobilization/Demobilization	1	LS	$ 11,000.00	$ 11,000	
System Controls	1	LS	$ 45,000.00	$ 45,000	
Electrical Supply and Panels	1	LS	$ 50,000.00	$ 50,000	
Conduits and New Electric Meter Base	1	LS	$ 29,000.00	$ 29,000	
Site Lighting - Supply and Install	1	LS	$ 4,000.00	$ 4,000	
Coordination with General/Site Contractor	1	LS	$ 7,000.00	$ 7,000	
ELECTRICAL CONSTRUCTION SUB-TOTAL					**$ 146,000**
ELECTRICAL CONSTRUCTION BUDGET TOTAL					**$ 146,000**
TOTAL CONSTRUCTION BUDGET TOTAL					**$ 731,733**

General Notes

1. This estimate is based on the Pump Station Design Plans prepared by T&M Associates dated 11/14/2025
2. This estimate reflects the site construction costs to the General Contract and doesn't include the GC's markups.
3. This estimate may not represent the ongoing supply chain issues at time of bid.
4. This estimate is an engineering opinion of costs and is not a cost warranty/guarantee.
5. Cents are not shown on the cost breakdown for clarity.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-7. In the Application's Section 15, PAWC-WD indicated that the estimated construction cost for the Main Extension is approximately $383,375. However, this cost estimate appears to only include costs of the 1,760 LF of eight-inch wastewater gravity main and 955 LF of two-inch wastewater force main as identified in the Application's Section 13 and does not include, among other things, manholes and the Pump Station. Please provide a revised detailed breakdown of the construction cost for the proposed facilities that include all the facilities needed to provide service to the Requested Territory.

RESPONSES:

Please see responses and attachments to **A-6**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Gerald DeBalko, Senior Manager
Engineering Project Delivery
Pennsylvania-American Water Company
Date: May 18, 2026

A-8. In the Application's Exhibit G, PAWC-WD provided a copy of an engineering report (Engineering Report) prepared by an identified employee of PAWC-WD. Pursuant to 52 Pa. Code § 3.514(a)(3)(i), the application shall include an engineering report that contains a full description of the proposed collection main extension for the wastewater system and the manner, including the pipe sizes, quantities and material used for construction for all collection facilities and the approximate time schedule for installation of the various component facilities of the main extension. However, the Engineering Report does not appear to provide a full description of the Main Extension, including all associated appurtenances (e.g., manholes, etc.), the Pump Station including the number, type and capacity of the pump(s), and the projected schedule for installation of the various component facilities of the Main Extension. Additionally, the Commission notes that an engineering report must be prepared and stamped by a professional engineer licensed by the Commonwealth of Pennsylvania, and it does not appear the individual that prepared the report is a licensed engineer. Please provide an Engineering Report that includes a full description of the Main Extension including all associated appurtenances (e.g., pipes, laterals, manholes, etc.), the Pump Station including the number, type and capacity of the pumps, and the projected schedule for installation of the various component facilities of the Main Extension along with the signature and seal of the licensed engineer who was responsible for the preparation of the document.

RESPONSE: Please see Engineering Report at **Attachment A-8.** Furthermore, see a complete detailed description of the associated appurtenances and pump stations at **Attachments A-6.1 and 6.2**.

In re: Application of Pennsylvania-American Water Company for Approval of the Right to Offer, Render, Furnish or Supply Wastewater Service to the Public In an Additional Portion of East Fallowfield Township, Chester County Pennsylvania

Attachment A-8

Updated Engineering Report

PENNSYLVANIA
AMERICAN WATER

Coatesville Water and Wastewater System
New Development on Doe Run Road
Engineering Report

Pennsylvania American Water Company (PAWC) will provide water and wastewater services to the new South Brandywine Elementary School, which will be located at 600 Doe Run Road in East Fallowfield Township, PA.

The school will extend the nearest PAWC water main approximately 2570 feet with 12-inch ductile iron pipe. There will be a meter pit. For the time being, there are no special fixtures, though there may be a tank constructed in the future.

The school will extend the nearest PAWC sewer main approximately 1760 feet with 8-inch PVC as well as approximately 955 feet 2-inch SDR18. There will also be a sewer pump station constructed.

All of these assets will be at the developer's cost but will be designed and constructed to PAWC standard and specifications.

Kelly Jacunski
Kelly.Jacunski@amwater.com
171 W Johnson Highway
Norristown, PA 19401

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-9. The DEP Planning Module Approval Letter was conditioned upon requiring PAWC-WD to secure a Water Quality Management Permit (WQM Permit) for construction and operation of the Pump Station. Please indicate whether CASD and/or PAWC-WD has applied for a WQM Permit for the Main Extension and Pump Station and, if so, provide a copy of the WQM Permit application and clarify when PAWC-WD projects it will receive WQM Permit approval from DEP.

RESPONSE:

The WQM Permit was issued on February 2, 2026. Please see attached permit at **Attachment A-9**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-9

WQM Permit for East Fallowfield Project

Pennsylvania
Department of
Environmental Protection

February 2, 2026

Gerald DeBalko
PA American Water Co.
52 Wesley Drive
Mechanicsburg, PA 17055-4436

Re: WQM Permit - Sewage
Coatesville Sewer System & STP
Permit No. 1525407
Authorization ID No. 1556067
East Fallowfield Township, Chester County

Dear Permittee:

Your Water Quality Management (WQM) permit is enclosed. You must comply with all Standard and Special Conditions attached to this Permit. Construction must be done in accordance with the permit application and all supporting documentation. Please review the permit conditions and the supporting documentation submitted with your application before starting construction.

Please note that you are responsible for securing all other required permits, approvals and/or registrations associated with the project, if applicable, under Chapters 102 (erosion and sedimentation control), 105 (stream obstructions and encroachments) and 106 (floodplains) of DEP's regulations. Construction may not proceed until all other required permits have been obtained.

Enclosed is the "Water Quality Management Post Construction Certification" form. A Pennsylvania-registered Professional Engineer must sign and complete this form prior to startup of the facilities. You or your authorized representative must also sign the form. This certification and other post-construction documentation must be submitted to DEP within 30 days of completion of the project and must be received by DEP prior to commencing operation of the facilities.

Any person aggrieved by this action may appeal the action to the Environmental Hearing Board (Board), pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. § 7514, and the Administrative Agency Law, 2 Pa.C.S. Chapter 5A. The Board's address is:

Environmental Hearing Board
Rachel Carson State Office Building, Second Floor
400 Market Street
P.O. Box 8457
Harrisburg, PA 17105-8457

TDD users may contact the Environmental Hearing Board through the Pennsylvania Relay Service, 800-654-5984.

Appeals must be filed with the Board within 30 days of receipt of notice of this action unless the appropriate statute provides a different time. This paragraph does not, in and of itself, create any right of appeal beyond that permitted by applicable statutes and decisional law.

A Notice of Appeal form and the Board's rules of practice and procedure may be obtained online at www.ehb.pa.gov or by contacting the Secretary to the Board at 717-787-3483. The Notice of Appeal form and the Board's rules are also available in braille and on audiotape from the Secretary to the Board.

IMPORTANT LEGAL RIGHTS ARE AT STAKE. YOU SHOULD SHOW THIS DOCUMENT TO A LAWYER AT ONCE. IF YOU CANNOT AFFORD A LAWYER, YOU MAY QUALIFY FOR FREE PRO BONO REPRESENTATION. CALL THE SECRETARY TO THE BOARD AT 717-787-3483 FOR MORE INFORMATION. YOU DO NOT NEED A LAWYER TO FILE A NOTICE OF APPEAL WITH THE BOARD.

IF YOU WANT TO CHALLENGE THIS ACTION, YOUR APPEAL MUST BE FILED WITH AND RECEIVED BY THE BOARD WITHIN 30 DAYS OF RECEIPT OF NOTICE OF THIS ACTION.

During construction or upon completing construction, please contact Amy Boginsky, MS, EIT at 484.250.5150 or aboginsky@pa.gov so that an inspection of the facilities may be conducted, at DEP's discretion.

Sincerely,

Thomas L. Magge

Thomas L. Magge
Environmental Program Manager
Clean Water Program

Enclosures

cc: Michael Gable – T&M Associates
East Fallowfield Township
Chester County Health Department
Operations
File

3850-PM-BCW0015d 3/2016
Permit

Pennsylvania Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

WATER QUALITY MANAGEMENT PERMIT

PERMIT NO. 1525407

AMENDMENT NO. _____

APS ID. 1154541

AUTH. ID. 1556067

A. PERMITTEE (Name and Address): CLIENT ID#: **87712** **PA American Water Co.** **852 Wesley Drive** **Mechanicsburg, PA 17055-4436**	B. PROJECT/FACILITY (Name): **Coatesville Sewer System & STP**
C. LOCATION (Municipality, County): **East Fallowfield Township, Chester County**	SITE ID#: **254792**

D. This permit approves the construction of sewage facilities consisting of:

A pump station that will receive flow from a new Coatesville Area School District elementary school 10" gravity sewer main. The effluent will then be pumped via 4" force main with a total pump capacity of 132 gpm at 34 ft TDH to an existing sanitary sewer manhole on Crossing Boulevard. The pump station will consist of two (2) submersible grinder pumps, valves, controls, access covers, and all other appurtenances; precast concrete wet well with 8-ft interior diameter with effective wet well capacity of 751.6 gal; valve and metering chamber; 10" PVC pipe between manhole MH-B1 and proposed wet well; control building; extension of 1" water service line from 12" watermain in Doe Run Road to install yard hydrant

Pump Stations: **Doe Run Road Pump Station**	Manure Storage:	Sewage Treatment Facility:
Planning approved flow: 4 GPM	Volume: _____ MG	Annual Average Flow: _____ MGD
Peak instantaneous flow: 47 GPM	Freeboard: _____ inches	Design Hydraulic Capacity: _____ MGD
		Design Organic Capacity: _____ lb/day

E. APPROVAL GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING:

1. **New Permits:** All construction, operations and procedures shall be in accordance with the Water Quality Management Permit application dated **12/16/25**, its supporting documentation and addendums dated _____, which are hereby made a part of this permit.

   Amendments: All construction, operations and procedures shall be in accordance with the Water Quality Management Permit Amendment application dated _____ and its supporting documentation and addendums dated _____, which are hereby made a part of this amendment.

   Except for any herein approved modifications, all terms, conditions, supporting documentation and addendums approved under Water Quality Management Permit No. _____ dated _____ shall remain in effect.

   Transfers: Water Quality Management Permit No. _____ dated _____ and conditions, supporting documentation and addendums are also made part of this transfer.

2. Permit Conditions Relating to Sewerage are attached and made part of this permit.
3. Special Conditions _____ are attached and made part of this permit.

F. THE AUTHORITY GRANTED BY THIS PERMIT IS SUBJECT TO THE FOLLOWING FURTHER QUALIFICATIONS:

1. If there is a conflict between the application or its supporting documents and amendments and the attached conditions, the attached conditions shall apply.
2. Failure to comply with the rules and regulations of DEP or with the terms or conditions of this permit shall void the authority given to the permittee by the issuance of this permit.
3. This permit is issued pursuant to the Clean Streams Law Act of June 22, 1937, P.L. 1987, as amended 35 P.S. §691.1 *et seq*. Issuance of this permit shall not relieve the permittee of any responsibility under any other law.

PERMIT ISSUED: **February 2, 2026**

BY: Thomas L. Magge

Thomas L. Magge
TITLE: **Clean Water Program Manager**
Southeast Regional Office

Pennsylvania Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF POINT AND NON-POINT SOURCE MANAGEMENT

PERMIT CONDITIONS RELATING TO SEWERAGE

For use in Water Quality Management Permits

(Check boxes that apply)

General

☒ 1. The Department of Environmental Protection (DEP) considers the licensed Professional Engineer whose seal is affixed to the design documents to be fully responsible for the adequacy of all aspects of the facility design.

☒ 2. The permittee shall adopt and enforce an ordinance requiring the abandonment of privies, cesspools or similar receptacles for human waste and onlot sewage disposal systems on the premises of occupied structures accessible to public sewers. All such structures must be connected to the public sewers.

☐ 3. The outfall sewer or drain shall be extended to the low water mark of the receiving body of water. Where necessary to ensure proper mixing and waste assimilation, an outfall sewer or drain may be extended with appurtenances below the low water mark and into the bed of a navigable stream provided that the permittee has secured an easement, right-of-way, license or lease from DEP in accordance with Section 15 of the Dam Safety and Encroachments Act, the Act of November 26, 1978, P.L. 1375, as amended.

☒ 4. The approval is specifically made contingent on the permittee acquiring all necessary property rights, by easement or otherwise, providing for the satisfactory construction, operation, maintenance and replacement of all sewers or sewerage structures in, along or across private property with full rights of ingress, egress and regress.

☒ 5. When construction of the approved sewerage facilities is completed and before they are placed in operation, the permittee shall notify DEP in writing so that a DEP representative may inspect the facilities.

☒ 6. The approval of the plans, and the authority granted in this permit, if not specifically extended, shall cease and be null and void 5 years from the issuance date of this permit unless construction or modification of the facilities covered by this permit has begun on or before the fifth anniversary of the permit date.

☒ 7. If, at any time, the sewerage facilities covered by this permit create a public nuisance, including but not limited to, causing malodors or causing environmental harm to waters of the Commonwealth, DEP may require the permittee to adopt appropriate remedial measures to abate the nuisance or harm.

☒ 8. If, after the issuance of this permit, DEP approves a municipal sewage facilities official plan or an amendment to an official plan under Act 537 (Pennsylvania Sewage Facilities Act, the Act of January 24, 1966, P.L. 1535 as amended) in which sewage from the herein approved facilities will be treated and disposed of at other planned facilities, the permittee shall, upon notification from the municipality or DEP, provide for the conveyance of its sewage to the planned facilities, abandon use and decommission the herein approved facilities including the proper disposal of solids, and notify DEP accordingly. The permittee shall adhere to schedules in the approved official plan, amendments to the plan, or other agreements between the permittee and municipality. This permit shall then, upon notice from DEP, terminate and become null and void and shall be relinquished to DEP.

☒ 9. This permit does not relieve the permittee of its obligations to comply with all federal, interstate, state or local laws, ordinances and regulations applicable to the sewerage facilities.

☒ 10. This permit does not give any real or personal property rights or grant any exclusive privileges, nor shall it be construed to grant or confirm any right, easement or interest in, on, to or over any lands which belong to the Commonwealth.

☒ 11. The authority granted by this permit is subject to all effluent requirements, monitoring requirements and other conditions as set forth in the NPDES Permit and all subsequent amendments and renewals. No discharge is authorized from these facilities unless approved by an NPDES Permit.

Construction

☒ 12. This permit is issued under the authorization of The Clean Streams Law and 25 Pa. Code Chapter 91. The permittee shall obtain all necessary permits, approvals and/or registrations under 25 Pa. Code Chapters 102, 105 and 106 prior to commencing construction of the facilities authorized by this permit, as applicable. The permittee should contact the DEP office that issued this permit if there are any questions concerning the applicability of additional permits.

☒ 13. The facilities shall be constructed under the supervision of a Pennsylvania licensed Professional Engineer in accordance with the approved reports, plans and specifications.

☒ 14. A Pennsylvania licensed Professional Engineer shall certify that construction of the permitted facilities was completed in accordance with the application and design plans submitted to DEP, using the "Post Construction Certification" form (3800-PM-WSFR0179a). It is the permittee's responsibility to ensure that a Professional Engineer is on-site to provide the necessary oversight and/or inspections to certify the facilities. The certification must be submitted to DEP before the facility is placed in operation. As-built drawings, photographs (if available) and a description of all deviations from the application and design plans must be submitted to DEP within 30 days of certification.

☒ 15. Manhole inverts shall be formed to facilitate the flow of the sewage and to prevent the stranding of sewage solids. The manhole structure shall be built to prevent undue infiltration, entrance of street wash or grit and provide safe access to facilitate manhole maintenance activities.

☐ 16. The local Waterways Conservation Officer of the Pennsylvania Fish and Boat Commission (PFBC) shall be notified when the construction of any stream crossing and/or outfall is started and completed. A written permit must be secured from the PFBC if the use of explosives in any waterways is required and the permittee shall notify the local Waterways Conservation Officer when explosives are to be used.

Operation and Maintenance

☒ 17. The permittee shall maintain records of "as-built" plans showing all the treatment facilities as actually constructed together with facility operation and maintenance (O&M) manuals and any other relevant information that may be required. Upon request, the "as-built" plans and O&M manuals shall be filed with DEP.

☒ 18. The sewers shall have adequate foundation support as soil conditions require. Trenches shall be back-filled to ensure that sewers will have proper structural stability, with minimum settling and adequate protection against breakage. Concrete used in connection with these sewers shall be protected from damage by water, freezing, drying or other harmful conditions until cured.

☒ 19. Stormwater from roofs, foundation drains, basement drains or other sources shall not be admitted directly to the sanitary sewers.

☒ 20. The approved sewers shall be maintained in good condition, kept free of deposits by flushing or other cleaning methods and repaired when necessary.

☒ 21. The sewerage facilities shall be properly operated and maintained to perform as designed.

☐ 22. The attention of the permittee is called to the highly explosive nature of certain gases generated by the digestion of sewage solids when these gases are mixed in proper proportions with air and to the highly toxic character of certain gases arising from such digestion or from sewage in poorly ventilated compartments or sewers. Therefore, at all places throughout the sewerage facilities where hazard of fire, explosion or danger from toxic gases may occur, the permittee shall post conspicuous permanent and legible warnings. The permittee shall instruct all employees concerning the aforesaid hazards, first aid and emergency methods of meeting such hazards and shall make all necessary equipment and material accessible.

☐ 23. An operator certified in accordance with the Water and Wastewater Systems Operator Certification Act of February 21, 2002, 63 P.S. §§1001, *et seq*. shall operate the sewage treatment plant.

☒ 24. The permittee shall properly control any industrial waste discharged into its sewerage system by regulating the rate and quality of such discharge, requiring necessary pretreatment and excluding industrial waste, if necessary, to protect the integrity or operation of the permittee's sewerage system.

☒ 25. There shall be no physical connection between a public water supply system and a sewer or appurtenance to it which would permit the passage of any sewage or polluted water into the potable water supply. No water pipe shall pass through or come in contact with any part of a sewer manhole.

☒ 26. All connections to the approved sanitary sewers must be in accordance with the official Act 537 Plan and, if applicable, a corrective action plan as contained in the approved Title 25 Pa. Code Chapter 94 Municipal Wasteload Management Annual Report.

☒ 27. Collected screenings, slurries, sludge and other solids shall be handled and disposed of in compliance with Title 25 Pa. Code Chapters 271, 273, 275, 283 and 285 (related to permits and requirements for land filling, land application, incineration and storage of sewage sludge), Federal Regulations 40 CFR 257 and the Federal Clean Water Act and its amendments.

Pennsylvania Department of Environmental Protection

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF CLEAN WATER

WATER QUALITY MANAGEMENT
POST CONSTRUCTION CERTIFICATION

PERMITTEE IDENTIFIER	
Permittee	PA American Water Co.
Municipality	East Fallowfield Township
County	Chester
WQM Permit No.	1525407
Facility Type	Sewage

All of the above information should be taken directly from the Water Quality Management Permit.

CERTIFICATION

This certification must be completed and returned to the permits section of the DEP's regional office issuing the WQM permit within 30 days of completion of the project and received by DEP prior to operation, and if requested, as-built drawings, photographs (if available) and a discussion of any DEP-approved deviations from the design plans during construction.

I, being a Registered Professional Engineer in Pennsylvania, do hereby certify to the best of my knowledge and belief, based upon personal observation and interviews, that the above facility approved under the Water Quality Management Permit has been constructed in accordance with the plans, specifications and modifications approved by DEP.

Construction Completion Date (MM/DD/YYYY): _____

	Professional Engineer
	Name _____ (Please Print or Type)
	Signature
	Date
	License Expiration Date
	Firm or Agency
	Telephone
	Permittee or Authorized Representative
	Name _____ (Please Print or Type)
Engineer's Seal	Signature
	Title
	Telephone

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-10. The Application's Confidential Exhibit A-1 included a copy of a confidential map depicting the Requested Territory. Please provide a public version of the map for the Requested Territory.

RESPONSE:

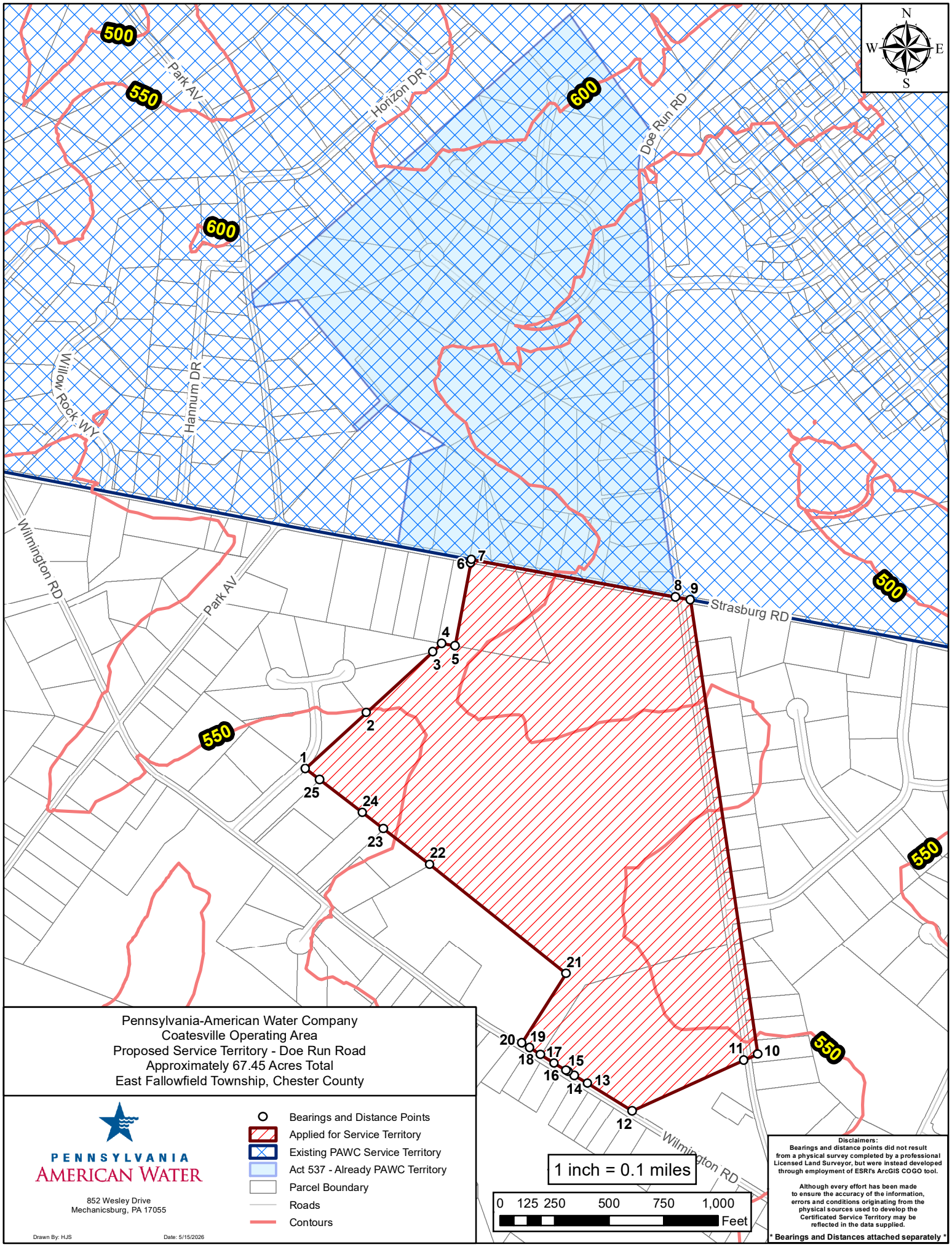
Please find a public version of the map attached as **Attachment A-10**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-10

Public Version of Map of Applied for Service Territory


N
W
E
S
500
550
600
Park AV
Horizon DR
Doe Run RD
Willow Rock WY
Hannum DR
Wilmington RD
Strasburg RD
1
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25
Pennsylvania-American Water Company
Coatesville Operating Area
Proposed Service Territory - Doe Run Road
Approximately 67.45 Acres Total
East Fallowfield Township, Chester County
PENNSYLVANIA
AMERICAN WATER
852 Wesley Drive
Mechanicsburg, PA 17055
Drawn By: HJS
Date: 5/15/2026
Bearings and Distance Points
Applied for Service Territory
Existing PAWC Service Territory
Act 537 - Already PAWC Territory
Parcel Boundary
Roads
Contours
1 inch = 0.1 miles
0 125 250 500 750 1,000
Feet
Disclaimers:
Bearings and distance points did not result from a physical survey completed by a professional Licensed Land Surveyor, but were instead developed through employment of ESRI's ArcGIS COGO tool.
Although every effort has been made to ensure the accuracy of the information, errors and conditions originating from the physical sources used to develop the Certificated Service Territory may be reflected in the data supplied.
* Bearings and Distances attached separately *

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-11. In the Application's Section 23, PAWC-WD indicated that it will provide wastewater service to the Requested Territory under the rules and regulations of its Commission-approved tariff. However, the Application does not appear to include the applicable rate zone and rates, by customer class, for the Requested Territory. Please clarify the applicable rate zone and rates, by customer class, for the Requested Territory.

RESPONSE:

The school will be under Rate Zone 1 and will be classified as a Commercial account.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-12. Please quantify the total number of proposed customers, by customer class, in the Requested Territory.

RESPONSE:

Currently, there will be one customer hooked up which will be the Coatesville Area School District.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Aldaine R. Alphonse
Senior Regulatory Analyst – Pennsylvania-American Water Company
Date: May 18, 2026

A-13. Please provide a detailed breakdown of PAWC-WD's projected annual revenues, by customer class, and the estimated annual expenses that will be realized as part of this Application.

RESPONSE:

Please see estimated annual revenues and expenses at **Attachment A-13**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-13

Estimated Revenues and Expenses for Applied for Service Territory

Estimated Annual Revenue and Expense
in Application Territory
Wastewater

Line No.		1 Commercial Customer	Total
1	**Annual Revenue**		
2	Average Monthly Usage (100 Gallons)	1,779.38	
3	Monthly Service Charge	$36.70	
4	Usage Charge per 100 Gallons	$2.1986	
5	Service Charge (26 EDUs)	$954.20	
6	Usage Charge	$3,912.14	
7	Monthly Total Revenue	$4,866.34	
8	Annual Commercial Revenue (Ln. 7 x 12 months)	$58,396.08	
9			
10	Estimated Annual Commercial Revenue	$58,396.08	$58,396.08
11			
12	**Total Estimated Annual Revenues**		**$58,396.08**
13			
14	**Estimated Annual Expenses**		
15			
16	Estimated Annual Expenses	$12,052.95	$12,052.95
17			
18	**Total Estimated Expenses Per Year**		**$12,052.95**
19			
20	**Net Income (Ln. 12 - Ln. 18)**		**$46,343.13**

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-14. Please identify all permits, easements, and rights-of-way required for construction of the proposed wastewater facilities along with their associated approval status and costs.

RESPONSE:

The gravity sewer and forcemain are to be installed within the state and Township rights of way. The pump station will be constructed on Township property within an easement for American Water to own and operate the pump station. The Township will grant the pump station easement to PAWC as depicted on the pump station plans at **Attachment 5.1.** No private lands are required for the installation of the sewage conveyance or pump station. It is anticipated that the Township will execute an easement agreement for the pump station in June 2026. A state highway occupancy permit has been approved by PennDOT for the state ROW installation of the gravity line and forcemain can be seen at **Attachment A-14.1**. The Township will issue a building permit for the pump station. East Fallowfield Township has required the pump station and sewer lines to be built to be consistent with the Township Act 537 Plan as a condition of the school's land development approval. Please see attached letter from the Township's Sewage Engineer at **Attachment A-14.2**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-14.1

PENNDOT Approved State Occupancy Permit

pennsylvania
DEPARTMENT OF TRANSPORTATION

Highway Occupancy Permit

Permit No.: **06124498**

Name and Address of Permittee:		
Pennsylvania American Water Company 852 Wesley Drive Mechanicsburg, PA 17055	County: Chester	Issue Date: 1/15/2026
	County Contact No.: (484) 340-3220	Expiration Date: **1/15/2027**
	Issuing District Office: 6-0	Application No.: 389522
	District Contact No.: (610) 205-6790	Account No.: 78001665
	Municipalities: East Fallowfield Township	Permit Fee: $ 1,570.00

Immediately upon completion of the work Permittee shall notify the permit office where application was made. Subject to all the conditions, agreements, restrictions, and regulations prescribed by the Pennsylvania Department of Transportation, (see in particular 67 Pa. Code, Chapter 212, 441 and 459 and State Highway Law, 36 P.S. Section 670 - 411, 420 and 421) and subject to the plans, special conditions, or restrictions herein set forth or attached hereto. This permit shall be located at the work site and shall be available for inspection by any police officer or Department representative.

Location and Description of Work

Permit No.: **06124498**

1 of 1	State Route #:	0082	611: Install Sub-surface Water Facility 613: Replace Sub-surface Water Facility
	Segment(s):	From 0372 To 0382	
	Offset(s):	From 1360 To 1518	

Permit Conditions

Permit No.: **06124498**

1 of 17	NOTIFY THE TRAFFIC MANAGEMENT CENTER AT 610-205-6500 PRIOR TO SETTING UP ANY LANE CLOSURES OR RESTRICTIONS, AND WHEN THE CLOSURE/RESTRICTION IS REMOVED.
2 of 17	CONTACT COUNTY PERMIT INSPECTOR AT LEAST 3 WORK DAYS PRIOR TO START OF WORK AT 484-235-3838.
3 of 17	AN INSPECTOR, WHEN AVAILABLE, WILL BE ASSIGNED ON MORE THAN A SPOT INSPECTION BASIS. PERMITTEE WILL BE CHARGED ALL INSPECTION COSTS INCURRED BY THE DEPARTMENT.
4 of 17	FACILITY MAY BE PLACED IN PAVEMENT OR SHOULDER, AS PER PLANS, PROVIDED BASE AND WEARING COURSES ARE OPENED BY SAW CUT METHOD.
5 of 17	THIS PERMIT AUTHORIZES WORK ONLY IN DEPARTMENT HIGHWAY RIGHT OF WAY.
6 of 17	2A COARSE AGGREGATE BACKFILL MATERIAL IS REQUIRED UNDER 67 PA CODE, SECTION 459.8 (G)(2) AND SECTION 703.2 OF PUBLICATION 408.
7 of 17	FULL LANE OVERLAY IS REQUIRED, AS PER REGULATION 459.8.
8 of 17	DEPARTMENT MUST BE NOTIFIED IN WRITING UPON COMPLETION OF WORK.
9 of 17	THE PERMITTEE IS REQUIRED TO USE HOT MIX OR WARM MIX MATERIAL FOR TEMPORARY RESTORATION. COLD MIX WILL BE PERMITTED AT THE DISCRETION OF THE DEPARTMENT. PERMITTEE MUST MAINTAIN A SMOOTH PAVEMENT SURFACE SUITABLE FOR DRIVING FOR THE DURATION OF THE TEMPORARY PAVEMENT.
10 of 17	IT IS THE PERMITTEE'S RESPONSIBILITY TO IDENTIFY ALL PENNDOT OWNED/OPERATED FACILITIES WITHIN THE LIMITS OF PERMITTED WORK. IF DAMAGED BY THE PERMITTED WORK, IT IS PERMITTEES RESPONSIBILITY TO CONTACT THE DEPARTMENT IMMEDIATELY AND RESTORE THE FACILITY TO ITS ORIGINAL CONDITION OR AS DIRECTED BY THE DEPARTMENT.

pennsylvania
DEPARTMENT OF TRANSPORTATION

Highway Occupancy Permit

Permit No.: **06124498**

Permit Conditions	Permit No.: **06124498**
11 of 17	ALL DISTURBED AREAS OUTSIDE THE PAVEMENT OR SHOULDER SHALL BE RESTORED TO A CONDITION AT LEAST EQUAL TO THAT WHICH EXISTED BEFORE THE START OF WORK.
12 of 17	NO LANES MAY BE RESTRICTED BETWEEN THE HOURS OF 6:00 AM TO 9:00 AM OR BETWEEN THE HOURS OF 3:00 PM TO 6:00 PM.
13 of 17	PERMITTEE IS RESPONSIBLE FOR ENSURING THAT MUD, SILT AND OTHER DEBRIS IS REMOVED FROM VEHICLES AND TIRES (BY POWER WASH, ETC.) BEFORE ENTERING ONTO THE HIGHWAY.
14 of 17	CONTRACTOR MUST CONTACT PENNDOT'S DISTRICT PRESS OFFICE AT LEAST 5 WORKING DAYS PRIOR TO ANY LANE RESTRICTION AND 10 WORKING DAYS PRIOR TO ANY FULL CLOSURE BY COMPLETING A DIGITAL ROAD RESTRICTION FORM AT www.bit.ly/d6rrform. INCLUDE COUNTY AT C-KECAVANA@PA.GOV AND JAMSTEELE@PA.GOV AT BOTTOM OF FORM UNDER ADDITIONAL CONTACT EMAILS.
15 of 17	UPDATED RMS PAVEMENT HISTORY FORMS IN PDF FORMAT MUST BE SUBMITTED TO THE PENNDOT COUNTY INSPECTOR AND EMAILED TO THE RMS UNIT IN DISTRICT 6-0 TO jodurkin@pa.gov , mitpatel@pa.gov , vmorales@pa.gov and c-abaxter@pa.gov. THE PERMIT WILL NOT BE CLOSED OUT AND SECURITY WILL NOT BE REDUCED OR RELEASED UNTIL THIS IS COMPLETE.
16 of 17	SPREADING, FINISHING AND COMPACTION OF THE TEMPORARY PAVEMENT MATERIAL SHALL LEAVE THE SURFACE SMOOTH AND LEVEL WITH THE EDGE OF EXISTING PAVEMENT. THE DISTANCE AT ANY POINT FROM A TEN (10) FOOT STRAIGHT EDGE TO THE SURFACE SHALL NOT EXCEED ONE-HALF (1/2) INCH IN ANY DIRECTION FOR THE DURATION OF TEMPORARY RESTORATION. LUMPS OR DEPRESSIONS EXCEEDING THIS TOLERANCE SHALL BE CORRECTED BY REMOVING DEFECTIVE WORK AND REPLACING WITH NEW MATERIAL AS DIRECTED.
17 of 17	Install 1,770LF +/- 8" and 10" gravity sanitary main along the westerly side of Doe Run Road SR 0082 to a new pump station located on the easterly side of Doe Run (Sanitary main trench opening in pavement=10,670 SF+/-,opening in shoulder=80 SF+/-, opening outside of shoulder =25SF+/-). Install 461LF+/- 4" Diameter Force Main along the westerly side of Doe Run Road SR 0082 (Sanitary Force main opening in pavement=2,773SF+/-, opening in shoulder=25SF +/-) then east along the northern side of Crossing Blvd. 989LF+/- to an existing gravity manhole located in Crossing Blvd. The sanitary sewer work for this application requires some adjustments to the horizontal location of the proposed water main extension permitted under HOP application #361739, (permit #06120853) The proposed water main is 3024LF +/- with opening in pavement= 7,107SF+/-, opening in the shoulder=3,029SF+/-, and opening outside the shoulder = 2,729SF+/-.

Acknowledgement of Completion	Michael B. Carroll Secretary of Transportation
Permit work has been completed: Date: By:	Din Abazi, P.E. District Executive

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

Attachment A-14.2

Letter from Township Sewage Engineering

610-356-9550
FAX 610-356-5032

Herbert E. MacCombie, Jr., P.E.

CONSULTING ENGINEERS & SURVEYORS, INC.
1000 PALMERS MILL ROAD
MEDIA, PA 19063

REPLY TO:
P.O. BOX 118
BROOMALL, PA 19008-0118

James W. MacCombie, P.E., P.L.S.
Herbert E. MacCombie, III, Technician

October 4, 2024

Mr. Scott Swichar, Township Manager
East Fallowfield Township
2264 Strasburg Road
East Fallowfield, PA 19320

RE: Coatesville Area School District
South Brandywine Elementary School
Component 3 Sewage Facilities Planning Module Review #2
DEP Code No. 1-15918-267-3J

Dear Mr. Swichar:

Please be advised that our office is in receipt of the following documents for review for the subject project:

1. Revised Component 3 Sewage Facilities Planning Module for the Coatesville Area School District South Brandywine Elementary School project, prepared by T&M Associates, dated September 25, 2024.

The subject 51.6 Acre tract of land is situated along the westerly side of Doe Run Road (SR 0082) and the southerly side of Strasburg Road (SR 3062). The tract is designated for on-lot sewage disposal in the Township's 1982 Act 537 Plan. However, the Township's for public sanitary sewer service in the Township's 2023 Act 537 Plan Update, which was submitted to the DEP for review in October 2023, contemplates the tract being serviced by public sanitary sewer service. The applicant has prepared a Component 3 Sewage Facilities Planning Module (DEP Code No. 1-15918-267-3J) in support of a new elementary school to replace an existing aging middle school. The module proposes connection to the Pennsylvania American Water Company (PAWC) existing public sanitary sewer system to service the proposed development. The revised planning module proposes connection of the new school by gravity sanitary sewer to a proposed pump station within the East Fallowfield Township park with a force main to be installed with connection to the existing PAWC gravity sanitary sewer main within the public right-of-way of Crossing Boulevard in the Brook Crossing development.

Based on our review of the revised Component 3 Planning Module, the following comments are offered for consideration of the East Fallowfield Township Planning Commission and Board of Supervisors in processing the Sewage Facilities Planning Module and Preliminary/Final Land Development Plan. Unresolved comments from Review 1 are included in this letter. New comments are in **bold** text.

1. PA DEP Transmittal Letter – The Municipal Secretary shall print, sign, and date the Transmittal Letter prior to the Board's adoption of the Resolution for Plan Revision for New Land Development and submission to the DEP for review and approval.

2. PA DEP Project Completion Checklist – The Municipal Secretary shall sign and date the Certification Statement prior to the Board's adoption of the Resolution for Plan Revision for New Land Development and submission to the DEP for review and approval.

    a. A letter from PAWC indicating that water service will be provided to the project needs to be provided, included in the planning module, **and the check box marked accordingly**. **A letter from PAWC dated July 15, 2024 has been included with the revised planning module. The applicable check box on the Completeness Checklist needs to be marked accordingly.**
    b. The total sewage flows to facilities table shall be completed, included in the planning module, and check box marked accordingly.
    c. Signature of the existing collection and/or conveyance Chapter 94 report preparer needs to be obtained, included in the planning module, and the check box marked accordingly.
    d. Signature of the existing treatment facility Chapter 94 report preparer needs to be obtained, included in the planning module, and the check box marked accordingly.
    e. The "Municipal Action" portion shall be completed upon the applicant satisfactorily addressing the comments contained herein and prior to the Board of Supervisors passing the resolution for plan revision.

3. Resolution for Plan Revision for New Land Development – The Board of Supervisors shall adopt the Resolution for Plan Revision for New Land Development and the Municipal Secretary shall certify the Resolution for Plan Revision for New Land Development form prior to submission to the DEP for review and approval and upon the applicant satisfactorily addressing the comments contained herein.

4. Component 3 Sewage Facilities Planning Module Form

    a. Section B – The Title for David Porter needs to be changed to "Township Sewage Consultant Engineer."

    The requested change has been made. This matter is resolved.

    b. Section E – The name of the water company needs to be revised to "Pennsylvania American Water Company."

    It appears that the check box for "A proposed public water supply" needs to be checked instead of "An existing public water supply."

c. Section G.1.a – The Clean Streams Law Permit Number needs to be provided.

The CSL Permit Number has been provided as requested. Matter resolved.

d. Section G.2.b – The Certification Statement needs to be completed and signed by the Wastewater Treatment Facility Responsible Agent.

The Certification Statement needs to be signed and dated by the Responsible Agent.

e. Section G.4.b – A copy of the applicable Chapter 105 General Permit needs to be provided to the Township for records.

Since the project will connect to the PAWC future pump station, the Chapter 105 Utility Line Stream Crossing Permit is no longer applicable to this project. The check boxes reflect this, accordingly. Matter resolved.

f. Section I.2 – The applicant checked the box indicating that "the proposed project will result in a new or increased discharge of a pollutant into waters that DEP has identified as being impaired by that pollutant" and that "a pre-planning meeting was held with the appropriate DEP regional office staff." The applicant also edited the module document to indicate that this meeting is "pending." The applicant shall coordinate with the Township so that its representatives may participate in this meeting.

The check box has been revised to be unchecked. Matter resolved.

g. Section J.1 – The Project Flows should be based on a unit flow allocation of 225 gpd/EDU. The 26 EDU's indicated in Section G.1.b equates to 5,850 gallons per day. The Project Flows identified in this section need to be revised accordingly.

The Project Flows have been revised as requested. Matter resolved.

h. Section J – Shall be completed, signed, and dated by the responsible agent of the Collection, Conveyance, and Treatment facility owners.

i. Section P – A copy of the required Public Notice needs to be provided and included in the Planning Module, along with all comments received and responses to these comments, prior to the Board's adoption of the Resolution for Plan Revision.

A copy of the Affidavit of Publication of the Public Notice of a 30-day Public Comment period has been included in the planning module. If no public comments were received, a statement to this effect needs to be included in the module.

5. Project Narrative

a. In the 6th paragraph, the units "feet" appears to be omitted from the dimension of the proposed public pump station to the school property.

The dimensional reference has been removed from the Project Narrative. Matter resolved.

b. In the 7th paragraph:

(1) "Brooks" Crossing should be corrected to "Brook" Crossing.
The name of the existing development has been corrected in the Project Narrative as requested. This matter is resolved.

(2) It is indicated that "PAWC will own and maintain the force main that is located within the public rights-of-way of Doe Run Road and Crossing Boulevard." A letter to this effect needs to be provided by PAWC.

6. Alternatives Analysis

a. In the 10th paragraph, "Brooks" Crossing should be corrected to "Brook" Crossing.

The name of the existing development has been corrected in the Alternatives Analysis as requested. This matter is resolved.

b. **In the 9th paragraph, the units "feet" appears to be omitted from the dimension of the proposed public pump station to the school property.**

c. Item 1 – The Township understands the timing of the Act 537 Plan Update may not be coincident with the CASD's sewage planning and land development timeline. Therefore, the Township recommends that the CASD team facilitate a partnership with PAWC and the Township in order to facilitate construction of a public pump station and gravity sanitary sewer collection main within Doe Run Road as the selected alternative. The CASD would only be responsible for its proportionate share of the cost of the improvements. This alternative would be more consistent with the Township's Plan Update currently under review by the DEP and would eliminate unnecessary construction of infrastructure and associated cost. In addition, it would eliminate the need for the CASD to own, operate, and maintain a pump station. It is recommended that, as part of the alternatives analysis, a cost analysis be prepared to evaluate these alternatives. A meeting should be coordinated between the CASD, East Fallowfield Township, and PAWC in this regard.

Several meetings were held with the CASD's consultants, PAWC, and subsequently with the PADEP regarding the timing of the Technical Review

of the Township's Act 537 Plan Update, PAWC's subsequent expansion of franchise area through the Pennsylvania Utilities Commission (PUC), and the CASD's project timeline. In addition, a Cost Evaluation was included in the Alternatives Analysis. The Component 3 Module was subsequently revised to contemplate connection of the new school by gravity sanitary sewer in Doe Run Road that will drain to a pump station to be constructed within the Township Park with conveyance to the existing PAWC gravity sewer within the Brook Crossing community, which is consistent with the Township's Act 537 Plan Update currently under technical review by the PADEP. Matter resolved.

7. Component 4A needs to be included in the module for completion by the East Fallowfield Township Planning Commission prior to adoption of the planning module by East Fallowfield Township.

8. Component 4B needs to be included in the module for completion by the Chester County Planning Commission prior to adoption of the planning module by East Fallowfield Township.

9. Component 4C needs to be included in the module for completion by the Chester County Health Department prior to adoption of the planning module by East Fallowfield Township.

Upon completion of Components 4A, 4B, and 4C, receipt of a capacity certification from PAWC, satisfactorily addressing the comments contained in this letter, and completion of the required public notification, including responding to all comments, the planning module may then be adopted by the Board of Supervisors and returned to the applicant for submission to the Pennsylvania Department of Environmental Protection (PADEP) or forwarded by the Township directly to the DEP for review and approval.

Very truly yours,

David M. Porter, P.E.
East Fallowfield Township,
Sewage Consultant Engineer

cc: Mr. Nathan M. Cline, P.E., Township Engineer
Mr. Barry Stingel, T&M Associates
File

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: James P. Kelly - Manager, Operations
Pennsylvania-American Water Company
Date: May 18, 2026

A-15. Pursuant to 52 Pa. Code § 3.514(d)(3), an application must identify other certificated wastewater public utilities or municipally owned public wastewater systems that are directly adjacent to, abut, or are situated within one mile of the proposed extension of the applicant's distribution main. However, the Application does not appear to include this information. Please identify other certificated wastewater public utilities or municipally owned public wastewater systems that are directly adjacent to, abut, or are situated within one mile of the Main Extension.

RESPONSE: There are no providers within a mile of the Main Extension. The closest provider of wastewater service is South Coatesville Borough Public Works which is a 1.5 miles away.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Jana Hurst, Senior Paralegal
Pennsylvania-American Water Company
Date: May 18, 2026

A-16. In the Application's Section 12, PAWC-WD indicated that Pennsylvania-American Water Company (PAWC) intends to file a separate application (Water Application) for the right to provide water service to the Requested Territory. Please clarify when PAWC plans to file the Water Application as the Application indicates the New Elementary School's "Construction is expected to be completed by August 2026 to coincide with the start of the new school year."

RESPONSE:

The Water Application will be filed by the end of the month.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

PAWC RESPONSES TO SET I DATA REQUESTS

Responsible Witness: Kelly Jacunski, EIT
Engineering Project Manager – Pennsylvania-American Water Company
Date: May 18, 2026

A-17. The Application's Exhibit M included a copy of a Resolution from the Board of Supervisors of East Fallowfield Township dated October 22, 2024, that conditionally approved CASD's Preliminary Land Development Application for the New Elementary School including the accompanying plans (Land Development Plans) dated March 1, 2024, last revised October 4, 2024. Please provide an electronic vector graphic copy of the most recent version of the conditionally approved Land Development Plans.

RESPONSE:

Please find an electronic vector graphic copy attached as **Attachment A-17**.

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

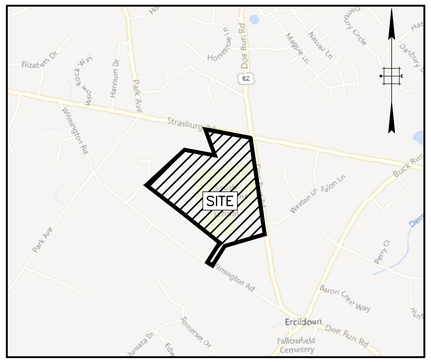
Docket No. A-2026-3061164

Attachment A-17

Electronic Vector Graphic Copy of the Land Development Plan

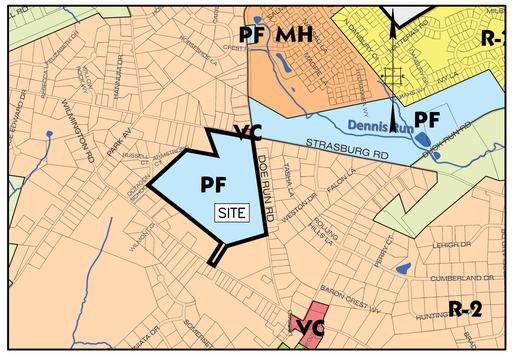
Preliminary/Final Land Development Plan For New Elementary School

Tax Map Parcel 47-4-133
600 DOE RUN RD
East Fallowfield Township, Chester County, Pennsylvania



LOCATION MAP

SCALE: 1"=1000



ZONING MAP

SCALE: 1"=1000

EAST FALLOWFILED TOWNSHIP ZONING:

PF	–	PUBLIC FACILITIES
R–2	–	LOW TO MEDIUM DENSITY RESIDENTIAL
VC	–	VILLAGE COMMERCIAL
MH	–	MOBILE HOME PARK

WAIVER REQUEST:
A WAIVER IS REQUESTED FROM SECTIONS 22–405 AND 22–406 TO ALL THE SUBMISSION AND REVIEW OF THIS PLAN AS A PRELIMINARY / FINAL PLAN INSTEAD OF SUBMITTING SEPARATE PRELIMINARY AND FINALS PLANS.

SHEET INDEX

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
001	COVER SHEET	CVR
002	LEGEND AND NOTES	LEG
003	EXISTING CONDITIONS PLAN – OVERALL	EXC–OA
004	DEMOLITION PLAN – A	DEM–A
005	SITE PLAN – OVERALL	STE–OA
006	SITE PLAN – A	STE–A
007	GRADING PLAN – A	GRD–A
008	DRAINAGE PLAN – A	DRN–A
009	UTILITY PLAN – A	UTL–A
010	UTILITY AND EROSION & SEDIMENT CONTROL PLAN – B	UTL–B
011	LIGHTING PLAN – A	LGT–A
012	LANDSCAPING PLAN – OA	LSP–OA
013	LANDSCAPING PLAN – A	LSP–A
014	LANDSCAPING PLAN – A.1	LSP–A.1
015	LANDSCAPING PLAN – A.2	LSP–A.2
016	LANDSCAPING PLAN – A.3	LSP–A.3
017	LANDSCAPING PLAN – A.4	LSP–A.4
018	LANDSCAPING PLAN – A.5	LSP–A.5
019	EROSION & SEDIMENT CONTROL PLAN – A	E&S–A
019A	EROSION & SEDIMENT CONTROL DRAINAGE AREA PLAN	E&S–DA
020	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN – A	PCSM–A
020A	POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN	PCSM–DA
021	CONSTRUCTION SITE DETAILS – 1	CSD–1
022	CONSTRUCTION SITE DETAILS – 2	CSD–2
022A	CONSTRUCTION SITE DETAILS – 3	CSD–3
022B	CONSTRUCTION DETAILS – 4	CSD–4
023	STORMWATER DETAILS – 1	CSD–SWM–1
024	STORMWATER DETAILS – 2	CSD–SWM–1
025	UTILITY DETAILS	CSD–UTL–1
025A	SANITARY DETAILS	CSD–UTL–2
026	WATER DETAILS	CSD–WAT–1
027	LANDSCAPING DETAILS	LSP–1
028	LANDSCAPING SCHEDULE	LSP–2
029	LIGHTING DETAILS	LGT–1
030	EROSION & SEDIMENT CONTROL DETAILS – 1	E&S–1
031	EROSION & SEDIMENT CONTROL DETAILS – 2	E&S–2
032	EROSION AND SEDIMENT CONTROL NOTES	ENS–3
033	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	PCSM–1
034	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS – 2	PCSM–2
035	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	PCSM–4
036	STORM SEWER PROFILES – 1	PRF–STRM–1
037	STORM SEWER PROFILES – 2	PRF–STRM–2
038	STORM SEWER PROFILES – 3	PRF–STRM–3
039	STORM SEWER PROFILES – 4	PRF–STRM–4
040	STORM SEWER PROFILES – 5	PRF–STRM–5
041	STORM SEWER PROFILES – 6	PRF–STRM–6
042	SANITARY SEWER PROFILES – 1	PRF–SAN–1
043	ADA RAMPS – 1	ADA – 1
044	TRUCK TURN – BUS	ATO–BUS
045	TRUCK TURN – FIRE TRUCK	ATO–FIRE
046	TRUCK TURN – WB–62	ATO–WB–62

OWNER/APPLICANT

COATESVILLE AREA SCHOOL DISTRICT
256 DOE RUN ROAD
THORNDALE, PA 19372
PHONE: 610-466-2400

DESIGN ENGINEER CERTIFICATION

TO THE BEST OF MY KNOWLEDGE, THE PLANS ARE IN CONFORMITY WITH ENGINEERING, ZONING, BUILDING, SANITATION, AND OTHER APPLICABLE EAST PIKELAND TOWNSHIP ORDINANCES AND REGULATIONS.

_____ _____
DESIGN ENGINEER SIGNATURE DATE

STORMWATER MANAGEMENT DESIGN ENGINEER CERTIFICATION

I CHRISTOPHER W. JENSEN, ON THIS DATE _____ , HEREBY CERTIFY TO THE BEST OF MY KNOWLEDGE THAT THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF EAST FALLOWFIELD TOWNSHIP, CODE OF ORDINANCES, CHAPTER 23 STORMWATER MANAGEMENT, EROSION AND SEDIMENT CONTROL AND GRADING.

_____
CHRISTOPHER W JENSEN, PE
PROFESSIONAL ENGINEER, PA. LIC. No. PE076464–E

SURVEYOR'S CERTIFICATION

I HEREBY CERTIFY THAT I, (NAME) _____ , AM A REGISTERED PROFESSIONAL LAND SURVEYOR, LICENSED IN COMPLIANCE WITH THE LAWS OF THE COMMONWEALTH OF PENNSYLVANIA: THAT THIS IS A TRUE AND ACCURATE SURVEY MADE ON THE GROUND COMPLETED BY ME ON THIS _____ DAY OF _____ 20____ THAT ALL THE MARKERS SHOWN THEREON ACTUALLY EXIST; THAT THEIR LOCATION, SIZE, TYPE AND MATERIAL ARE ACCURATELY SHOWN; AND THAT NO ENCROACHMENTS, RIGHTS–OF–WAY, OR EASEMENTS EXIST, EXCEPT AS SHOWN HEREIN.

_____ _____ _____
SURVEYOR SIGNATURE DATE LICENSE NUMBER

STORMWATER MANAGEMENT APPLICANT ACKNOWLEDGEMENT:

I/WE ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED SWM SITE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE MUNICIPALITY, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED TO, AND APPROVED BY, THE CONSERVATION DISTRICT OR MUNICIPALITY (AS APPLICABLE) FOR A DETERMINATION OF ADEQUACY PRIOR TO CONSTRUCTION OF REVISED FEATURES.

_____
OWNER DATE
COATESVILLE AREA SCHOOL DISTRICT

TOWNSHIP PLANNING COMMISSION REVIEW:

APPROVED BY EAST FALLOWFIELD TOWNSHIP PLANNING COMMISSION, THIS _____, _____, 20___.

_____
CHAIRPERSON
_____
MEMBER
_____
MEMBER
_____
MEMBER

CHESTER COUNTY PLANNING COMMISSION REVIEW:
No. _____.

REVIEWED BY THE CHESTER COUNTY PLANNING COMMISSION, THIS _____, _____, 20___.

_____
SECRETARY

TOWNSHIP BOARD OF SUPERVISORS APPROVAL

APPROVED BY EAST FALLOWFILED TOWNSHIP BOARD OF SUPERVISORS ON THIS _____ ,_____, 20___.

_____
CHAIRPERSON
_____
MEMBER
_____
MEMBER

RECORDER OF DEEDS OFFICE

RECORDED IN THE OFFICE FOR RECORDING OF DEEDS, IN AND FOR THE COUNTY OF CHESTER, AT WEST CHESTER, PENNSYLVANIA IN PLAN BOOK NUMBER _____ , PAGE NUMBER _____ , ON THIS _____ DAY OF _____ 20 ___ .

_____ RECORDER OF DEEDS

TOWNSHIP ENGINEER REVIEW

REVIEWED BY EAST FALLOWFIELD TOWNSHIP ENGINEER ON THIS _____, _____ 20____.

_____
TOWNSHIP ENGINEER

CERTIFICATION OF OWNERSHIP AND ACKNOWLEDGEMENT OF SUBDIVISION AND LAND DEVELOPMENT:

ON THIS, THE_____DAY OF_____, 20____ , BEFORE ME, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ _____ WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE IS THE OWNER AND/OR EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, AND THAT HE ACKNOWLEDGES THE SAME TO BE HIS ACT AND PLAN AND DESIRES THE SAME BE RECORDED AS SUCH ACCORDING TO LAW.

WITNESS MY HAND AND SEAL THE DATE AND DATE ABOVE WRITTEN.

MY COMMISSION EXPIRES:

_____ _____
NOTARY PUBLIC OR OTHER OFFICE

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PROJECT INFORMATION:
FILE PATH: O:\Projects\SGA\30065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD30001_COVER.DWG
LAST SAVED: 03/01/2024 11:46 AM BY: TNEE 64 4x4 2024, 5:03PM
LAST SAVE BY: JKelley

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1700 Market Street, Suite 3110
Philadelphia, PA 19103
(215) 282-7846
YOUR GOALS. OUR MISSION.
Structural Engineer SCHRADERGROUP
SCHRADERGROUP
153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

Scale: 1" = 1000'

Drawing Title:
COVER SHEET

Drawing Number:
001

LEGEND

(ORIENTATION & SIZE MAY VARY)

- EX. CONCRETE CURB LINE
- EX. INLET
- EX. MANHOLE
- EX. TREE
- EX. WATER VALVE
- INFILTRATION TEST LOCATION
- EX. TEST PIT
- EX. VENT
- EX. FENCE
- EX. TREELINE
- PROPERTY LINE
- EX. ADJOINING PROPERTY LINE
- EX. RIGHT-OF-WAY LINE
- EX. GAS LINE
- EX. SANITARY SEWER
- EX. WATER LINE
- EX. CABLE TELEVISION CONDUIT
- EX. UNDERGROUND ELECTRIC
- EX. UNDERGROUND TELEPHONE
- EX. STORM SEWER
- EX. BUCKEYE PARTNERS 10" HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE
- EX. SUNOCO 8" HIGH PRESSURE PETROLEUM PRODUCTS PIPELINE

- EX. SIGN
- EX. LIGHT POLE
- EX. FIRE HYDRANT
- EX. POLE
- EX. CONTOUR
- EX. SPOT ELEVATION
- EX. BUILDING
- STEEP SLOPES (15%-25%)
- VERY STEEP SLOPES (>25%)

- NEW SPOT ELEVATION
- NEW BOLLARD
- NEW CONCRETE CURB LINE
- NEW FENCE LINE
- NEW GUIDERAIL
- NEW TREELINE
- NEW INDEX CONTOUR
- NEW INTERMEDIATE CONTOUR
- NEW STORM PIPE
- NEW SANITARY PIPE
- NEW GAS SERVICE
- NEW WATER MAIN
- NEW DOMESTIC SERVICE
- NEW FIRE SERVICE

- NEW BUILDING
- NEW CONCRETE AREA
- NEW ASPHALT PAVEMENT

NEW STORM STRUCTURES

- NEW TYPE C INLET
- NEW TYPE M INLET
- NEW 2X2 YARD DRAIN
- NEW STORMWATER PIPE (VARIOUS SIZES/MATERIALS)
- NEW MANHOLE
- NEW CLEANOUT
- NEW 12X4 DOUBLE BOX
- NEW ENDWALL
- NEW INLET BOX (VARIOUS SIZES)

ZONING DATA

ZONING DISTRICT: PUBLIC FACILITIES (PF)			
EXISTING USE: MIDDLE SCHOOL CAMPUS (CLOSED)			
PROPOSED USE: ELEMENTARY SCHOOL CAMPUS			
PARCEL ID: 47-4-133			
LAND USE CODE: E-20			
	REQUIRED	EXISTING	PROPOSED
MINIMUM LOT AREA:	2 AC	51.6 AC	50.0 AC
MINIMUM LOT WIDTH:			
AT STREET LINE:	150 FT	1590 FT	1615 FT
AT SETBACK LINE:	300 FT	1629 FT	1656 FT
BUILDING SETBACKS:			
FRONT YARD:	80 FT	587 FT	553 FT
SIDE YARD:	50 FT	384 FT	419 FT
REAR YARD:	75 FT	272 FT	258 FT
ACCESSORY STRUCTURES:	20 FT	–	–
MAXIMUM BUILDING ROOF HEIGHT:	3 STORIES OR 35'	</= 35 FT	</= 35 FT
MAX BUILDING COVERAGE:	25%	4.47%	3.53%
MAX LOT COVERAGE:	35%	9.34%	15.15%
MINIMUM LANDSCAPED AREA:	30%	90.66%	84.85%

PARKING REQUIREMENTS:

- 1 SPACE/CLASSROOM + 2 SPACES/1000 SF DEVOTED TO ADMINISTRATIVE USE.
  - NUMBER OF CLASSROOMS (INCLUDES STEAM AND LEARNING SUPPORT ROOMS): 70 SPACES
  - SQUARE FOOTAGE OF ADMINISTRATIVE SPACES: 8,650 SF/1000 = 18 SPACES
  - TOTAL NUMBER OF PARKING SPACES REQUIRED: 88
  - NUMBER OF PARKING SPACES PROPOSED: 210 PASSENGER VEHICLE SPACES + 27 SCHOOL BUS SPACES
- PARKING SPACES SHALL HAVE THE DIMENSIONS OF 10 FT WIDE BY 20 FT LONG.
- THE MINIMUM WIDTH OF ANY ENTRANCE AND EXIT DRIVES SHALL BE 14 FT FOR ONE-WAY ACCESS, AND 24 FT FOR TWO-WAY ACCESS.
- PARKING LANES WITH 90° PARKING SHALL HAVE A MINIMUM WIDTH OF 21 FT FOR ONE-WAY DRIVE AISLES, AND 24 FT FOR TWO-WAY DRIVE AISLES.
- PARKING LANES WITH 60° PARKING SHALL HAVE A MINIMUM WITH OF 18 FT FOR ONE-WAY DRIVE AISLES, AND 22 FEET FOR TWO WAY-DRIVE AISLES.
- PARKING LANES WITH 45° PARKING SHALL HAVE A MINIMUM WIDTH OF 16 FT FOR ONE-WAY DRIVE AISLES, AND 20 FT FOR TWO-WAY DRIVE AISLES.

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVEGROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF THE PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974, AS AMENDED BY ACT 181 OF 2006, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. PA ONE CALL SYSTEM AT 1-800-242-1776. SERIAL NO. 20211533695 WAS PLACED FOR SURVEY PURPOSES ONLY.

2023251273I-000

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\0006\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD0006D1_LEGend.dwg
LAST SAVED: Wednesday, 28 Feb 2024, 4:25PM
LAST SAVE BY: Scadman

EXISTING DATA SOURCE NOTES:

1. EXISTING FEATURES SHOWN ARE BASED ON A SURVEY PLAN PREPARED BY CARROLL ENGINEERING CO., DATED OCTOBER 19, 2023. BOUNDARY INFORMATION SHOWN IS FROM ACTUAL FIELD SURVEYS PERFORMED BY CARROLL ENGINEERING CO.
2. HORIZONTAL DATUM IS IBASED ON PENNSYLVANIA STATE PLANE NAD83. METES AND BOUNDS ARE LABELED PER STATE BEARINGS.
3. VERTICAL DATUM IS BASED ON NADV88.
4. BOUNDARY IS BASED ON FIELD LOCATED MONUMENTATION FOUND ON SUBJECT TRACT AS WELL AS ADJOINING PROPERTIES. DEED OF RECORD FOR SUBJECT TRACT WAS RECORDED IN THE CHESTER COUNTY RECORDER OF DEED IN DEED BOOK 2290 PAGE 117.
5. BY GRAPHIC PLOTTING ONLY THE FOLLOWING PROERTIES ARE LOCATED IN THE FOLLOWING FLOOD HAZARD ZONES:
   600 DOE RUN ROAD (UPI 47-4-133) ZONE X
   PER FEMA FLOOD MAP NUMBER 42029C0190G

GENERAL NOTES

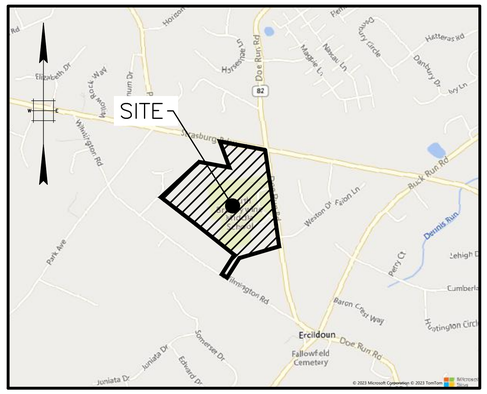
1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT OR DISCREPANCY WITH THE DRAWINGS RELATIVE TO THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN WRITING PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE CONSTRUCTION MEETS ALL APPLICABLE CODE REQUIREMENTS.
2. ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVEGROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL AND VERTICAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF THE PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974, AS AMENDED BY ACT 181 OF 2006, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. PA ONE CALL SYSTEM AT 1-800-242-1776. SERIAL NO. 20211533695 WAS PLACED FOR SURVEY PURPOSES ONLY.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED AND THOROUGHLY REVIEWED ALL PLANS AND OTHER DOCUMENTS AS REQUIRED BY PERMITTING AUTHORITY. CONTRACTOR SHALL TEMPORARY MARK ALL PROPERTY CORNERS WITH VISIBLE MARKERS TO ENSURE NO ENCROACHMENT ONTO THE NEIGHBOR'S PROPERTY OCCUR DURING CONSTRUCTION.
4. ALL PROPOSED IMPROVEMENTS SHALL COMPLY WITH "THE AMERICAN DISABILITIES ACT", "ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES", AND "THE PENNSYLVANIA UNIVERSAL ACCESSIBILITY ACT".
5. THIS PLAN SHALL NOT BE USED FOR BUILDING STAKEOUT PURPOSES. PROPOSED BUILDING LOCATION AS DEPICTED IS WITHIN ACCEPTABLE TOLERANCES FOR SITE WORK ONLY. PLEASE REFER TO ARCHITECTURAL/STRUCTURAL PLANS FOR EXACT BUILDING PLACEMENT.
6. THE BUILDING FOOTPRINTS DEPICTED HEREON HAVE BEEN TRANSPOSED FROM ARCHITECTURAL PLANS. FINAL BUILDING DIMENSIONS MAY VARY SLIGHTLY FROM THOSE DEPICTED HEREON BUT SHALL ULTIMATELY CONFORM TO ALL APPLICABLE ZONING SETBACKS, IMPERVIOUS SURFACE COVERAGE RATIOS, ETC. CONTRACTOR SHALL NOTIFY PROJECT ENGINEER IF FINAL BUILDING FOOTPRINTS SUBSTANTIALLY VARY FROM THE FOOTPRINTS HEREON.
7. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH PENNDOT "PUBLICATION 408", LATEST EDITION, MUNICIPAL STANDARDS AND SPECIFICATIONS, AND UTILITY AUTHORITY/CO. STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE RESTRICTIVE.
8. SIGNED/SEALED STRUCTURAL DESIGN CALCULATIONS AND CONSTRUCTION DETAILS OF PROPOSED RETAINING WALL(S) SHALL BE SUBMITTED BY THE CONTRACTOR TO THE PROJECT ENGINEER AND MUNICIPALITY FOR APPROVAL PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AND COMPLETE ALL WORK INDICATED OR IMPLIED ON THE PROJECT PLANS AND/OR SPECIFICATIONS THAT ARE NOT EXISTING ON THE PROJECT SITE AND THAT ARE NOT SPECIFICALLY NOTED AS 'FUTURE' OR 'NOT IN CONTRACT (NIC)', 'BY OTHERS', 'BY OTHER CONTRACTORS', 'BY EC', 'BY PC', 'BY MC'.
10. THE CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR ANY/ALL CERTIFICATIONS, INSPECTIONS, ETC. REQUIRED BY ALL GOVERNING JURISDICTIONAL AGENCIES DURING AND AFTER CONSTRUCTION FOR SIGN-OFF AND CERTIFICATE OF OCCUPANCY ISSUANCE INCLUDING BUT NOT LIMITED TO PROCUREMENT OF SERVICES, SCHEDULING OF FIELD OBSERVATIONS AND COORDINATION WITH REPRESENTATIVES OF THE APPROPRIATE PARTIES. CONTRACTOR IS RESPONSIBLE TO COORDINATE CERTIFICATIONS, SIGN-OFFS, ETC. NECESSARY FOR JOB CLOSEOUT AND ISSUANCE OF CERTIFICATE OF OCCUPANCY.
11. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY SUCH DISCREPANCY BETWEEN GEOTECHNICAL REPORT AND PLANS, ETC.
12. THE PROPERTY SURVEY AS CERTIFIED SHALL BE CONSIDERED A PART OF THESE PLANS.
13. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO OUR OFFICE AT THE TIME OF PLAN PREPARATION. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ENGINEER IN WRITING IF ACTUAL SITE CONDITIONS DIFFER FROM THAT SHOWN ON THE PLAN, OR IF THE PROPOSED WORK WOULD BE INHIBITED BY ANY OTHER EXISTING SITE FEATURES.
14. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY ENGINEER IN WRITING IF ANY DISCREPANCIES EXIST PRIOR TO PROCEEDING WITH CONSTRUCTION. NO EXTRA COMPENSATION SHALL BE PAID TO THE CONTRACTOR FOR WORK DUE TO DISCREPANCIES OR CONFLICTS ON THE PLANS IF SUCH NOTIFICATION HAS NOT BEEN GIVEN PRIOR TO THE START OF WORK AND MATERIALS PROCUREMENT.
15. RAMPS ARE SHOWN WITH ARROWS POINTING DOWN THE SLOPE OF THE RAMP.
16. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/MEPF PLANS FOR EXACT LOCATIONS AND DIMENSIONS OF ENTRY/EXIT POINTS, ELEVATIONS, PRECISE BUILDING DIMENSIONS, EXACT BUILDING UTILITY SERVICE LOCATIONS AND SITE ELECTRICAL DESIGN.
17. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, COUNTY, STATE AND FEDERAL LAWS AND APPLICABLE CODES. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNSUITABLE MATERIAL IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES AND LAWS.
18. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS, AS WELL AS ADDITIONAL PROVISIONS TO ASSURE STABILITY OF CONTIGUOUS STRUCTURES, AS FIELD CONDITIONS DICTATE.
19. THE CONTRACTOR IS TO EXERCISE CARE WHEN PERFORMING WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES AND FACILITIES THAT ARE TO REMAIN. CONTRACTOR SHALL BE RESPONSIBLE FOR TAKING THE APPROPRIATE MEASURES AS NECESSARY TO ENSURE THE STRUCTURAL STABILITY OF SIDEWALKS AND PAVEMENT TO REMAIN, AND PROVIDE A SAFE WORK AREA.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL INTERCONNECTION CABLE, CONDUITS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION.
21. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO EXISTING ITEMS DURING CONSTRUCTION SUCH AS BUT NOT LIMITED TO DRAINAGE, UTILITIES, PAVEMENT, STRIPING, CURB, SIDEWALK, ETC. REPAIR SHALL BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS. CONTRACTOR IS RESPONSIBLE TO PROVIDE DOCUMENTATION OF THE CONDITION OF EXISTING ITEMS TO THE OWNER'S DESIGNATED REPRESENTATIVE PRIOR TO CONSTRUCTION START.
22. CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED IN SPECIFICATIONS AND REFERENCE DOCUMENTS UNLESS OTHERWISE NOTED ON THE PLANS, DETAILS AND/OR GEOTECHNICAL REPORT.
23. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK DEPICTED ON THESE PLANS NOR ANY CONFLICTS/SCOPE REVISIONS WHICH RESULT FROM THE SAME. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING METHODS/MEANS FOR COMPLETION OF THE WORK TO THE CONSTRUCTION INSTRUCTIONS AND NOTIFICATION OF OWNER AND ENGINEER OF RECORD IN WRITING WHEN A CONFLICT IS IDENTIFIED.
24. NEITHER THE PROFESSIONAL ACTIVITIES OF T&M ASSOCIATES NOR THE PRESENCE OF T&M ASSOCIATES OR ITS EMPLOYEES AND SUB-CONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS, DUTIES AND RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, CONSTRUCTION MEANS, METHODS, SEQUENCE, TECHNIQUES OR PROCEDURES NECESSARY FOR PERFORMING, SUPERINTENDING AND COORDINATING THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND ANY HEALTH OR SAFETY PRECAUTIONS REQUIRED BY ANY REGULATORY AGENCIES. T&M ASSOCIATES AND ITS PERSONNEL HAVE NO AUTHORITY TO EXERCISE CONTROL OVER THE CONSTRUCTION CONTRACTOR OR ITS EMPLOYEES IN CONNECTION WITH THEIR WORK OR HEALTH OR SAFETY PROGRAMS OR PROCEDURES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR JOB SITE SAFETY. THE ENGINEER OF RECORD HEREIN IS NOT RESPONSIBLE FOR JOB SITE SAFETY NOR HAS HE BEEN RETAINED FOR SUCH PURPOSES. T&M ASSOCIATES SHALL BE INDEMNIFIED BY THE CONTRACTOR AND SHALL BE MADE AN ADDITIONAL INSURED UNDER THE CONTRACTOR'S POLICIES OF GENERAL LIABILITY INSURANCE.
25. T&M ASSOCIATES SHALL REVIEW AND COMMENT OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS, SUCH AS SHOP DRAWINGS, PRODUCT DATA, SAMPLES AND OTHER DATA, WHICH THE CONTRACTOR IS REQUIRED TO SUBMIT, BUT ONLY FOR THE LIMITED PURPOSE OF CHECKING FOR CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION SHOWN IN THE CONSTRUCTION MEANS OR METHODS. COORDINATION OF THE WORK WITH OTHER TRADES AND CONSTRUCTION SAFETY PRECAUTIONS ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. T&M ASSOCIATES' REVIEW SHALL BE CONDUCTED WITH REASONABLE PROMPTNESS WHILE ALLOWING SUFFICIENT TIME TO PERMIT ADEQUATE REVIEW. REVIEW OF A SPECIFIC ITEM SHALL NOT INDICATE THAT T&M ASSOCIATES HAS REVIEWED THE ENTIRE ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. T&M ASSOCIATES SHALL NOT BE RESPONSIBLE FOR ANY DEVIATIONS FROM THE CONSTRUCTION DOCUMENTS NOT BROUGHT TO THE ATTENTION OF T&M IN WRITING BY THE CONTRACTOR. T&M ASSOCIATES SHALL NOT BE REQUIRED TO REVIEW PARTIAL SUBMISSIONS OR THOSE FOR WHICH SUBMISSIONS OR CORRELATED ITEMS HAVE NOT BEEN RECEIVED.
26. THIS SHEET IS PART OF A LAND DEVELOPMENT PLAN SET ON RECORD AT THE MUNICIPALITY OF JURISDICTION.
27. ALL CURB RADII SHALL BE MIN. 5' UNLESS OTHERWISE NOTED OR DIMENSIONED.
28. AN AS-BUILT PLAN SHALL BE PREPARED FOR THE PROJECT INDICATING ACTUAL LOCATIONS, DIMENSIONS, AND ELEVATIONS OF ALL COMPLETED IMPROVEMENTS. THE PLAN SHALL BE PREPARED BY A PROFESSIONAL SURVEYOR REGISTERED IN THE STATE OF PENNSYLVANIA AND CERTIFIED BY THE ENGINEER WHO PREPARED THE FINAL PLAN. THE AS-BUILT PLAN SHALL BE FILED WITH THE TOWNSHIP NO LATER THAN NINETY (90) DAYS AFTER THE DATE OF SUBSTANTIAL COMPLETION OF THE DEVELOPMENT.
29. A PENNSYLVANIA NATURAL DIVERSITY INDEX (PNDI) SEARCH (ID: PNDI-795804) WAS PERFORMED ON 11/06/2023, AND NO IMPACTS WERE IDENTIFIED.
30. THE OWNER/EQUITABLE OWNER OF THE PROPERTIES WILL BE RESPONSIBLE FOR THE ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMP'S AND CONVEYANCE SYSTEMS AFTER COMPLETION OF CONSTRUCTION.
31. A BLANKET STORMWATER MANAGEMENT EASEMENT OVER THE ENTIRE SITE IS PROPOSED TO BE GRANTED TO THE TOWNSHIP TO ALLOW LEGAL ACCESS AND MAINTENANCE VEHICLE ACCESS FOR MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES SHOULD THE NEED ARISE.
32. ALL PROPOSED PEDESTRIAN FACILITIES WITHIN THE SITE AND WITHIN THE PUBLIC RIGHT-OF-WAY (INCLUDING CURB RAMPS AND PEDESTRIAN ACCESS ROUTES) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE U.S. ACCESS BOARD, PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) OF THE ACCESSIBILITY GUIDELINES OF BUILDINGS AND FACILITIES (ADAAG), PENNDOT DESIGN MANUAL PART 2, CHAPTER 6, AND PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION (PUBLICATION 72M, RC-67M). UNLESS SPECIFIED OTHERWISE THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO INSTALLATION.
33. PERMANENT MARKERS AND MONUMENTS WILL BE INSTALLED UPON COMPLETION OF FINAL GRADING.

GRADING NOTES

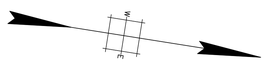
1. VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
2. THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 2% AND THE MINIMUM IN PAVED AREAS SHOULD NOT BE LESS THAN 1%.
3. RUNOFF FROM IMPERVIOUS AREAS SHALL NOT BE DIRECTED INTO THE SANITARY SEWER OR ONTO ADJACENT PROPERTIES.
4. WALLS IN EXCESS OF 30" IN HEIGHT REQUIRE A SAFETY FENCE A MINIMUM OF 42" IN HEIGHT. REFER TO DETAIL SHEETS.
5. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT. ALL DEBRIS FROM REMOVAL OPERATIONS SHALL BE REMOVED FROM THE SITE AT THE TIME OF EXCAVATION. STOCKPILING OF DEBRIS WILL NOT BE PERMITTED.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE / RECORD PLAN WILL SUPERSEDE IN ALL CASES. THE ENGINEER OF RECORD MUST BE IMMEDIATELY NOTIFIED IN WRITING OF ANY CONFLICTS.
7. THE CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS (INCLUDING DEP, ETC.) FOR ALL OFF-SITE HAUL AND/OR BORROW SITES. CONTRACTOR SHALL SUPPLY A COPY OF APPROVALS TO DESIGN ENGINEER AND OWNER PRIOR TO INITIATING WORK.
8. EXISTING INLETS AND STORM SEWER INDICATED AS FILLED W/DEBRIS SHALL BE CLEANED AND FLUSHED. NEW INLETS AND PIPES SHALL BE CHECKED FOR SILT/DEBRIS AFTER CONSTRUCTION AND FLUSHED/CLEANED IF NECESSARY.
9. DEPTH OF EXISTING UTILITIES IN PORTIONS OF THE SITE ARE UNKNOWN. WHERE EXISITNG UTILITIES ARE TO REMAIN AND ARE FOUND TO HAVE INADEQUATE GROUND COVER AFTER FINAL PROPOSED GRADES HAVE BEEN ESTABLISHED, THE DESIGN ENGINEER SHALL BE CONTACTED IMMEDIATELY AND PRIOR TO FURTHER CONSTRUCTION ACTIVITIES IN THE AREA OF SAID CONFLICT.
10. ALL DESIGNERS AND CONTRACTORS UTILIZING THIS PLAN AND THE INFORMATION CONTAINED THEREON ARE CAUTIONED TO COMPLY WITH THE REQUIREMENTS OF PENNSYLVANIA ACT 287. LOCATION OF EXISTING AND PROPOSED UNDERGROUND UTILITIES AND FACILITIES SHOWN ON THE DRAWINGS HAVE BEEN DEVELOPED FROM INFORMATION MADE AVAILABLE. COMPLETENESS AND ACCURACY OF LOCATION AND DEPTH OF UTILITIES AND FACILITIES CANNOT BE GUARANTEED. THE CONTRACTOR IS TO VERIFY THE DEPTH AND LOCATION OF ALL UTILITIES AND FACILITIES BEFORE THE START OF WORK. UTLIUZE HAND EXCAVATION AS REQUIRED. WORK IS ALSO TO BE DONE IN ACCORDANCE WITH THE STANDARDS OF THE UTILITY COMPANIES WHOSE FACILITIES ARE IN THE PROXIMITY OF THE WORK. OTHER UTILITIES MAY BE REQUIREMENTS OF PENNSYLVANIA ACT 38 (1991), THE CONTRACTOR SHALL CONTACT THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776, AT LEAST 3 DAYS PRIOR TO EXCAVATION.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES, AND ALL REGULATIONS APPURTENANT TO THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970. ALL WORK SHALL BE DONE IN ACCORDANCE WITH PROJECT SPECIFICATIONS INCLUDING CURRENT APPLICABLE STANDARDS AND REQUIREMENTS. WHERE ANY STANDARDS SEEM IN CONFLICT WITH THESE DRAWINGS, NOTIFY THE DESIGN ENGINEER AND CONSTRUCTION MANAGER FOR DIRECTION PRIOR TO PROCEEDING WITH WORK.
12. CONTRACTORS SHALL HAVE ALL REQUIRED SUBMITTAL APPROVALS PRIOR TO BEGINNING WORK OR ORDERING MATERIALS.
13. CONTRACTORS SHALL VERIFY ALL DIMENSIONS, INVERTS, ELEVATIONS, AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK OR PROCUREMENT OF MATERIALS. VARIATIONS BETWEEN DRAWINGS AND ACTUAL FIELD CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND RESOLVED PRIOR TO PROCEEDING WITH THE WORK.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY, PROCEDURES, MEANS AND METHODS, SEQUENCING, AND COORDINATION.
15. ALL WORK SHALL BE PERFORMED BY QUALIFIED, EXPERIENCED PERSONNEL.
16. CONTRACTOR SHALL NOTIFY THE OWNER OF PREEXISTING CONDITIONS OF DETERIORATION IN AREAS OF WORK THAT ARE UNCOVERED OR EXPOSED DURING THE WORK.
17. FIELD CHANGES REQUIRE PRIOR DESIGN ENGINEERING REVIEW AND WRITTEN CONFIRMATION.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO ANY SIDEWALKS, LAWN, TREES, PAVING, AND OTHER IMPROVEMENTS DISTURBED OR DAMAGED BY DEMOLITION ACTIVITIES PROPOSED HEREIN.
19. CONTRACTOR SHALL PROVIDE PROPER TEMPORARY BRACING AND SHORING OF ALL CONSTRUCTION TO REMAIN OR DEMOLITION WORK IN PROGRESS.
20. CONTRACTOR SHALL PROVIDE LAYOUT, LINE AND GRADE UNLESS OTHERWISE NOTED.
21. CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES WITHIN THE DRAWINGS, SPECIFICATIONS, CODES OR STANDARDS FOR CORRECTIVE ACTION PRIOR TO START OF WORK.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC. ALL TRAFFIC CONTROL MEASURES SHALL BE IN ACCORDANCE WITH LOCAL, PENNDOT & OSHA REGULATIONS.
23. CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING UTILITIES UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL IMMEDIATELY REPAIR ANY UTILITY LINE INTERRUPTION AT NO ADDITIONAL CONTRACT COST. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AND SUPPORT FOR ALL UTILITIES EXPOSED DURING THE WORK TO INSURE AGAINST DAMAGE AT NO ADDITIONAL COST.
24. CONTRACTOR SHALL PROVIDE TEMPORARY DEWATERING OF EXCAVATIONS THROUGHOUT THE DURATION OF CONTRACT AT NO ADDITIONAL COST.
25. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE DATA. DUE TO THE POTENTIAL LACK OF COMPLETE OR ACCURATE DATA REGARDING EXISTING ONSITE AND OFFSITE UTILITIES, THE CONTRACTOR SHALL ASSESS AVAILABLE DATA, SHALL REQUEST UTILITY COMPANY MARKOUTS, SHALL COORDINATE WITH AFFECTED UTILITY COMPANIES, AND SHALL DIG TEST PITS AT ALL PROPOSED UTILITY CROSSING LOCATIONS SO THAT ELEVATIONS CAN BE TAKEN TO ASSESS POTENTIAL CONFLICTING PIPES/UTILITIES PRIOR TO ANY PROPOSED UTILITY CONSTRUCTION. IF UNEXPECTED UTILITY LOCATIONS OR ELEVATIONS OR PIPE CONFLICTS ARE ENCOUNTERED DURING CONSTRUCTION, OR IF TEST PITS REVEAL POTENTIAL CONFLICT, DESIGN ENGINEER SHALL BE NOTIFIED SO THAT ELEVATIONS AND LOCATIONS (WHERE NECESSARY) OF AFFECTED UTILITIES CAN BE OBTAINED TO FACILITATE NECESSARY DESIGN ADJUSTMENTS.
26. REMOVAL OF EXISTING UTILITIES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES.
27. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.
28. ALL SIDEWALKS, CROSSWALK, TRAILS, ENTRANCES, AND RAMPS TO BE BUILT IN ACCORDANCE WITH ADA STANDARDS. MAXIMUM LONGITUDINAL SLOPE TO BE 5%. MAXIMUM CROSS SLOPE TO BE 2%. IT IS RECOMMENDED TO CONSTRUCT CROSS SLOPES AT 1.5% AND LONGITUDINAL SLOPES AT 4.9% TO ALLOW FOR CONSTRUCTION TOLERANCE.
29. REFER TO ADA CURB RAMP CONSTRUCTION DETAILS AND ADA ACCESSIBILITY PLAN FOR ADDITIONAL INFORMATION SPECIFIC TO CURB RAMP AND ACCESSIBLE ROUTE GRADING.

PLACEMENT OF FILL NOTES:

1. BACKFILLING, TO THE SUBGRADE ELEVATION, SHALL BE DONE IN LAYERS OF SIX (6) TO EIGHT (8) INCHES AND EACH LAYER SHALL BE THOROUGHLY TAMPED BY AN APPROVED MECHANICAL TAMPER TO A MINIMUM DENSITY OF 95% AT OPTIMUM MOISTURE AS DETERMINED BY ASTM D-698 OR AASHTO T-99 WITH SUITABLE BACKFILL MATERIAL. BACKFILLING OR TAMPING WITH TRENCHING MACHINES IS PROHIBITED.
2. THE FILL MATERIAL SHALL CONTAIN THE PROPER MOISTURE CONTENT TO OBTAIN THE REQUIRED COMPACTION. WETTING OR DRYING OF THE MATERIAL OR ANY OTHER MANIPUALTION SHALL BE REQUIRED TO SECURE UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER. IF THE MATERIAL IS TOO WET TO PERMIT PROPER COMPACTION, ALL WORK ON PORTIONS THUS AFFECTED SHALL BE DELAYED UNTIL THE WET MATERIAL HAS EITHER DRIED TO THE MOISTURE CONTENT OR HAS BEEN REMOVED. A LAYER OF FILL SHALL NOT BE ADDED UNTIL THE PREVIOUS LAYER HAS ATTAINED THE REQUIRED PERCENT COMPACTION.
3. SUITABLE BACKFILL MATERIAL IS MATERIAL CONTAINING N



KEY MAP
SCALE: 1" = 1000'



LEGEND

(1) N 45°23'30" W 170.00' (D) — RECORD BOUNDARY COURSE

SUBJECT PROPERTY BOUNDARY

EXISTING RIGHT-OF-WAY LINE

EXISTING ADJOINING PROPERTY LINE

INLETS
UTILITY POLE
UTILITY POLE & STREET LIGHT
GUY WIRE
LIGHT POLE
FIRE HYDRANT
SIGN(S)
CLEANOUT
VENT
GAS METER
GAS VALVE
ELECTRIC METER
WATER METER
WATER VALVE
BOLLARD
FIRE DEPARTMENT CONNECTION
SANITARY SEWER EASEMENT
UTILITY EASEMENT
PROPERTY LINE
ADJACENT PROPERTY LINES
MUNICIPAL BOUNDARY LINE
GUIDE RAIL
FENCE
OVERHEAD WIRE
STORM PIPE
SANITARY LINE
TERMINUS UNKNOWN
ELECTRIC BOX
ELECTRIC MANHOLE
SANITARY MANHOLE
STORM MANHOLE
UNKNOWN MANHOLE
E.O.I. — END OF AVAILABLE INFORMATION
VCP — VITRIFIED CLAY PIPE
RCP — REINFORCED CONCRETE PIPE
JUNCTION BOX
CONCRETE MONUMENT
PROPERTY CORNER FOUND (AS SHOWN)
TG — TOP OF GRATE
SPOT GRADE ELEV.
CONC. — CONCRETE
D.C. — DEPRESSED CURB
TELEPHONE LINE
WATER LINE
GAS LINE
ELECTRIC LINE
EDGE OF PAVEMENT
TREE LINE
RAILROAD TRACK/SIDING
MINOR CONTOUR
MAJOR CONTOUR
2014 PRELIMINARY FEMA FLOOD HAZARD BOUNDARY

STEEP SLOPES LEGEND

15%-25% SLOPES

>25% SLOPES

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SERIAL NO.
20232512731-000

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\0086\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001.EXC.dwg
PLOT DATE: Wednesday, 12 Jun 2024, 8:55AM
LAST SAVE BY: SErkes

80' 40' 0 80' 160'
1" = 80'

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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

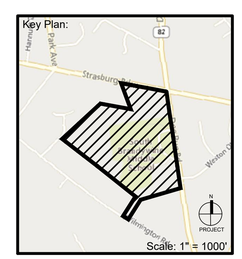
ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:



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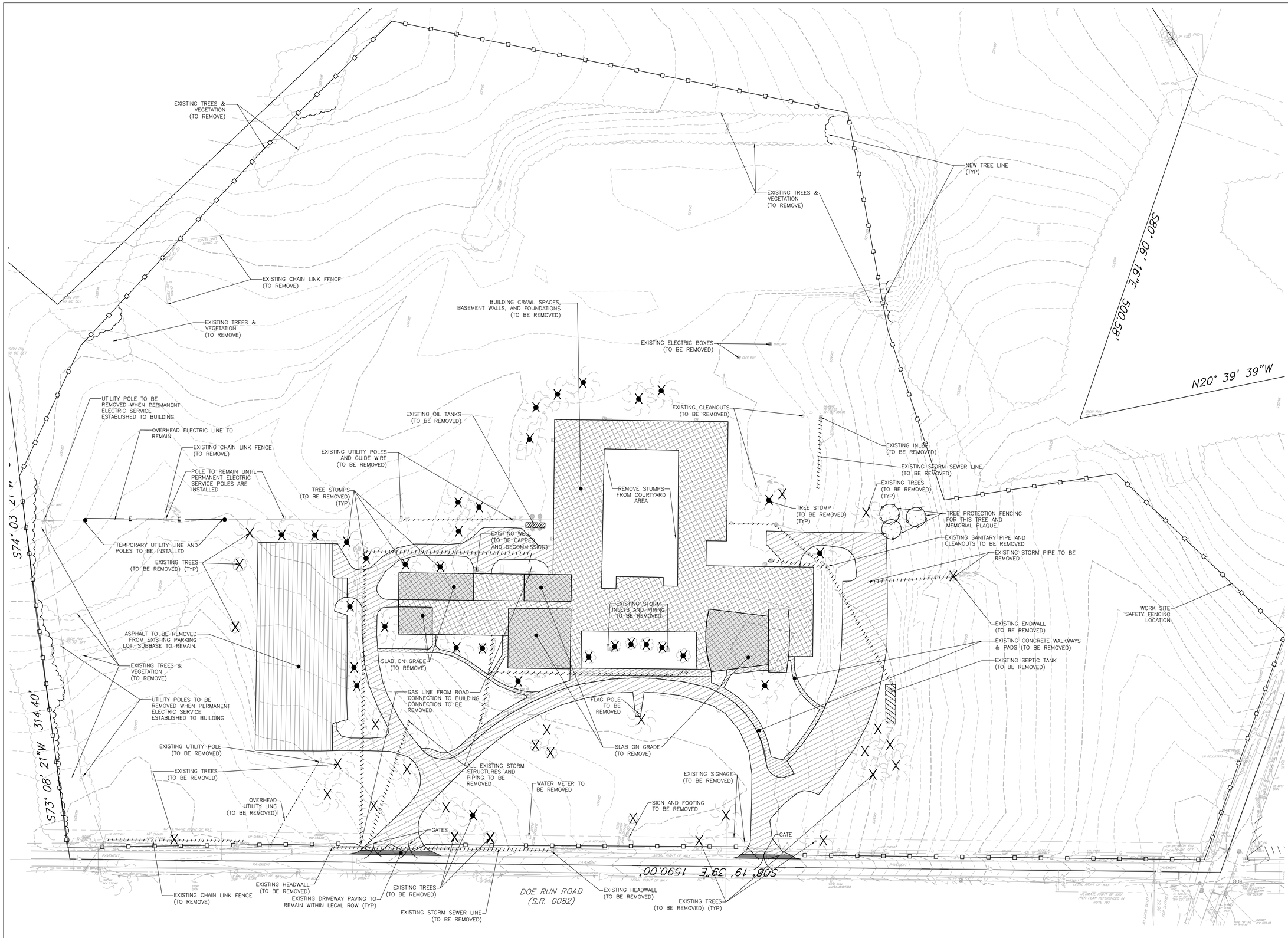
Drawing Title:
EXISTING CONDITIONS PLAN - OVERALL

Drawing Number:
003



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SERIAL NO.
20232512731–000

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\00865\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001.DEM.dwg
EFFECTIVE PLOT DATE: Fri, 04 Oct 2024, 4:32PM
LAST SAVE BY: JKelley

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NO. PE-076464

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PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

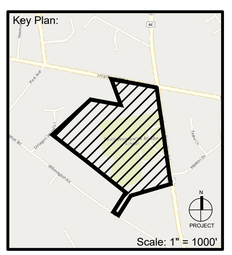
DEMOLITION PLAN
PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


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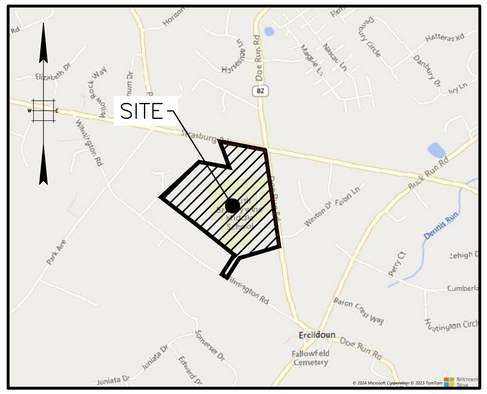
DEMOLITION PLAN - A

Drawing Number:
004



KEY MAP
SCALE: 1" = 1000'

600 DOE RUN RD
PARID: 47040133000E
UPI: 47-4-133
COATESVILLE AREA SCHOOL DISTRICT

DOE RUN ROAD (S.R. 0082)

WILMINGTON ROAD (S.R. 3068)

OCTAGON SCHOOL LN

STRASBURG ROAD (S.R. 3622)

125 WILMINGTON RD
UPI: 47-4-136
PARID: 470401360000
MCQUEEN, GLENN B & NORMA L.

155 WILMINGTON RD
UPI: 47-4-135.1PARID: 470401350100
BROWN, DOLORES R. &
JEFFERY K. ETAL

135 WILMINGTON RD
UPI: 47-4-135.2A
PARID: 470401350240
OCONNOR, CHARLES LIAM & AMY L.

165 WILMINGTON RD
UPI: 47-4-135.3
PARID: 470401350300
BLACK, DAVID A.

195 WILMINGTON RD
UPI: 47-7-45
PARID: 470700450000
KERSTETTER, NEAL R. &
JENNIFER R.

215 WILMINGTON RD
UPI: 47-7-46
PARID: 470700460000
WRIGLEY BRUCE R. &
SANDRA L.

MINGTON RD
17-7-42.2
PARID: 4707 00420200
DAVIS NORMA L.

224 WILMINGTON RD
UPI: 47-7-42.3
PARID: 4707 00420300
DOYLE KENNETH J.

236 WILMINGTON RD
UPI: 47-7-41
PARID: 470700410000
KEEN, SAMUEL W. &
JANET L.

221 WILMINGTON RD
UPI: 47-4-47
PARID: 470700470000E
EAST FALLOWFIELD TOWNSHIP

8 OCTAGON SCHOOL LA
UPI: 47-4-127.1A
PARID: 4704012701A0
TOOMEY, DANIEL M.

9 OCTAGON SCHOOL LA
UPI: 47-4-127.1H
PARID: 4704012701H0
STIRLING, JAMES M. & KATHLEEN M.

13 ARMSTRONG CT
UPI: 47-4-127.1G
PARID: 4704012701G0
VOGEL, ELLEN M.

13 ARMSTRONG CRT
UPI: 47-4-127.1G
PARID: 4704 012701G0
VOGEL ELLEN M.

17 ARMSTRONG CT
UPI: 47-4-127.1F
PARID: 4704012701F0
BEAM, JASON R.

17 ARMSTRONG CRT
UPI: 47-4-127.1F
PARID: 4704 012701F0
BEAM JASON R.

2690 STRASBURG RD
UPI: 47-4-128
PARID: 4704 012800000
YEOMAN DONALD G. &
SUSAN A.

2680 STRASBURG RD
UPI: 47-4-129
PARID: 4704 012900000
COOK ALLEN G. &
DOLORES L.

2670 STRASBURG RD
UPI: 47-4-130
PARID: 470401300000
YUZWIAK, JOHN H. &
SHIRLEY B.

2660 STRASBURG RD
UPI: 47-4-131
PARID: 470401310000
JONES, DAVID C. &
COLEMAN, SUSAN L.

2650 STRASBURG RD
UPI: 47-4-132
PARID: 470401320000
DIGIROLAMO, KEVIN C. &
SAVERY, SARAH

2645 S
UPI:
PARID:
MOSES, TIMM

2635 STRASBUR
UPI: 47-4-4
PARID: 4704004
LAIRD, CINDI PY
THOMAS G.

2635 STRASBURG RD
UPI: 47-4-45
PARID:
470400450000
LAIRD, CINDI PYLE &
THOMAS G.

2635 STRASBURG RD
UPI: 47-4-45
PARID:
470400450000
LAIRD, CINDI PYLE &
THOMAS G.

580 DC
UPI: -
PARID: 47
TOMASSETT
RIC

695 DOE RUN RD
UPI: 47-4-50
PARID: 470400500000
MOYER, KEVIN

691 DOE RUN RD
UPI: 47-4-151
PARID: 470401510000
MOYER, KEVIN

685 DOE RUN RD
UPI: 47-4-149.1
PARID: 470401490100
CRISWELL, WAYNE V. JR. &
ROBIN L.

675 DOE RUN RD
UPI: 47-4-147
PARID: 470401470000
GARVEY, JAMES JR.

665 DOE RUN RD
UPI: 47-4-146
PARID: 470401460000
ALLEWELT, ALISON KAIRER
& SCOTT DANIEL

655 DOE RUN RD
UPI: 47-4-145
PARID:

645 DOE RUN RD
UPI: 47-4-144
PARID: 470401440000
MAGGIORE, DARINA

635 DOE RUN RD
UPI: 47-4-143
PARID: 470401430000
SCOTT, THOMAS R.

625 DOE RUN RD
UPI: 47-4-142
PARID: 470401420000
PINEDA, VERONICA

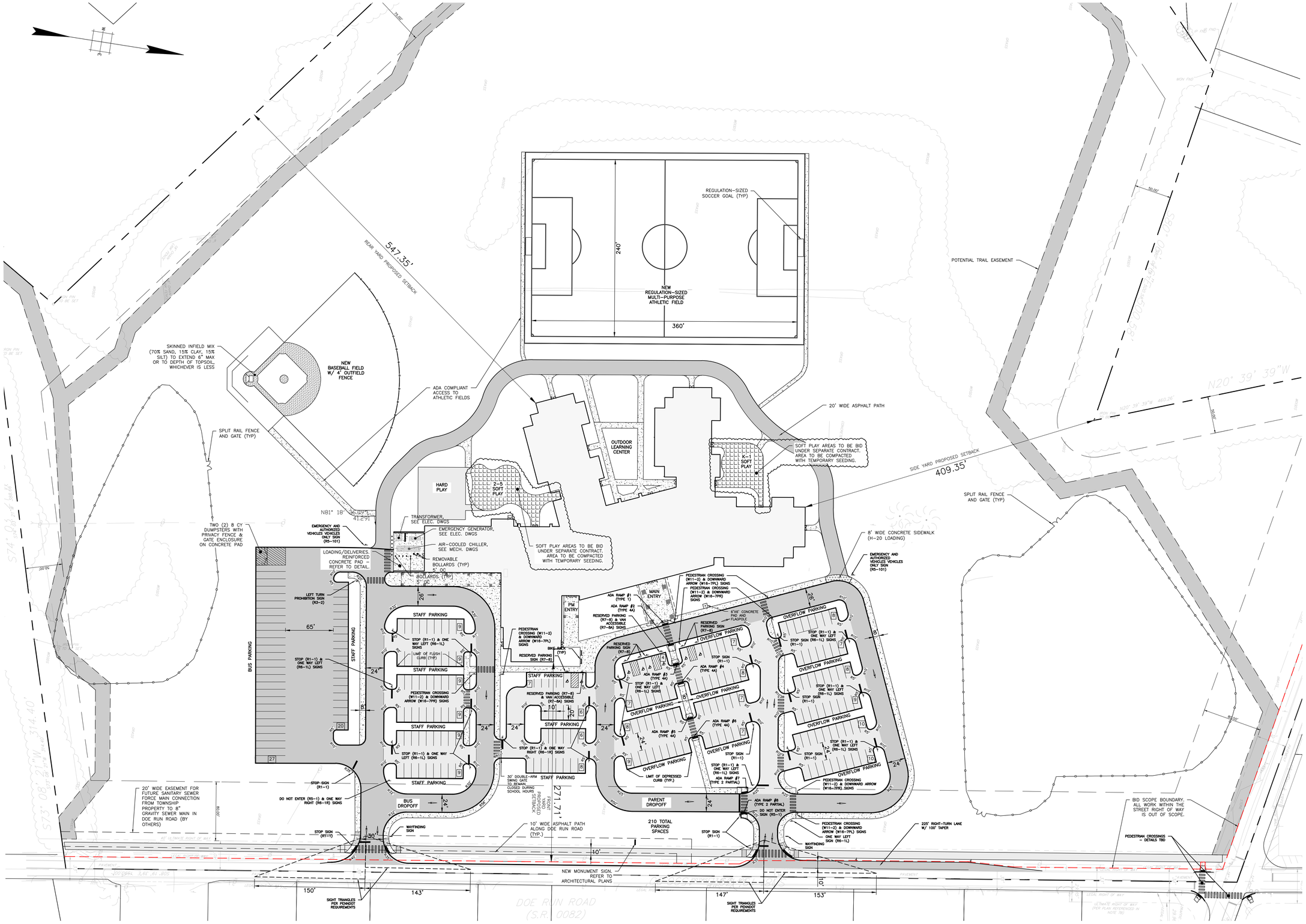
615 DOE RUN RD
UPI: 47-4-141
PARID: 470401410000
GEERS, CHRISTOPHER D. &
ELISABETH V.

605 DOE RUN RD
UPI: 47-4-153.2
PARID: 470401530200
LOMAX, BRIAN F. JR &
MARKISHA T.

908 BUCK RUN RD
UPI: 47-4-92.1
PARID: 470400920100
EAST FALLOWFIELD TOWNSHIP

20' PRIP. TRAIL EASEMENT

N55° 51' 19"W 1807.31'
N20° 39' 39"W 460.26'
N11° 31' 27"W 407.27'
S17° 40' 03"W 388.66'
S13° 08' 27"W 1100.85'
S47° 35' 10"W 1807.31'
S47.35'
N20° 39' 39"W 409.35'
N72° 21' 27"E 1271.71'
N17° 38' 33"W 75.00



LEGEND

- NEW CONCRETE AREA
- NEW HEAVY DUTY CONCRETE AREA
- PLAY AREA
- PROPOSED BUILDING
- HEAVY DUTY PAVING
- LIGHT DUTY PAVING
- ROAD SIGN
- ACCESSIBLE PARKING
- PEDESTRIAN CROSSWALK
- TRAFFIC DIRECTION ARROWS
- BID SCOPE BOUNDARY

50' 25' 0 50' 100'
1" = 50'

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20232512731-000

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\VO065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD0003 - SITE.dwg
LAST PLOTTED: Wednesday, 9 Oct 2024, 4:36PM
LAST SAVE BY: JeKley

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PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

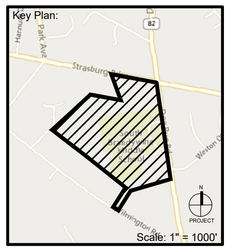
PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

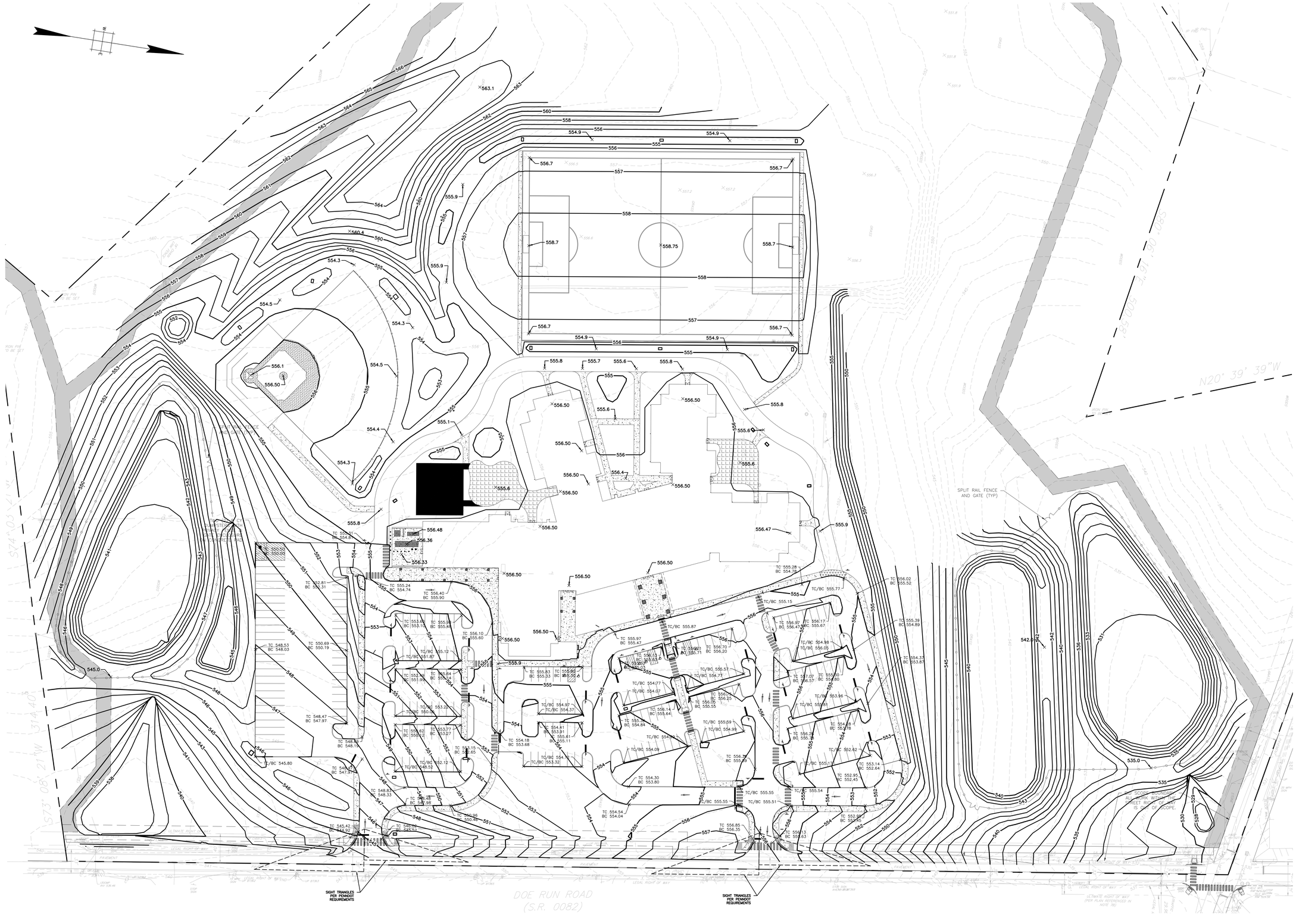
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
SITE PLAN - A

Drawing Number:
006



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555 E North Lane, Suite 5100, Building D
Conshohocken, PA 19428
p: 215 482 7440
f: 215 482 7441
www.sgarc.com

Consultants:

Civil:

T&M Associates
1700 Market Street, Suite 3110
Philadelphia, PA 19103
(215) 282-7846

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Structural Engineer

SCHRADERGROUP
153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
No. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
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PHONE: 610 466-2400

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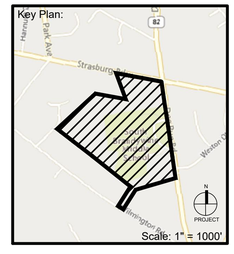
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:



Scale: 1" = 1000'

Drawing Title:
GRADING PLAN - A

Drawing Number:
007

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\00045\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_GRD.dwg
LAST SAVED: Friday, October 04, 2024 - 4:49PM
LAST SAVE BY: JKelley

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20232012731–000

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Civil:

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153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — CHRISTOPHER W. JENSEN — ENGINEER — NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.

PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

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5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

Drawing Title:
DRAINAGE PLAN - A

Drawing Number:
008

LEGEND

(ORIENTATION & SIZE MAY VARY)

- NEW TYPE C INLET
- NEW MODIFIED TYPE C INLET
- NEW TYPE M INLET
- NEW MODIFIED TYPE M INLET
- NEW 4' DIAMETER MANHOLE
- NEW D-W ENDWALL
- NEW INLET WITH 18"X18" GRATE CONVERSION
- NEW CLEANOUT (SIZE VARRIES)

50' 25' 0 50' 100'
1" = 50'

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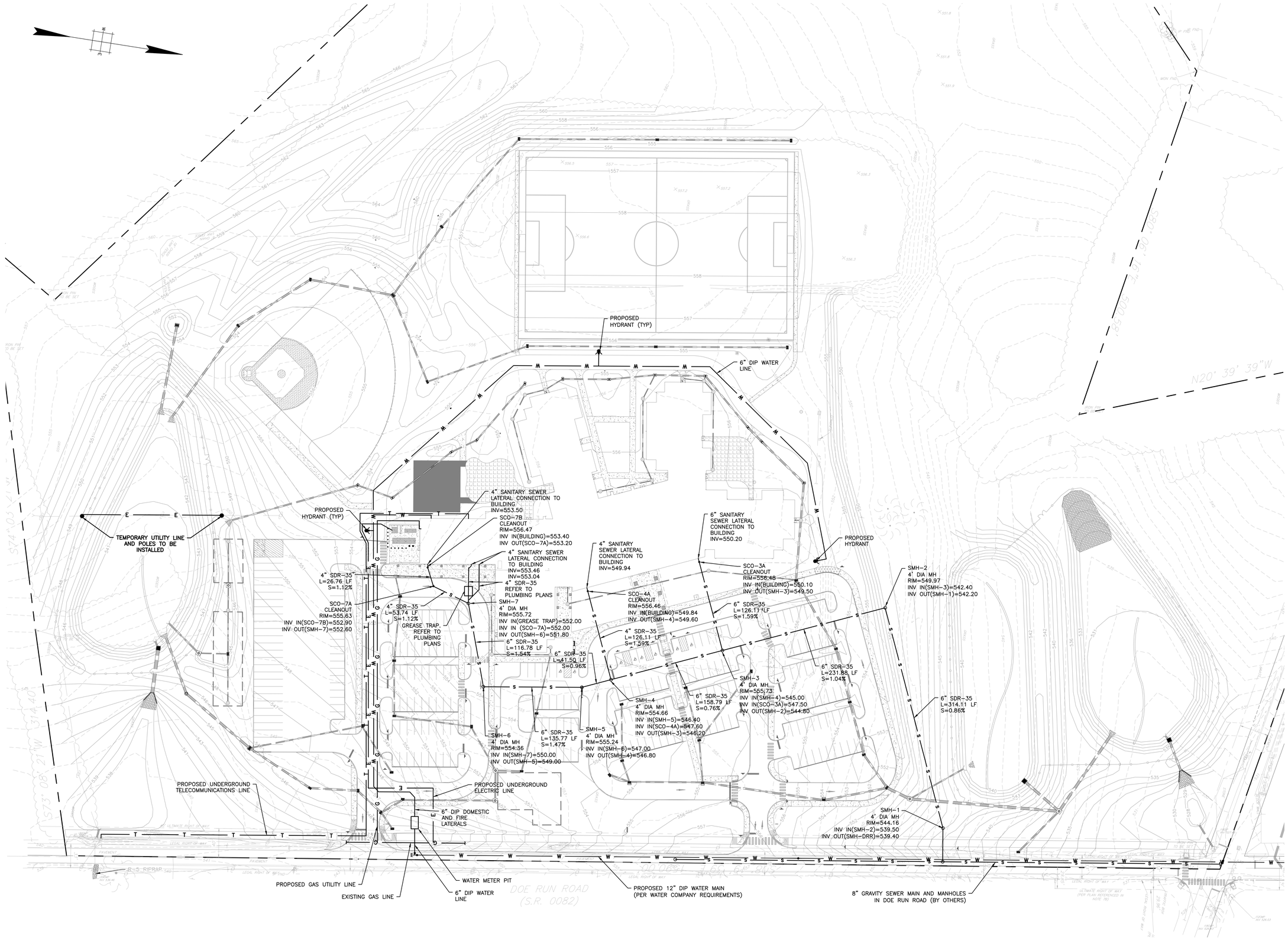
20232512731-000

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\23066\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD23066D1_LRH.dwg
LAST PLOTTED: Thursday, October 31, 2024 at 4:52PM
LAST SAVE BY: JHelley



50' 25' 0 50' 100'
1" = 50'

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20232912731-000

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00045\Calculations & Reports\CAD - South Brandywine ES\Plans\
FILE NAME: CAS00000_UTL.dwg
PLOT DATE: Thursday, October 24, 2024 - TIME: 04:04PM
LAST SAVE BY: JKelley

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Professional Seal:
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REGISTERED PROFESSIONAL
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ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
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3030 C G ZINN ROAD
PHONE: 610 466-2400

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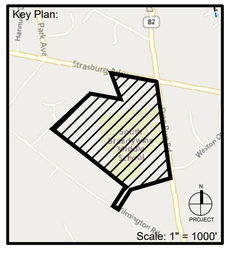
6	TOWNSHIP RESUBMISSION	10/4/2024

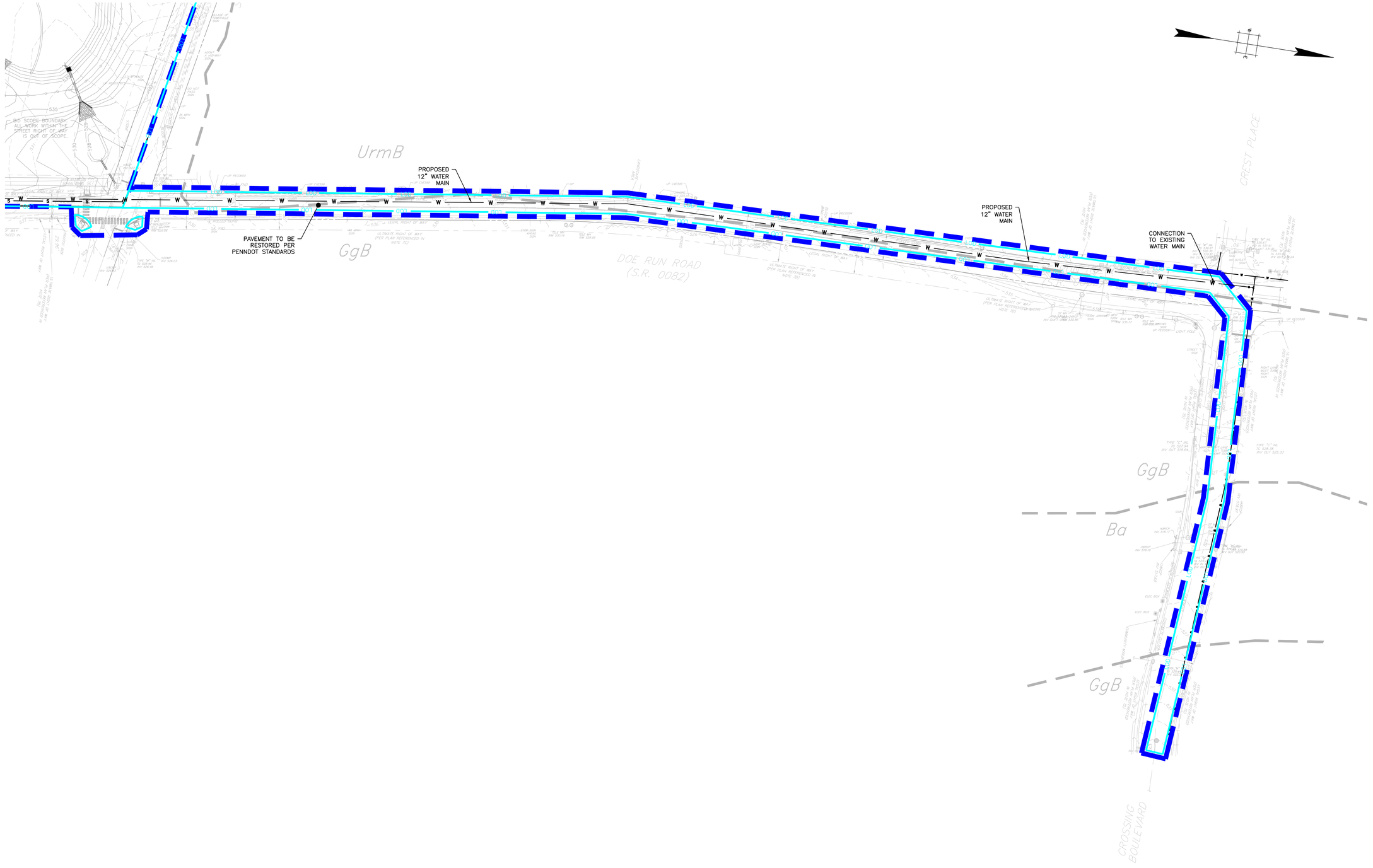
DATE: 03/01/2024

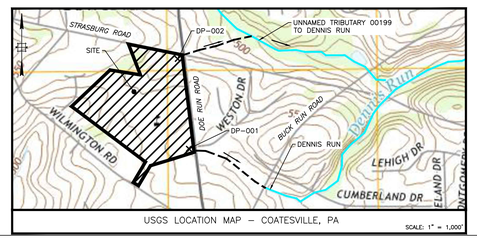
SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
UTILITY PLAN - A

Drawing Number:
009





SOILS – ONSITE				
SOIL SYMBOL	SOIL NAME	HSG	AREA (ACRES)	% OF DISTURBED AREA
CdB	CHESTER SILT LOAM	B	9.25	27.90%
GgB	GLENELG SILT LOAM	B	14.67	44.30%
UrmB	URBAN LAND–GLENELG COMPLEX	B	9.18	27.70%

SOILS – OFFSITE UTILITY CONNECTION				
SOIL SYMBOL	SOIL NAME	HSG	AREA (ACRES)	% OF DISTURBED AREA
GgB	GLENELG SILT LOAM	B	0.66	44.30%
UrmB	URBAN LAND–GLENELG COMPLEX	B	0.47	45.20%
Ba	BAILE SILT LOAM	C/D	0.11	10.50%

LEGEND

LOD — LIMIT OF DISTURBANCE

PROJECT SITE BOUNDARY

GnB / GjB — SOIL ID

50' 25' 0 50' 100'

1" = 50'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\30065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD30001_UTIL.dwg
LAST SAVED: Oct 4, 2024, TIME: 04 Oct 2024, 4:15PM
LAST SAVE BY: JMcKay

ATTENTION: ALL CONTRACTORS, LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTORS SHALL CONTACT ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287, AS AMENDED BY ACT 121, EFFECTIVE DECEMBER 31, 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232912731-000

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ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
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SOUTH BRANDYWINE
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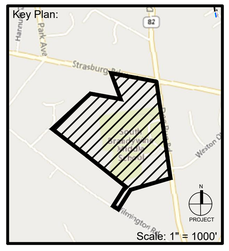
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
UTILITY AND EROSION & SEDIMENT CONTROL PLAN - B

Drawing Number:
010

LUMINAIRE SCHEDULE **REFER TO LIGHTING FIXTURE CUTSHEETS FOR COMPLETE CATALOG NUMBERS**

Symbol	Qty	Arrangement	Fixture Type	Description	Manufacturer	Catalog Number	CCT	LLF	Total Watts	Delivered Lumens	Mounting Height	Filename	Pole Spec
	2	Back-Back	P6-RW-2@180	FULL CUTOFF AREA LIGHT, TYPE SRW 2-@180 STRIKE OPTIC, 13,000 LUMENS, POLE MOUNTED AT 20FT	BEACON	VP-ST-1-36L-120-3K7-SRW	3000	0.900	241.8	26298	20	VP-ST-1-36L-120-3K7-SRW.ies	SSS-B-20-40-A-2-B3-(FINISH)-(OPTIONS)-VM1
	8	Single	P6-RW	FULL CUTOFF AREA LIGHT, TYPE SRW STRIKE OPTIC, 13,000 LUMENS, POLE MOUNTED AT 20FT	BEACON	VP-ST-1-36L-120-3K7-SRW	3000	0.900	120.9	12649	20	VP-ST-1-36L-120-3K7-SRW.ies	SSS-B-20-40-A-1-B3-(FINISH)-(OPTIONS)-VM1
	9	SINGLE	P5	FULL CUTOFF AREA LIGHT, TYPE SQW MICROSTRIKE OPTIC, POLE MOUNTED AT 20FT	BEACON	VP-1-160L-115-3K7-SQW-A-(FINISH)	3000K	0.900	111.9	14563	20	VP-1-160L-115-3K7-SQW.ies	SSS-B-20-40-A-1-B3-(FINISH)-(OPTIONS)-VM1
	3	Single	P4	FULL CUTOFF AREA LIGHT, TYPE 4W THROW MICROSTRIKE OPTIC, 14,006 LUMENS, POLE MOUNTED AT 20FT	BEACON	VP-1-160L-115-3K7-4W-A-(FINISH)	3000K	0.900	111.9	14224	20	VP-1-160L-115-3K7-4W.ies	SSS-B-20-40-A-1-B3-(FINISH)-(OPTIONS)-VM1
	3	SINGLE	P3-BC	FULL CUTOFF AREA LIGHT, TYPE 3 MICROSTRIKE OPTIC, 14,000 LUMENS, POLE MOUNTED AT 20FT	BEACON	VP-1-160L-115-3K7-3	3000K	0.900	111.9	14493	20	VP-1-160L-115-3K7-3.ies	SSS-B-20-40-A-1-B3-(FINISH)-(OPTIONS)-VM1

CALCULATION SUMMARY

Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min	PtSpcLr	PtSpcTb
SITE TO ZERO	Illuminance	Fc	0.2	4.7	0.0	N.A.	N.A.	10	10
StatArea_DRIVE	Illuminance	Fc	1.1	4.7	0.2	5.5	23.5		
StatArea_DRIVE_2	Illuminance	Fc	1.0	4.1	0.2	4.9	20.5		
StatArea_PARKING LOT 1	Illuminance	Fc	1.1	3.1	0.4	2.8	7.8		
StatArea_PARKING LOT 2	Illuminance	Fc	1.5	2.3	0.4	3.8	5.8		
StatArea_PARKING LOT 3	Illuminance	Fc	1.8	4.4	0.4	4.4	11.0		
StatArea_PARKING LOT 4	Illuminance	Fc	1.2	2.3	0.5	2.4	4.6		
StatArea_PARKING LOT 5	Illuminance	Fc	1.4	1.8	0.8	1.7	2.3		
StatArea_PARKING LOT 6	Illuminance	Fc	2.3	3.9	1.0	2.3	3.9		

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811 YOU DIG!
NOTICE
COMPLETE
LOCATIONS
CLAIM
LEGISLATIV
PROTECTI
LEADERS
20232512731-000

GENERAL NTOES:

1. MH: IS THE LIGHTING FIXTURE MOUNTING HEIGHT.
2. REFLECTANCES OF 80/50/20 ARE USED UNLESS OTHERWISE NOTED (FOR INTERIOR CALCULATIONS).
3. CALCULATION POINTS ON THE WORKPLANE ARE AT 2.5' (INTERIOR) OR GROUND AT 0.0' (EXTERIOR) UNLESS OTHERWISE NOTED.
4. LIGHTING FIXTURES AND PHOTOMETRIC LAYOUT PROVIDED BY DIVERSIFIED:

   KEITH DOTTERY
   TEL: 215-442-0700
   KDOTTERY@DIVGRP.COM
   1 IVYBROOK BLVD,
   SUITE 100
   WARMINSTER, PA 18974

50' 25' 0 50' 100'
1" = 50'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SCAL\V00951\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_LGT.dwg
LAST USED BY: CSconcelle Date: 04 Mar 2024, 3:58PM
LAST SAVE BY: CSconcelle

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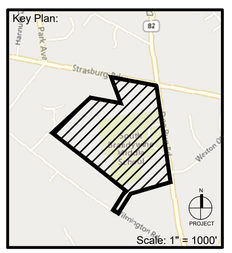
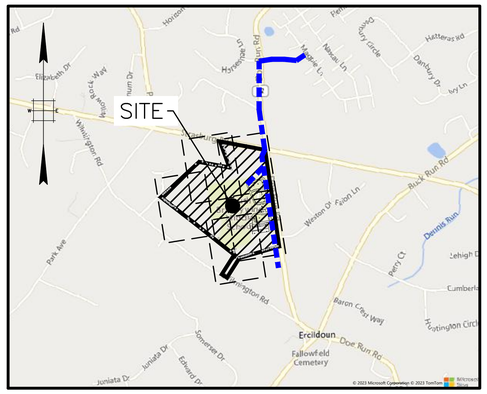
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

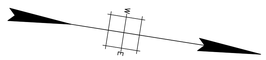
Key Plan:


Drawing Title:
LIGHTING PLAN - A

Drawing Number:
011



KEY MAP
SCALE: 1" = 1000'



EXISTING SITE PHOTOS

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SERIAL NO.
20232512731–000

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Professional Seal:
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PROFESSIONAL LANDSCAPE ARCHITECT
LIC. NO. LA001345R

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

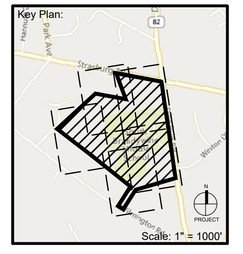
ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

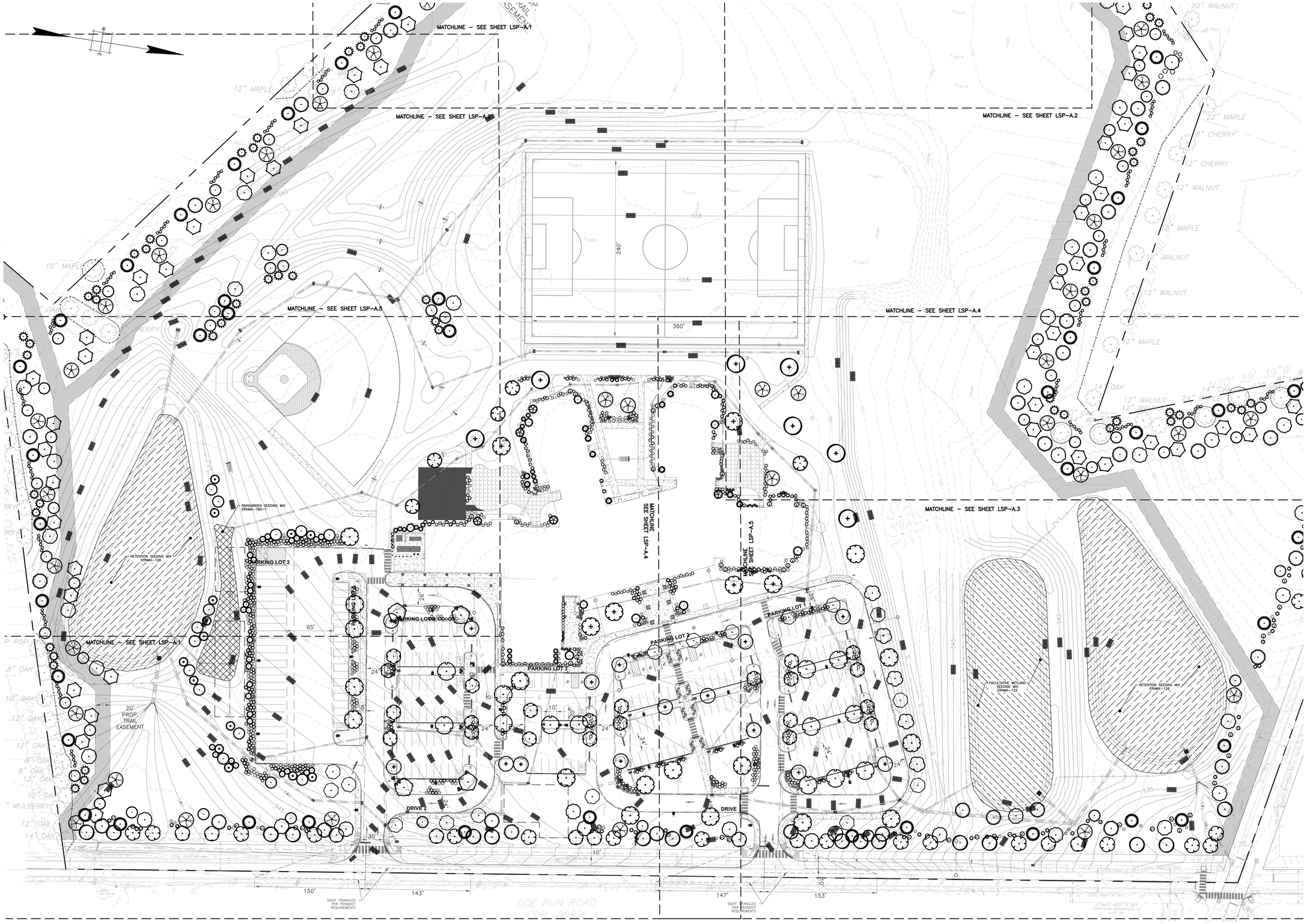
Key Plan:



Drawing Title:
LANDSCAPING PLAN - OA

Drawing Number:
012

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00060\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001 - LSP.dwg
PLOTTED BY: Jeffrey Gallagher - Wed, 28 Jul 2024, 9:03AM
LAST SAVE BY: SEsires



LEGEND

EXISTING	PROPOSED
	WOODED LIMITS
	TREES
	TREE PROTECTION FENCE

50' 25' 0 50' 100'
1" = 50'

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE BASED ON AVAILABLE RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES AND FACILITIES IS NOT GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTOR SHALL CONTACT 811 OR 1-800-242-1776 FOR LOCATION OF UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232512731–000

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FILE NAME: CA000001_LSP.dwg
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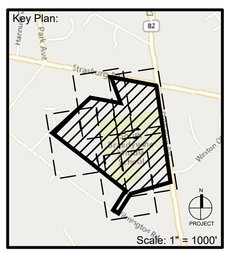
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
LANDSCAPING PLAN - A

Drawing Number:
013

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FILE PATH: G:\Projects\SGAL\0066A\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD0001 LSP.dwg
PLOTTED: DATE: 26 Jul 2024, 9:03AM
LAST SAVE BY: SEMes

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20232512731–000

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LIC. NO. LA001345R

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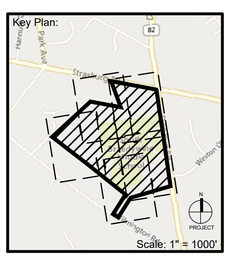
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

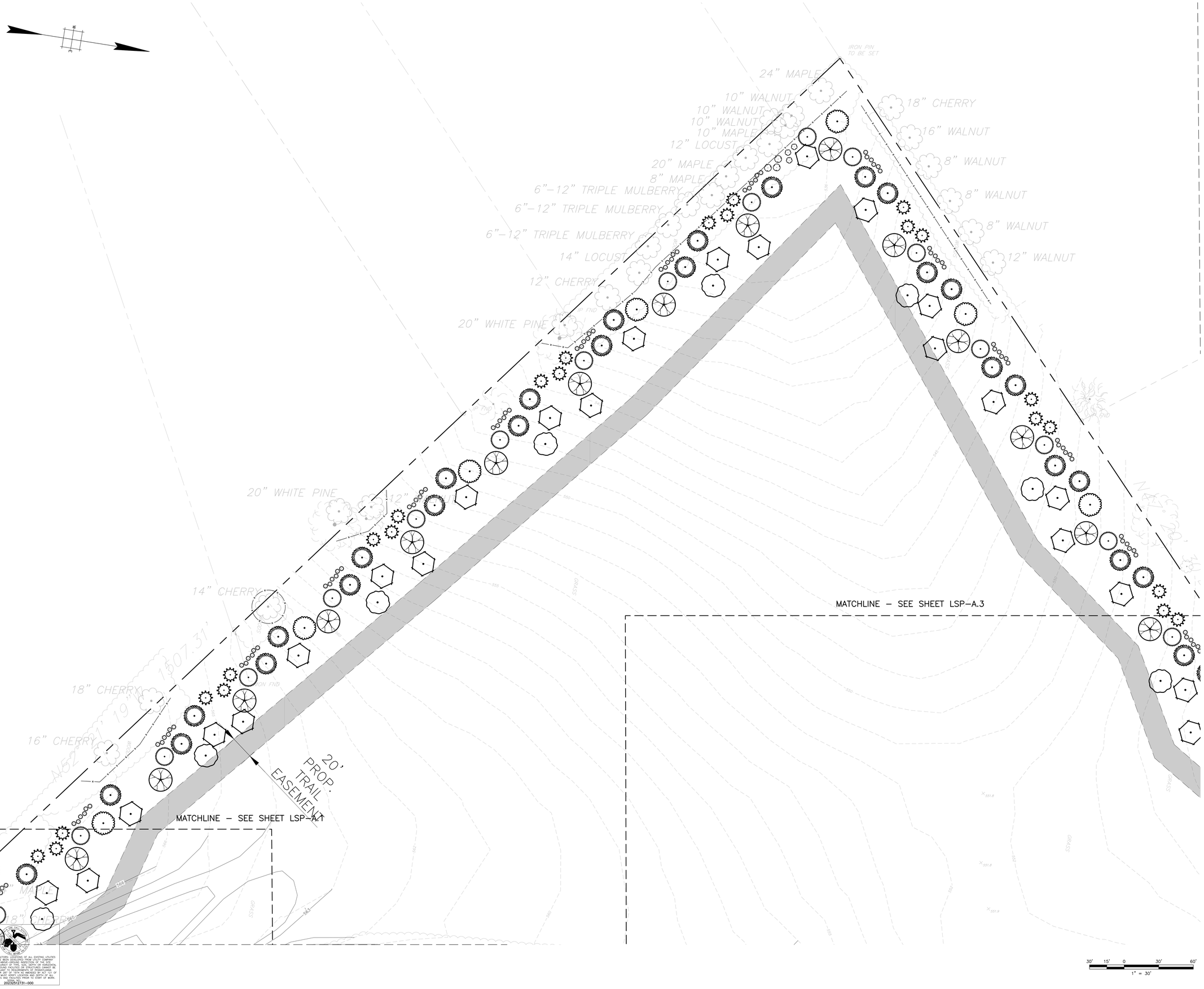
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
LANDSCAPING PLAN - A.1

Drawing Number:
014



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FILE NAME: CASD30001_LSP-A.dwg
LAST PLOTTED: Jul 26, 2024 - TIME: 9:03AM
LAST SAVE BY: SEskes

ATTENTION: ALL CONTRACTORS ARE CAUTIONED THAT ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTORS SHALL NOTIFY ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 AS AMENDED BY ACT 121 OF DECEMBER 10, 2008, AS OF 2012, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
serial# 20232912731–000

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SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
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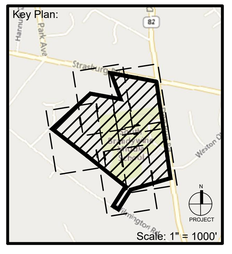
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

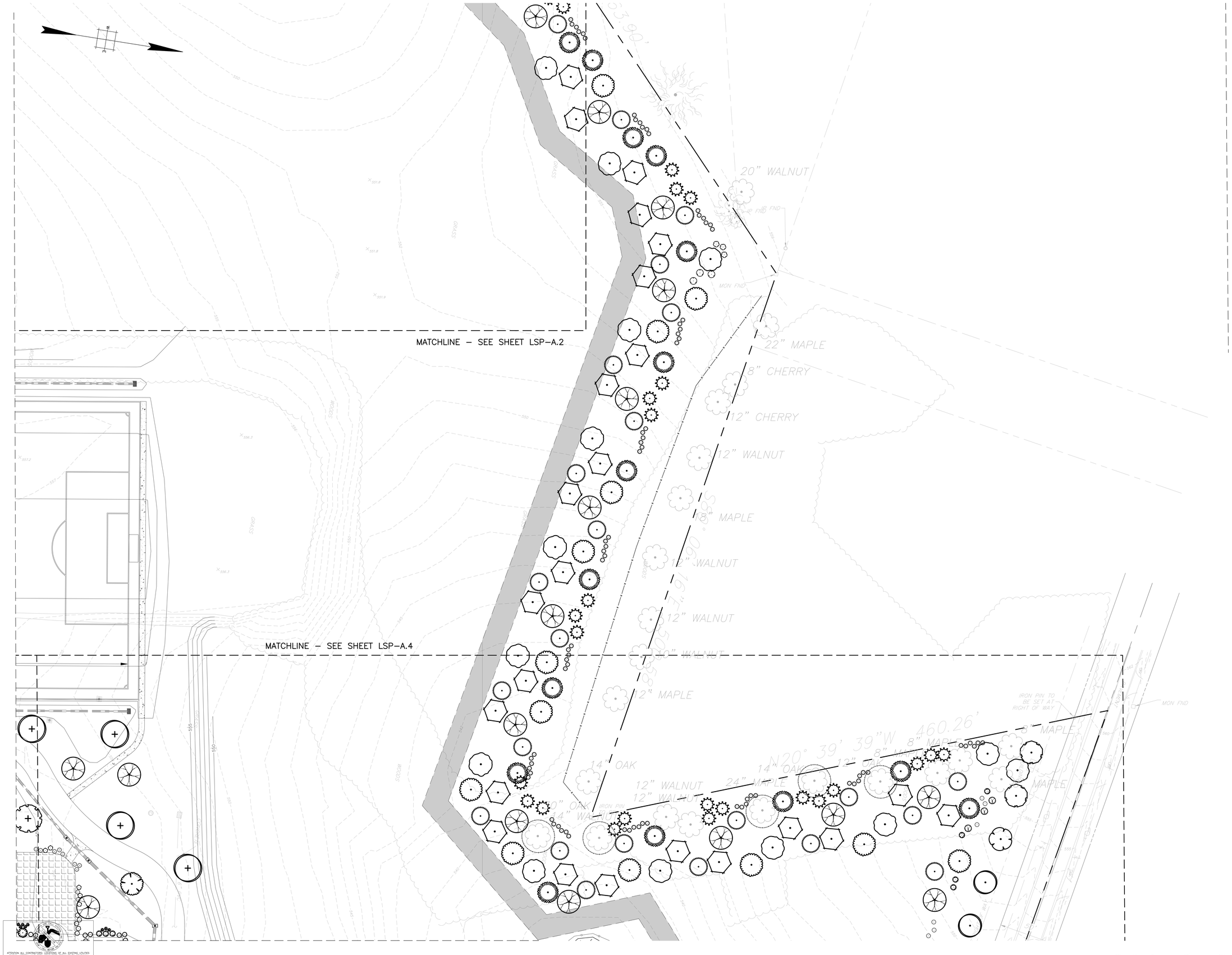
SG PROJECT NUMBER: 23-033

Key Plan:



Drawing Title:
LANDSCAPING PLAN - A.2

Drawing Number:
015



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FILE PATH: C:\Projects\SGAL\00065\Calculations & Reports\CAD – South Brandywine ES\Plans\
FILE NAME: CAS00000_LSP.dwg
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BARRY G. STINGEL, P.L.A.
PROFESSIONAL LANDSCAPE ARCHITECT
LIC. NO. LA001345R

Owner:
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PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

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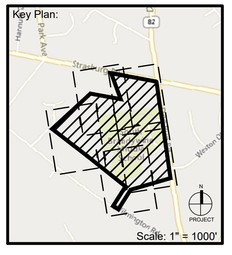
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
LANDSCAPING PLAN - A.3

Drawing Number:
016

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FILE NAME: CASD00001_LSP.dwg
LAST SAVED: Friday, 26 Jul 2024, 9:03AM
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20232512731–000

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LIC. NO. LA001345R

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PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
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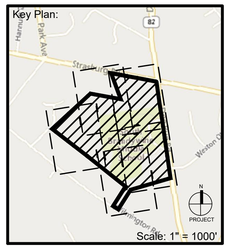
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
LANDSCAPING PLAN - A.4

Drawing Number:
017

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PROFESSIONAL LANDSCAPE ARCHITECT
LIC. NO. LA001345R

Owner:
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SCHOOL DISTRICT
3030 C G ZINN ROAD
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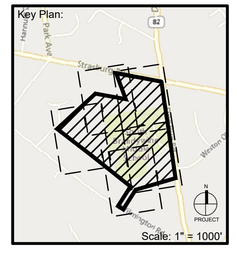
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:



Drawing Title:
LANDSCAPING PLAN - A.5

Drawing Number:
018

MATCHLINE – SEE SHEET LSP–A.1

MATCHLINE SEE SHEET LSP–A.4

RAINGARDEN SEEDING MIX ERNMX–180–1

RETENTION SEEDING MIX ERNMX–126

PARKING LOT 2

PARKING LOT 4

PARKING LOT 3

PARKING LOTS

DRIVE 2

DRIVE

20' PROP. TRAIL EASEMENT

SIGHT TRIANGLES PER PENNDOT REQUIREMENTS

DOE RUN ROAD (S.R. 0082)

360'

65'

150'

143'

147'

30' 15' 0 30' 60'
1" = 30'

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FILE NAME: CASD0065 LSP.dwg
PLOTTED: 28 Jul 2024, 9:03AM
LAST SAVE BY: SEMes

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
No. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

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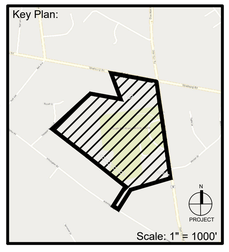
DATE: 03/01/2024

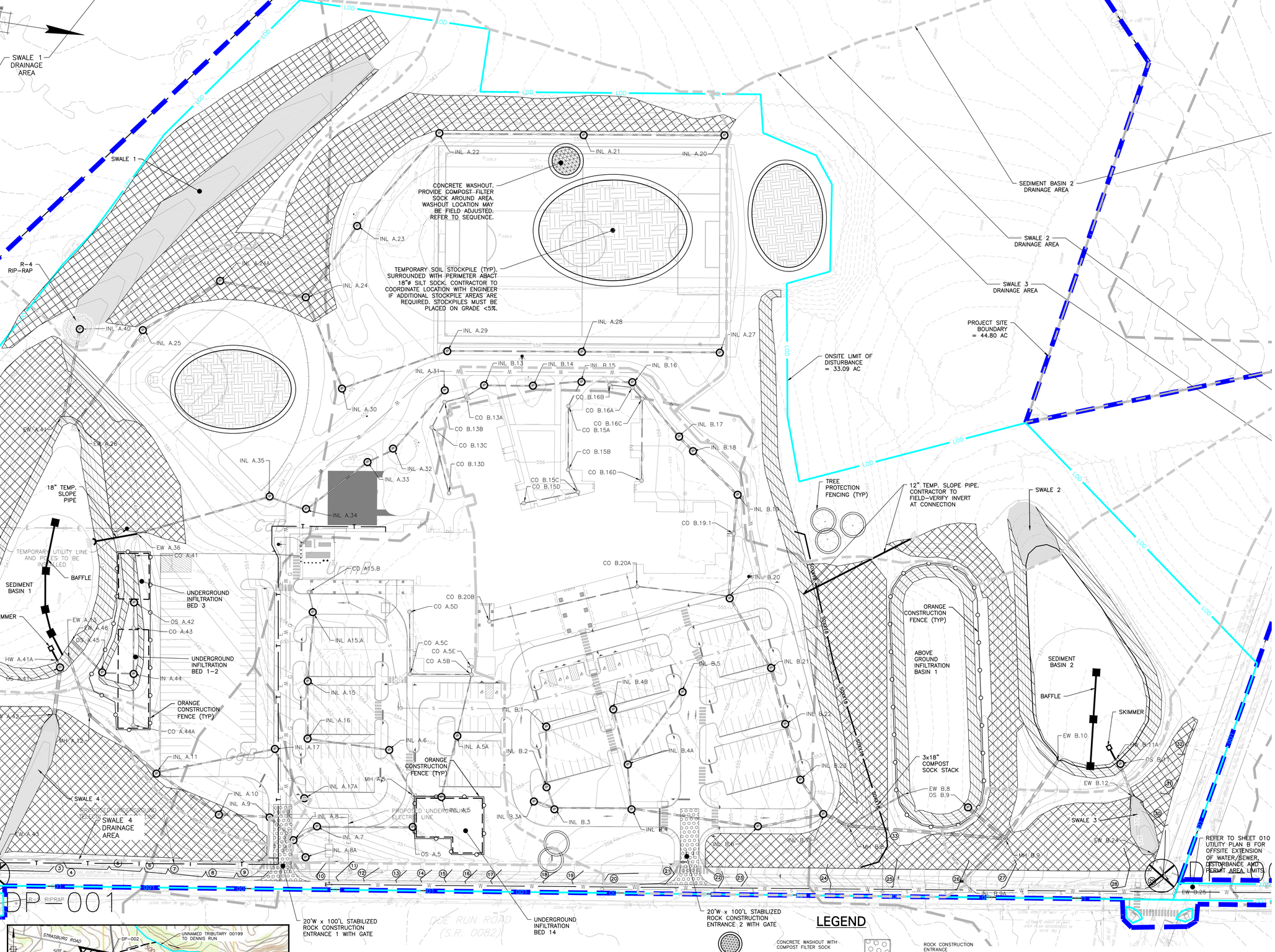
SG PROJECT NUMBER: 23-033

Key Plan:



Drawing Title:
EROSION & SEDIMENT CONTROL PLAN - A

Drawing Number:
019



LEGEND

- CONCRETE WASHOUT WITH COMPOST FILTER SOCK
- IP — INLET PROTECTION
- TREE PROTECTION FENCE
- SOXX12 — 12" COMPOST FILTER SOXX
- SOXX18 — 18" COMPOST FILTER SOXX
- LOD — LIMIT OF DISTURBANCE
- PROJECT SITE BOUNDARY
- DRAINAGE AREA
- GnB / GjB — SOIL ID
- x — x — CHAIN LINK FENCE
- ROCK CONSTRUCTION ENTRANCE
- NAG SC-150 EROSION BLANKET
- SPRAY SEEDING W/ TACKIFIER AND MULCH
- RIPRAP
- SWALE LINING
- TOPSOIL STOCKPILE

NOTE: FOR FULL EXTENT OF DRAINAGE AREAS, REFER TO E&S-DA

50' 25' 0 50' 100'
1" = 50'

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ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY INFORMATION. EXACT LOCATION, COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH PENNSYLVANIA ONE CALL SYSTEM LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES INDICATED PRIOR TO START OF WORK.
SERIAL NO.
20232512731-000

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00060\Calculations & Reports\CASD - South Brandywine ES\Plans\
FILE NAME: CASD00001_ENS.dwg
LAST SAVED BY: SEMes
LAST SAVED: WED, 24 Jul 2024, 3:41PM

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00085\Calculations & Reports\CAD - South Brandywine ES\Plans\
FILE NAME: CAS000001_ENS.dwg
LAST PLOTTED: 29 Jul 2024, 5:41PM
LAST SAVE BY: SEakes

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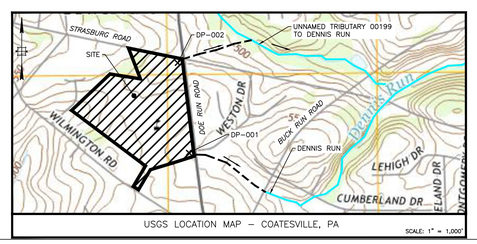
ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL CONTACT ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 AMENDED BY ACT 121 EFFECTIVE DECEMBER 31, 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232012731-000



USGS LOCATION MAP – COATESVILLE, PA
SCALE: 1" = 1,000'

SOILS – ONSITE				
SOIL SYMBOL	SOIL NAME	HSG	AREA (ACRES)	% OF DISTURBED AREA
CdB	CHESTER SILT LOAM	B	9.25	27.90%
GgB	GLENELG SILT LOAM	B	14.67	44.30%
UrmB	URBAN LAND–GLENELG COMPLEX	B	9.18	27.70%

SOILS – OFFSITE UTILITY CONNECTION				
SOIL SYMBOL	SOIL NAME	HSG	AREA (ACRES)	% OF DISTURBED AREA
GgB	GLENELG SILT LOAM	B	0.46	44.30%
UrmB	URBAN LAND–GLENELG COMPLEX	B	0.47	45.20%
Ba	BAILE SILT LOAM	C/D	0.11	10.50%

LEGEND

- CONCRETE WASHOUT WITH COMPOST FILTER SOCK
- IP — INLET PROTECTION
- TREE PROTECTION FENCE
- 50XX12 — 12" COMPOST FILTER SOXX
- 50XX18 — 18" COMPOST FILTER SOXX
- LOD — LIMIT OF DISTURBANCE
- PROJECT SITE BOUNDARY
- DRAINAGE AREA
- GnB — SOIL ID
- GgB — SOIL ID
- x — x — CHAIN LINK FENCE
- ROCK CONSTRUCTION ENTRANCE
- NAG SC–150 EROSION BLANKET
- SPRAY SEEDING W/ TACKIFIER AND MULCH
- RIPRAP
- SWALE LINING
- TOPSOIL STOCKPILE

70' 35' 0 70' 140'
1" = 70'

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555 E North Lane, Suite 5100, Building D
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SCHRADERGROUP
153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — CHRISTOPHER W. JENSEN — ENGINEER — No. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

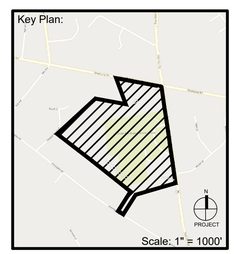
PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

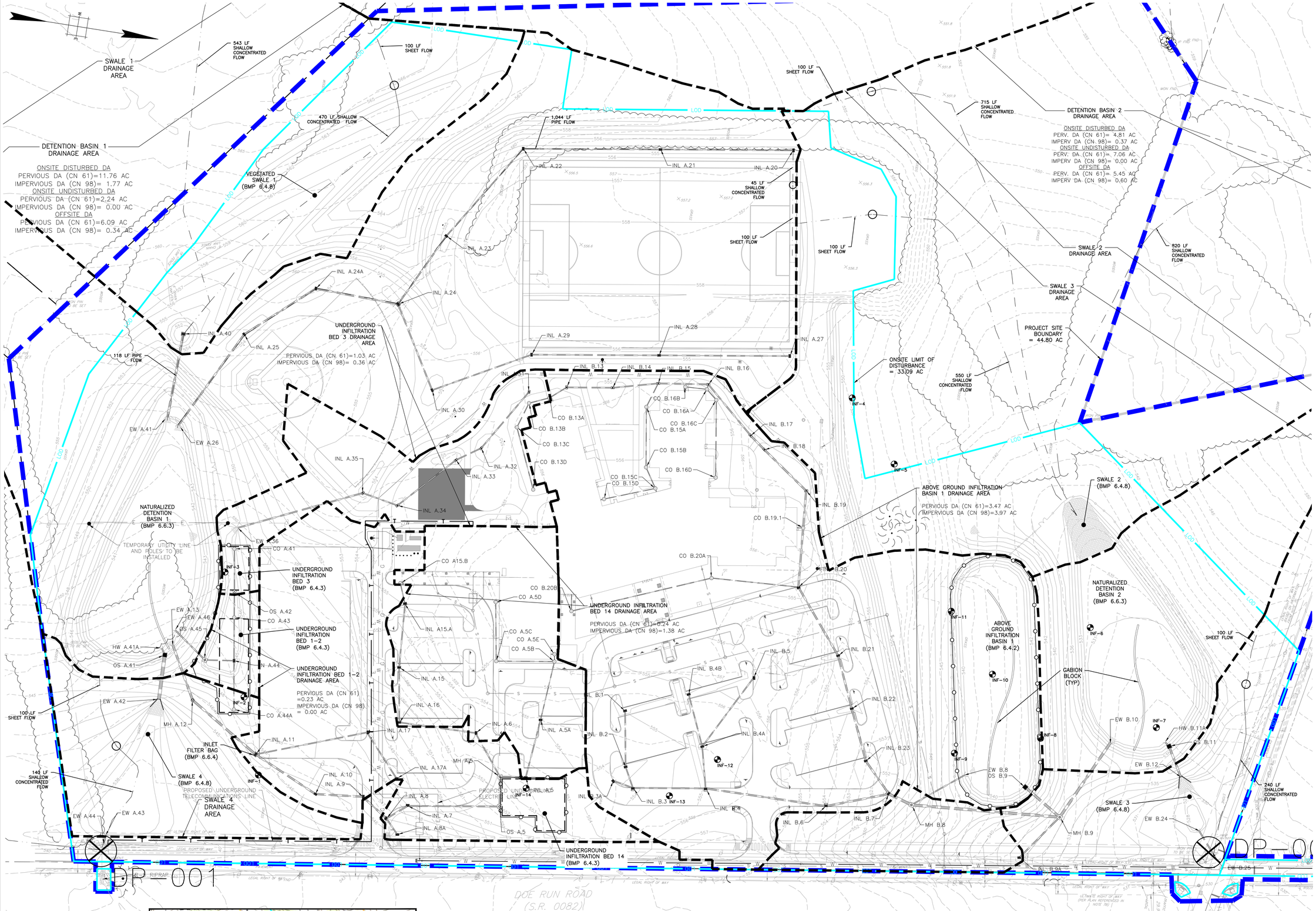
SG PROJECT NUMBER: 23-033

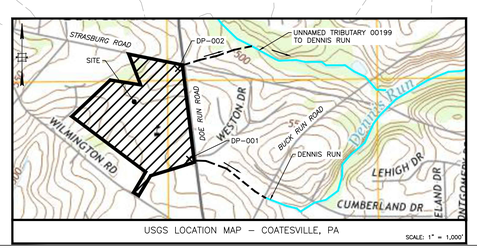
Key Plan:


Scale: 1" = 1000'

Drawing Title:
EROSION & SEDIMENT CONTROL DRAINAGE AREA PLAN

Drawing Number:
019A





ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY INFORMATION. NO GUARANTEE OF COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE MADE. IN ACCORDANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. CALL 811

2023251272I-000

PCSM SHEET INDEX

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
002	LEGEND AND NOTES	LEG
020	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN – A	PCSM–A
020A	POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN	PCSM–DA
033	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	PCSM–1
034	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS – 2	PCSM–2
035	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	PCSM–4

LEGEND

ORIENTATION & SIZE MAY VARY

- TOTAL PROJECT SITE BOUNDARY
- LOD — LOD — LIMIT OF DISTURBANCE
- P–1 SOIL BORING LOCATION
- BMP DRAINAGE AREA
- TIME OF CONCENTRATION FLOW PATH WITH BREAK

NOTE: FOR FULL EXTENT OF BMP DRAINAGE AREAS, REFER TO PCSM–DA

50' 25' 0 50' 100'
1" = 50'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\0060\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD0001 - PCSM.dwg
PLOT DATE: Wednesday, 26 Jun 2024, 1:21PM
LAST SAVE BY: SEMes

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NO. PE–076464

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PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

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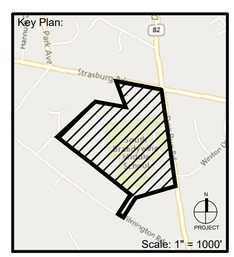
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

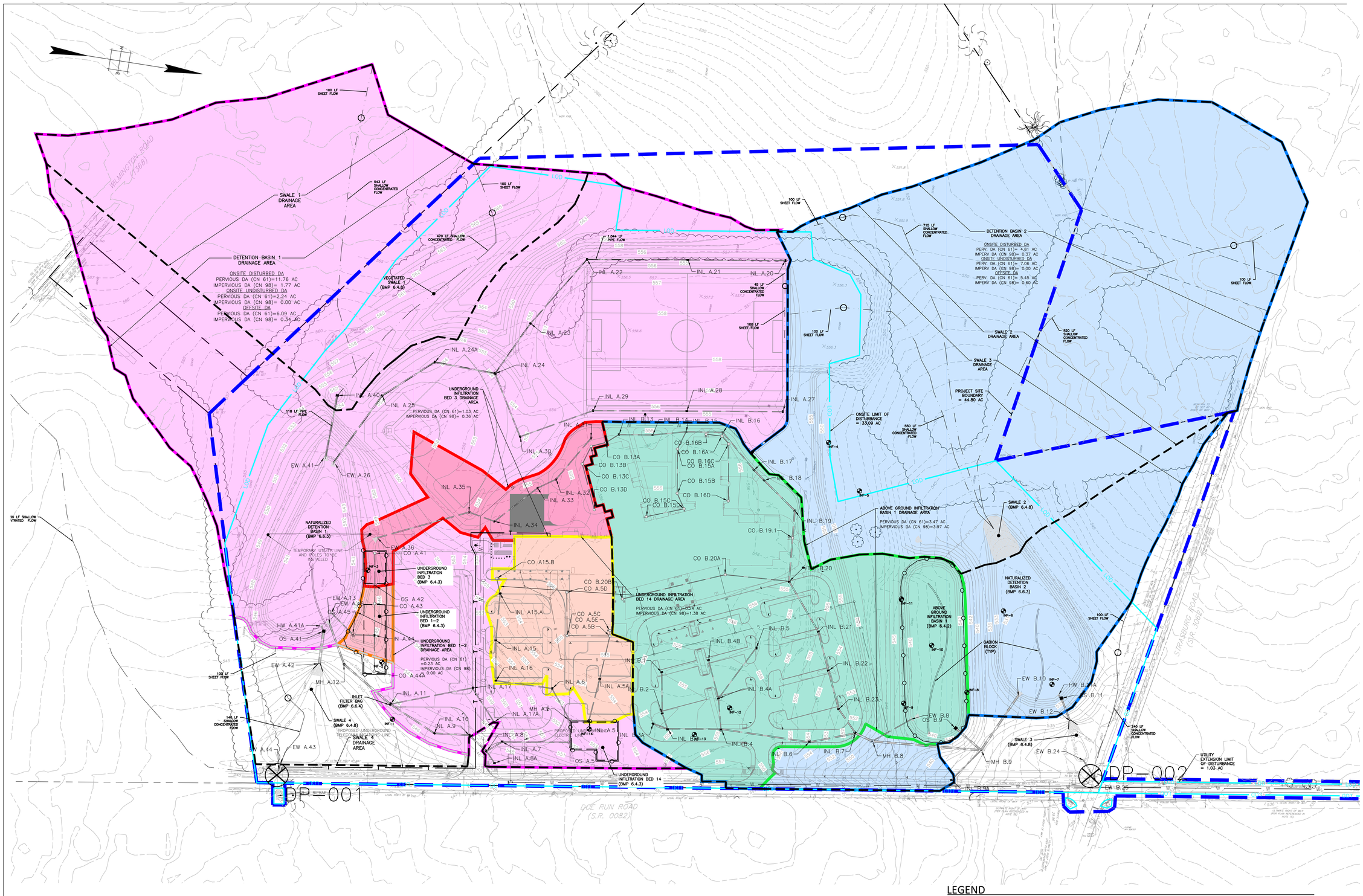
SG PROJECT NUMBER: 23-033

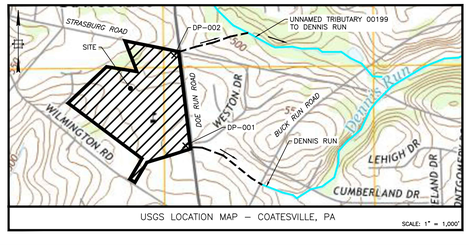
Key Plan:



Drawing Title:
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN - A

Drawing Number:
020





USGS LOCATION MAP – COATESVILLE, PA

SCALE: 1" = 1,000'

LEGEND

ORIENTATION & SIZE MAY VARY

- TOTAL PROJECT SITE BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- P-1 — SOIL BORING LOCATION
- BMP DRAINAGE AREA
- TIME OF CONCENTRATION FLOW PATH WITH BREAK
- NATURALIZED DETENTION BASIN 1 (BMP 6.6.3) DRAINAGE AREA
- UNDERGROUND INFILTRATION BED 3 (BMP 6.4.3) DRAINAGE AREA
- UNDERGROUND INFILTRATION BED 1-2 (BMP 6.4.3) DRAINAGE AREA
- UNDERGROUND INFILTRATION BED 14 (BMP 6.4.3) DRAINAGE AREA
- ABOVE GROUND INFILTRATION BASIN 1 (BMP 6.4.2) DRAINAGE AREA
- NATURALIZED DETENTION BASIN 2 (BMP 6.6.3) DRAINAGE AREA

70' 35' 0 70' 140'

1" = 70'

PCSM SHEET INDEX

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
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ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR IS RESPONSIBLE TO CONFIRM THE EXACT HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND NOTIFY ALL UTILITIES 3 DAYS PRIOR TO START OF WORK.

20232912731–000

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_PCSM.dwg
LAST SAVED: TUESDAY, JULY 23, 2024, 1:21PM
LAST SAVE BY: SEales

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Owner:
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COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

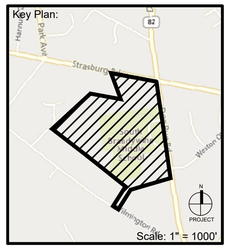
ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

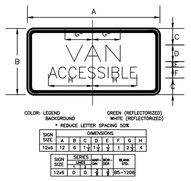
Key Plan:



Scale: 1" = 1000'

Drawing Title:
POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN

Drawing Number:
020A



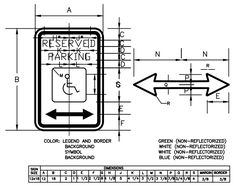
COLOR: LEGEND — GREEN (REFLECTORIZED)
BACKGROUND — WHITE (REFLECTORIZED)

* REDUCE LETTER SPACING 50%

SIGN SIZE	DIMENSIONS A	B	C	D	E	F	G	H
12x6	12	6	1 3/4	1	1	1 3/8	*	

SIGN SIZE	SERIES Upr	Lwr	BOR-DER	BLANK STD.
12x6	C	2	1	R5-1206

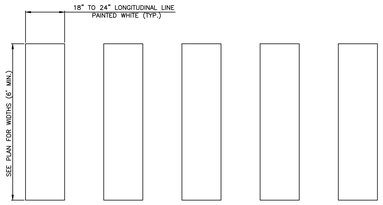
VAN ACCESSIBLE SIGN (PADOT R7-8A)
N.T.S.



COLOR: LEGEND AND BORDER — GREEN (NON-REFLECTORIZED)
BACKGROUND SYMBOL — WHITE (NON-REFLECTORIZED)
BACKGROUND — BLUE (NON-REFLECTORIZED)

SIGN SIZE	DIMENSIONS A	B	C	D	E	F	G	H	J	K	L	M	N	BORDER	BACKGROUND
12x18	12	18	1	1/2	1/16	1	1/2	4	1	1/2	1	1/2	1	1/2	1/4	1/4

RESERVED PARKING SIGN (R7-8)
N.T.S.



NOTES:
1. THIS TYPE OF MARKING SHOULD BE USED AT LOCATIONS WHERE SUBSTANTIAL NUMBERS OF PEDESTRIANS CROSS WITHOUT ANY OTHER TRAFFIC CONTROL DEVICE, AT LOCATIONS WHERE PHYSICAL CONDITIONS ARE SUCH THAT ADDED VISIBILITY OF THE CROSSWALK IS NECESSARY, OR AT PLACES WHERE PEDESTRIANS MIGHT NOT BE EXPECTED.
2. ALL CROSSWALKS SHALL COMPLY WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AS AMENDED.
3. LONGITUDINAL LINES SHALL BE PERPENDICULAR TO TRAVELED WAY. THE EXTEND ACROSS THE FULL WIDTH OF PAVEMENT OR TO THE EDGE OF THE INTERSECTING CROSSWALK TO DISCOURAGE DIAGONAL WALKING BETWEEN CROSSWALKS.
4. ALL CROSSWALK LONGITUDINAL LINES SHALL BE WHITE THERMOPLAST, ALL LINES AND NEUTRAL AREAS SHALL BE OF EQUAL WIDTHS.
5. WARNING SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH MUTCD, AS AMENDED.
6. THE SPACING OF THE LINES SHALL BE SELECTED TO AVOID THE WHEEL PATH.

CROSSWALK STRIPING DETAIL
NOT TO SCALE

36"X12"

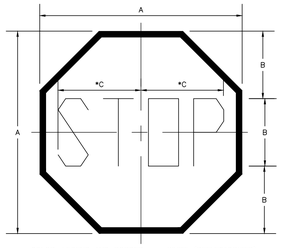
ONE WAY SIGN (R6-1R)
NOT TO SCALE

36"X12"

ONE WAY SIGN (R6-1L)
NOT TO SCALE

48"X12"

PARENT PICK UP/DROP OFF SIGN
NOT TO SCALE

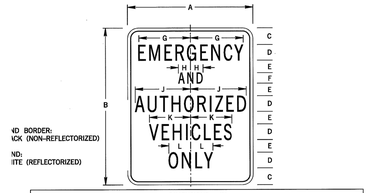


COLOR: LEGEND AND BORDER BACKGROUND — WHITE (REFLECTORIZED)
RED (REFLECTORIZED)

SIGN SIZE	DIMENSIONS A	B	C	SERIES LINE	BOR-DER	BLANK STD.
30x30	30	10	12 1/2	C	3/4	B1-30

NOTES:
1. MOUNTING HEIGHT TO BOTTOM OF SIGN SHALL BE 4'-0".
2. TO BE MOUNTED ON BREAKAWAY SIGN POST INSTALLED IN ACCORDANCE WITH PENNDOT PUB. 408, SECTION 931 AND SECTION 1103.08.

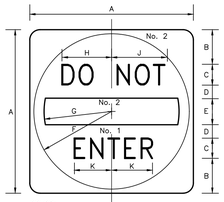
STOP SIGN (R1-1) DETAIL



ID BORDER:
OR (NON-REFLECTORIZED)
ND:
ITE (REFLECTORIZED)

SIGN SIZE A x B	C	D	E	F	G	H	J	K	L	MAR-GIN	BOR-DER	BLANK STD.
24" x 30"	3.2	3C	2.4	2C	9.6	2.1	10.2	7.8	4.1	0.4	0.4	B5-3024

EMERGENCY AND AUTHORIZED VEHICLES ONLY SIGN (R5-101) DETAIL

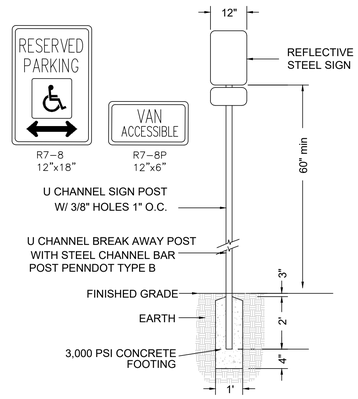


COLOR:
NO.1 – LEGEND – WHITE(REFLECTORIZED)
BACKGROUND – RED(REFLECTORIZED)
NO.2 – BACKGROUND – WHITE(REFLECTORIZED)

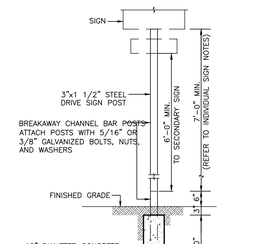
SIGN SIZE	DIMENSIONS (INCHES) A	B	C	D	E	F	G	H	J	K	SERIES LINES 1	2	BLANK STD
30x30	30	6 1/2	4	2	5	14 1/2	12 1/2	9 3/4	10	7 7/8	D	D	B3-30

NOTE:
MOUNTING HEIGHT TO BOTTOM OF SIGN IS 5 FT. UNLESS SIGN IS ADJACENT AND PERPENDICULAR TO SIDEWALK, THEREBY, MOUNTING HEIGHT IS THEN 7 FT TO BOTTOM OF SIGN.

DO NOT ENTER SIGN (PADOT R5-1)
NOT TO SCALE



HANDICAP ACCESSIBLE
PARKING SIGN DETAIL
NTS



NOTE:
1. POSTS TO BE TYPE "B" BREAKAWAY CHANNEL BAR POSTS. (SEE PENNDOT TRAFFIC CONTROL SIGNING STANDARDS TC- 7000 SERIES FOR INSTALLATION PROCEDURES.)
2. SIGN POST LOCATIONS TO BE SELECTED IN THE FIELD UNDER THE DIRECT SUPERVISION OF THE ENGINEER. POSTS SHALL HAVE GREEN POLYESTER COATING

SIGN POST DETAIL
NOT TO SCALE

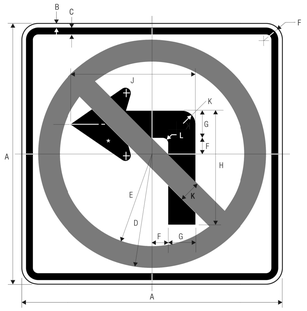
PEDESTRIAN TRAFFIC SIGN (W11-2) DETAIL

*See page 6-10 for symbol design.

	A	B	C	D	E
	18	.375	.625	8	1.5
	24	.375	.625	11	1.5
C	30	.5	.75	13.5	1.875
	36	.625	.875	16	2.25
	48	.75	1.25	22	3

COLORS: SYMBOL — BLACK
BACKGROUND — YELLOW (RETROREFLECTIVE)

2-92



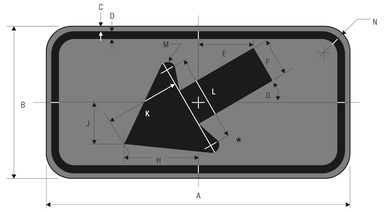
LEFT TURN PROHIBITION SIGN (R3-2) DETAIL

*See page 6-2 for design details.

	A	B	C	D	E	F	G	H	J	K	L
	24	.375	.625	10.5	8.5	1.5	2.5	10.5	11.5	2	.5
	30	.5	.75	13.125	10.625	1.875	3.125	13.125	14.5	2.5	.625
C	36	.625	.875	15.75	12.75	2.25	3.75	15.75	17.25	3	.75
	48	.75	1.25	21	17	3	5	21	23	4	1

COLORS: CIRCLE & DIAGONAL — RED (RETROREFLECTIVE)
SYMBOL & BORDER — BLACK
BACKGROUND — WHITE (RETROREFLECTIVE)

1-23



W16-7pL
LEFT DIAGONAL ARROW PLAQUE

	A	B	C	D	E	F	G	H	J	K	L	M	N
	24	12	.375	.625	4.323	3	30°	5.844	3.282	5.884	6.925	.600	1.5
C	30	18	.5	.75	6.524	4.5	30°	8.766	4.923	8.846	10.407	.920	1.875

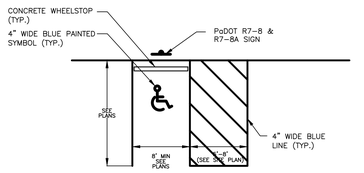
W16-7pR
RIGHT DIAGONAL ARROW PLAQUE

DIAGONAL ARROW SIGN DETAIL

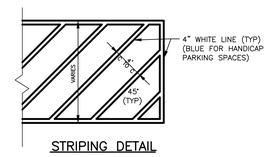
*See page 6-2 for arrow design.

COLORS: SYMBOL — BLACK
BACKGROUND — YELLOW (RETROREFLECTIVE)

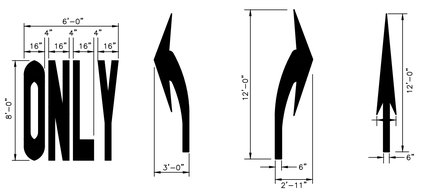
2-126



VAN ACCESSIBLE HANDICAP PARKING SPACE LAYOUT
NOT TO SCALE



STRIPING DETAIL
NOT TO SCALE



PAVEMENT MARKINGS
N.T.S.

STOP BARS, DIRECTIONAL ARROWS, AND CROSSWALK STRIPING SHALL BE THERMOPLASTIC PAINT. PARKING LOT STRIPING CAN BE WATER BASED LATEX PAVEMENT STRIPING PAINT

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY. THE ENGINEER DOES NOT GUARANTEE THE COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY LEGISLATIVE ACT NUMBER 187 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND NOTIFY PA ONE CALL PRIOR TO START OF WORK.
SERIAL NO.
20232512731-000

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PROJECT INFORMATION:
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FILE NAME: CAD000001.DWG
PLOT DATE: 10/4/2024, 4:45PM
LAST SAVE BY: JKelley

SCHRADERGROUP
555 E North Lane, Suite 5100, Building D
Conshohocken, PA 19428
p: 215 482 7440
f: 215 482 7441
www.sgarc.com

Consultants:
Civil:
T&M Associates
1700 Market Street, Suite 3110
Philadelphia, PA 19103
(215) 282-7846
YOUR GOALS. OUR MISSION.
Structural Engineer
SCHRADERGROUP
SCHRADERGROUP
153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

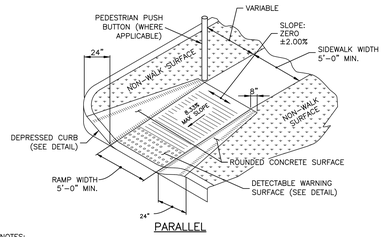
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:
N
PROJECT
Scale: 1" = 1000'

Drawing Title:
CONSTRUCTION SITE DETAILS - 1

Drawing Number:
021



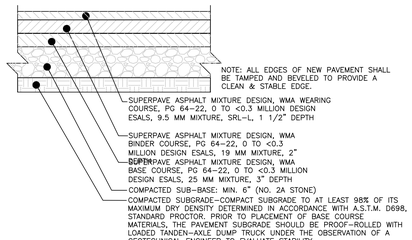
PARALLEL

NOTES:

1. 12:1 (8.33%) MAX. RAMP SLOPE WHERE PRACTICAL.
2. CURB RAMP WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'-0".
3. CURB RAMPS REQUIRE A 4'-0" MIN. LANDING WITH A MAX. SLOPE OF 2.00% IN ALL DIRECTIONS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS.
4. SEE "CURB RAMP – GENERAL INFORMATION DETAIL" FOR ADDITIONAL NOTES AND DETAILS.

TYPE 4A CURB RAMP – PARALLEL

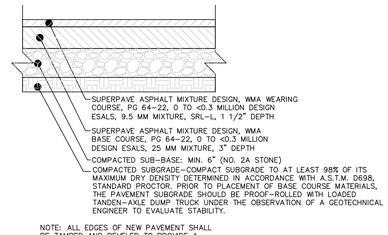
NOT TO SCALE



TYPICAL PAVEMENT SECTION HEAVY DUTY PAVING

NTS

(OUTSIDE RIGHT-OF-WAY)

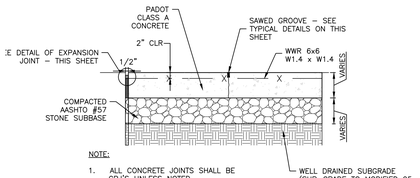


NOTE: ALL EDGES OF NEW PAVEMENT SHALL BE TAMPED AND BEVELED TO PROVIDE A CLEAN & STABLE EDGE.

TYPICAL PAVEMENT SECTION LIGHT DUTY PAVING

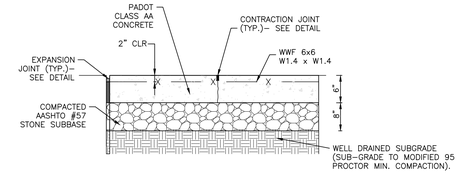
NTS

(OUTSIDE RIGHT-OF-WAY)



CONSTRUCTION JOINT (CRJ)

NOT TO SCALE



HEAVY DUTY CONCRETE PAVEMENT DETAIL

NOT TO SCALE

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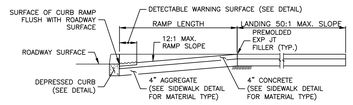
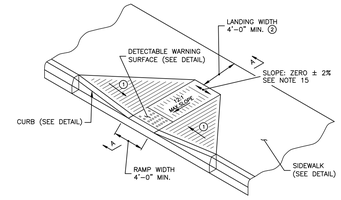
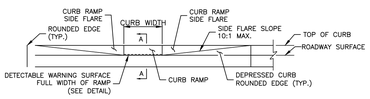
SERIAL NO.
20232512731–000



SECTION A–A



STRAIGHT ORIENTATION



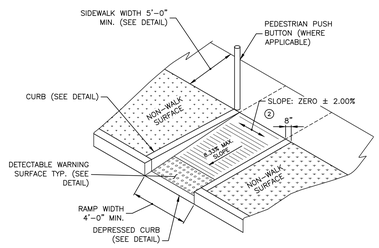
ELEVATION

NOTES:

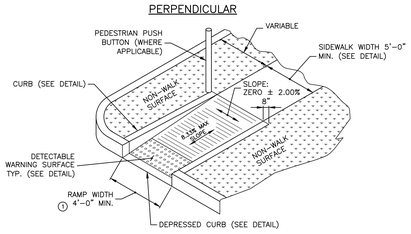
1. SIDE FLARES 10:1 MAX SLOPE.
2. SIDE FLARES 12:1 MAX FOR RAMPS WITH A LANDING LESS THAN 4'–0". FOR ALTERATIONS: IF TECHNICALLY FEASIBLE A LANDING IS REQUIRED. HOWEVER A LANDING IS NOT REQUIRED WHERE 12:1 SIDE FLARE SLOPES ARE PROVIDED AND RIGHT OF WAY OR OTHER STRUCTURAL FEATURES RESTRICT THE INSTALLATION OF A LANDING.

CURB RAMP – TYPE 1

NOT TO SCALE



PERPENDICULAR



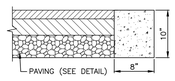
PARALLEL

NOTES:

1. FOR ALTERATIONS: RAMP WIDTH IS EQUAL TO EXISTING SIDEWALK WIDTH WHEN THE EXISTING SIDEWALK WIDTH IS GREATER THAN 4'–0".
2. CURB RAMPS REQUIRE A 4'–0" MIN. LANDING WITH A MAX. SLOPE OF 2.00% IN ALL DIRECTIONS WHERE PEDESTRIANS PERFORM TURN IN MANEUVERS. SEE DETAILS FOR LOCATIONS.
3. CURB WIDTH IS EQUAL TO SIDEWALK WIDTH WHEN THE SIDEWALK WIDTH IS GREATER THAN OR EQUAL TO 4'–0".
4. SEE "CURB RAMP – GENERAL INFORMATION" FOR ADDITIONAL NOTES AND DETAILS.

CURB RAMP – TYPE 4

NOT TO SCALE



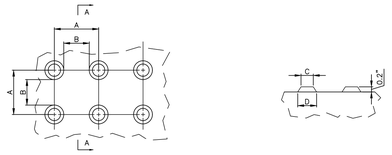
CURB ADJACENT TO PAVING

NOTES:

1. CONCRETE SHALL BE 4500 PSI COMPRESSIVE STRENGTH..
2. A PREMOLDED BITUMINOUS–IMPREGNATED ONE–HALF–INCH (1/2") EXPANSION JOINT SHALL BE PLACED BETWEEN SECTIONS OF CURBING AT INTERVALS OF NOT MORE THAN 30 FEET AND AT THE END OF THE WORK DAY.
3. FLEXIBLE FORMS SHALL BE REQUIRED FOR ALL CURB RADII WITH A RADIUS OF LESS THAN 150 FEET.
4. WHERE THE SUBGRADE IS SOFT OR SPONGY, AS DETERMINED BY THE MUNICIPAL ENGINEER, A LAYER OF CRUSHED STONE NOT LESS THAN 4" THICKNESS SHALL BE PLACED UNDER THE CURB.
5. CURBS SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS.
6. AC–20 OR EQUAL GUTTER/PAVEMENT JOINT SEALER TO BE PROVIDED 1 FOOT OUT AND 1" UP FACE OF CURB.

FLUSH CURB – CONCRETE

NOT TO SCALE



PLAN SECTION A–A

TRUNCATED DOME DIMENSIONS		
DIM	MIN (INCH)	MAX (INCH)
A	1.6	2.4
B	0.65	1.5
C	SEE NOTE 1	SEE NOTE 1
D	0.9	1.4

NOTES:

1. THE C DIMENSION SHALL BE 50% TO 65% OF THE D DIMENSION.
2. DETECTABLE WARNING SURFACES SHALL COMPLY WITH ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITES ACT AND PENNDOT PUBLICATION 72M – RC67M.
3. DETECTABLE WARNINGS SHALL BE PROVIDED AT ALL LOCATIONS WHERE A PEDESTRIAN WALK CROSSES OR ADJOINS A VEHICULAR WAY AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS.
4. DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE WALKING PATH AND BE A MINIMUM OF TWO FEET (2') IN DEPTH, LOCATED FLUSH AGAINST BACK OF CURB IN ACCORDANCE WITH ANSI 117.
5. DETECTABLE WARNINGS SHALL BE ARMOR–TILE (TM) TACTILE SYSTEM – CAST IN PLACE SYSTEM, OR APPROVED EQUAL (WWW.ARMOR–TILE.COM).
6. COLOR SHALL BE DARK GRAY (FEDERAL COLOR NO. 36118). COLORS SHALL BE SUBMITTED FOR OWNER'S APPROVAL PRIOR TO ORDERING MATERIAL.

DETECTABLE WARNING SURFACE

NOT TO SCALE

NOTES:

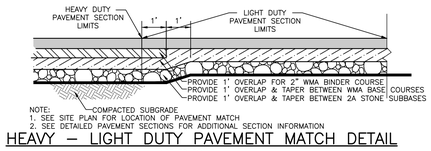
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408, SECTIONS 350, 409, 630, 676, AND 694, BUILDING CODE (ANSI 117) SHALL GOVERN IN CASE OF DISCREPANCY.
2. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
3. IF PEDESTRIAN CROSSWALKS ARE NOT WIDE ENOUGH TO PROVIDE MINIMUM 4'–0" X 4'–0" WIDE WHEELCHAIR OVERRUN ZONE AT THE BOTTOM OF THE RAMP, POSITION CROSSWALKS AS INDICATED IN PENNDOT PUBLICATION 72M – RC–67M – DETAIL A, ON SHEET 7.
4. SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
5. PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF CURB RAMP INCLUDING FLARED SIDE RAMPS.
6. MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB ALTERATIONS WHERE THE CURB IS LESS THAN THE STANDARD 7" HEIGHT.
7. CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
8. IT MAY BE NECESSARY TO LIMIT THE RUN OF A PARALLEL OR PERPENDICULAR CURB RAMP IN ORDER TO AVOID EXCESSIVE CROSS SLOPE WHEN TRAVERSING THE INDENTED PORTION OF CURB. RAMP LENGTH NOT TO EXCEED 15'–0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT POSSIBLE.
9. WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL ROUNDED SHAPE RATHER THAN AN ABRUPT ANGLE. ENSURE CONSTRUCTION IS WITHIN MAXIMUM SLOPE.
10. ALIGN DETECTABLE WARNING DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
11. PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT–ON–DARK OR DARK–ON–LIGHT FOR THE FULL WIDTH OF RAMP. DETECTABLE WARNING SURFACES SHALL COMPLY WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 72M – RC–67M AND ADA REQUIREMENTS.
12. FOR NEW CONSTRUCTION, DO NOT EXCEED 2.0% CROSS SLOPE ON THE CURB RAMP OR ACCESSIBLE ROUTE.
13. CONSTRUCT RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. IT IS STRONGLY RECOMMENDED TO USE THE SLOPES LISTED ABOVE TO ALLOW FOR CONSTRUCTION TOLERANCES.

CURB RAMP – GENERAL INFORMATION

NOT TO SCALE

1. CROSS SLOPES OF THE ACCESSIBLE ROUTE SHALL NOT EXCEED 2%, INCLUDING CURB RAMPS AND ASSOCIATED GUTTERS AND CROSS WALKS.
2. RUNNING SLOPES ALONG THE ACCESSIBLE ROUTE (INCLUDING GUTTERS) SHALL NOT EXCEED 5%. IF RUNNING SLOPES OF ACCESSIBLE ROUTES EXCEED 5%, THEN ALL RAMP CRITERIA APPLY. SLOPES ARE LIMITED TO A RUNNING SLOPE OF NO MORE THAN 5% FOR WALKING SURFACES AND 8.3% FOR RAMPS.
3. SLOPES AT INTERSECTIONS OF ACCESSIBLE ROUTES SHALL NOT EXCEED 2% IN ANY DIRECTION.
4. SLOPES OF MANEUVERING CLEARANCES AT DOORS SHALL NOT EXCEED 2% IN ANY DIRECTION.
5. A 30X48 INCH CLEAR FLOOR SPACE FLUSH SHALL BE PROVIDED WITH A CONTROL (E.G., MAGNETIC CARD READER). SLOPES OF CLEAR FLOOR SPACES AT FIXTURES AND CONTROLS SHALL NOT EXCEED 2% IN ANY DIRECTION.
6. LEVEL CHANGES BETWEEN GROUND SURFACE MATERIALS (E.G., PAVERS TO CONCRETE) SHALL COMPLY WITH THE FOLLOWING:
   - VERTICAL LEVEL SHALL NOT EXCEED ¼ INCH
   - LEVEL CHANGES UP TO ½ INCH ARE BEVELED WITH A SLOPE NOT EXCEEDING 1:2
   - LEVEL CHANGES EXCEEDING ½ INCH ARE RAMPED
7. GAPS OR OPENINGS ALONG THE ACCESSIBLE ROUTE SHALL NOT EXCEED ½ INCH IN WIDTH, PERPENDICULAR TO THE PREDOMINATE FLOW OF PEDESTRIAN TRAFFIC.

ADA CONSTRUCTION NOTES

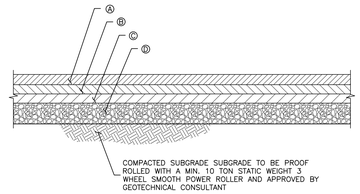


NOTE:
1. SEE SITE PLAN FOR LOCATION OF PAVEMENT MATCH
2. SEE DETAILED PAVEMENT SECTIONS FOR ADDITIONAL SECTION INFORMATION

HEAVY – LIGHT DUTY PAVEMENT MATCH DETAIL

NOT TO SCALE

(OUTSIDE RIGHT–OF–WAY)



NOTES:

1. SEE PAVEMENT LEGEND FOR DESCRIPTIONS OF A, B, C, & D.

PAVEMENT – FLEXIBLE

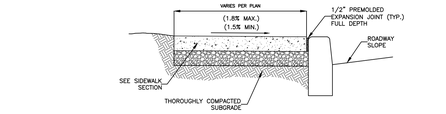
NOT TO SCALE

PENNDOT PAVING SECTION:

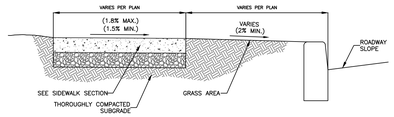
Ⓐ SUPERPAVE ASPHALT MIXTURE DESIGN, HMA WEARING COURSE, PG 64–22, **0.0 TO <0.3** MILLION DESIGN ESALS, 9.5 MM MIXTURE, **1 1/2"** DEPTH, SRL **H**
Ⓑ SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BINDER COURSE, PG 64–22, **0.0 TO <0.3** MILLION DESIGN ESALS, 19.0 MM MIXTURE, **2"** DEPTH
Ⓒ SUPERPAVE ASPHALT MIXTURE DESIGN, HMA BASE COURSE, PG 64–22, **0.0 TO <0.3** MILLION DESIGN ESALS, 25 MM MIXTURE, **6"** DEPTH OR MATCH EXISTING (WHICHEVER IS GREATER)
Ⓓ SUBBASE (PENNDOT NO. 2A) **6"** DEPTH OR MATCH EXISTING (WHICHEVER IS GREATER)

PAVEMENT LEGEND – PENNDOT

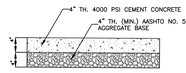
NOT TO SCALE



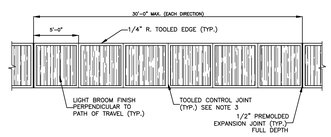
ELEVATION (W/O GRASS)



ELEVATION (WITH GRASS)



SECTION



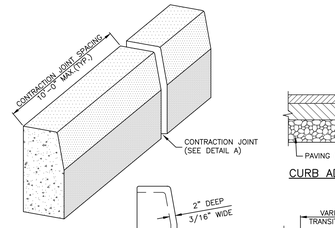
PLAN

NOTES:

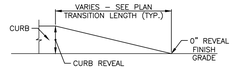
1. ALL CONSTRUCTION, MATERIALS, METHODS OF CONSTRUCTION AND CONTROL OF WORK TO BE GOVERNED BY THE CURRENT EDITION OF PENNDOT SPECIFICATIONS, PUBLICATION 408.
2. PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL FOR THE FULL DEPTH OF THE SIDEWALK AT 30' INTERVALS OPPOSITE EXPANSION JOINTS IN ADJACENT CURB, BETWEEN THE SIDEWALK AND CURB AND BETWEEN THE SIDEWALK AND ANY RIGID STRUCTURES.
3. FORM TRANSVERSE TOOLED CONTROL JOINTS AT 5 FOOT INTERVALS, APPROXIMATELY 1/8" WIDE AND AT LEAST 1" DEEP OR PER SCORING DETAIL PLANS WHERE PROVIDED.
4. ALL EXPOSED CONCRETE SHALL BE SEALED WITH AQURON CPT–2000 OR APPROVED EQUAL.
5. EXISTING CONCRETE TO BE REMOVED ADJACENT TO EXISTING CONCRETE TO REMAIN, SHALL BE SAW CUT FULL DEPTH AT AN EXISTING CONTROL JOINT.
6. FOR USE WITHIN PEDESTRIAN TRAVEL AREAS.

CONCRETE SIDEWALK

NOT TO SCALE



CURB ADJACENT TO PAVING



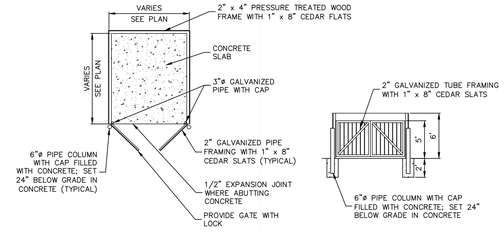
DETAIL A CURB TAPER

NOTES:

1. CONCRETE SHALL BE 4500 PSI COMPRESSIVE STRENGTH..
2. A PREMOLDED BITUMINOUS–IMPREGNATED ONE–HALF–INCH (1/2") EXPANSION JOINT SHALL BE PLACED BETWEEN SECTIONS OF CURBING AT INTERVALS OF NOT MORE THAN 30 FEET AND AT THE END OF THE WORK DAY.
3. FLEXIBLE FORMS SHALL BE REQUIRED FOR ALL CURB RADII WITH A RADIUS OF LESS THAN 150 FEET.
4. WHERE THE SUBGRADE IS SOFT OR SPONGY, AS DETERMINED BY THE MUNICIPAL ENGINEER, A LAYER OF CRUSHED STONE NOT LESS THAN 4" THICKNESS SHALL BE PLACED UNDER THE CURB.
5. CURBS SHALL BE CONSTRUCTED IN 10 FOOT LENGTHS.
6. AC–20 OR EQUAL GUTTER/PAVEMENT JOINT SEALER TO BE PROVIDED 1 FOOT OUT AND 1" UP FACE OF CURB.

6" CURB – CONCRETE

NOT TO SCALE



PLAN ELEVATION

DUMPSTER ENCLOSURE – WOOD

NOT TO SCALE

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Professional Seal:

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
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ISSUED FOR:

NO.	DESCRIPTION	DATE
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5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

Scale: 1" = 1000'

Drawing Title:
CONSTRUCTION SITE DETAILS - 2

Drawing Number:
022

PROJECT INFORMATION:
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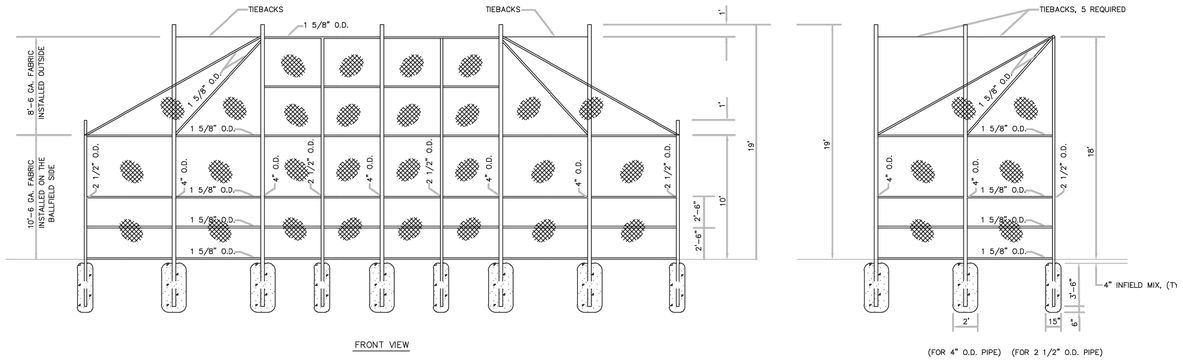
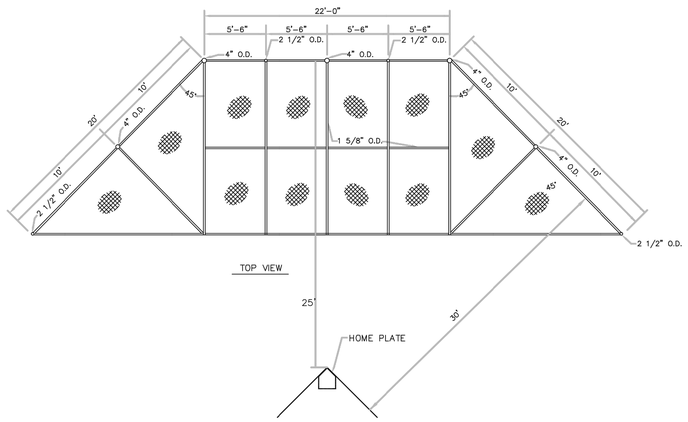
LAST SAVE BY: JKelley



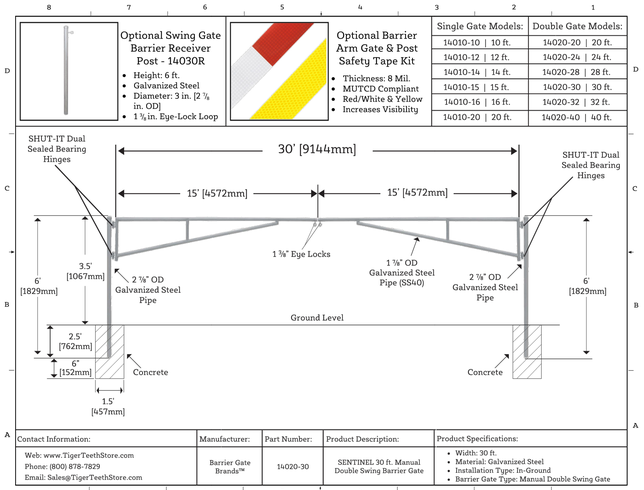


GENERAL NOTES FOR BACKSTOP:

1. CONCRETE FOR THE FOOTINGS SHALL BE CLASS "AA" AS PER PennDOT. SPECIFICATIONS. SET TOP OF FOOTING 4" BELOW FINISHED GRADE.
2. ALL PIPE FRAMEWORK, HARDWARE AND FENCE FABRIC SHALL BE HOT DIPPED GALVANIZED STEEL. GALVANIZING SHALL BE IN ACCORDANCE WITH ASTM STANDARDS A90, A120 AND A392.
3. LINE POSTS SHALL BE 2 1/2" O.D. AND 4" O.D., HORIZONTAL RAILS SHALL BE 1 5/8" O.D., POSTS AND RAILS SHALL BE SCHEDULE 40 PIPE.
4. FABRIC SHALL HAVE A NOMINAL 2" DIAMOND MESH AND ALL SELVAGES SHALL BE KNUCKLED, SECURE FABRIC TO FRAMEWORK WITH 6 GAUGE ALUMINUM TIE WIRES ON 15" CENTERS, DOUBLE LOOPED.
5. THE TIEBACKS SHALL CONSIST OF 3/8" GALVANIZED STEEL THREADED RODS WITH APPROPRIATE TURNBUCKLES, 5 TIEBACKS ARE REQUIRED AND SECURED TO THE 4" O.D. POSTS.

SOFTBALL BACKSTOP

NOT TO SCALE



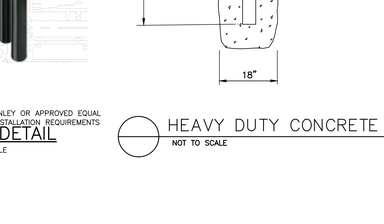
Single Gate Models:	Double Gate Models:
14010-10 | 10 ft.	14020-20 | 20 ft.
14010-12 | 12 ft.	14020-24 | 24 ft.
14010-14 | 14 ft.	14020-28 | 28 ft.
14010-15 | 15 ft.	14020-30 | 30 ft.
14010-16 | 16 ft.	14020-32 | 32 ft.
14010-20 | 20 ft.	14020-40 | 40 ft.

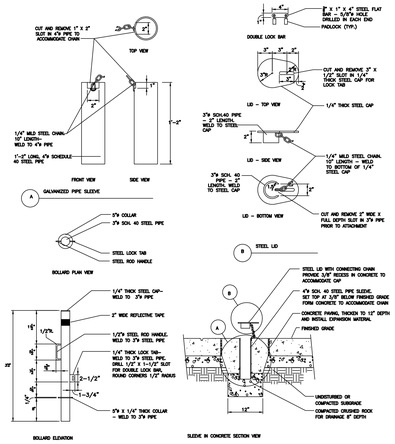
Contact Information:	Manufacturer:	Part Number:	Product Description:	Product Specifications:
Web: www.TigerTeethStore.com Phone: (800) 878-7829 Email: Sales@TigerTeethStore.com	Barrier Gate Brands™	14020-30	SENTINEL 30 ft. Manual Double Swing Barrier Gate	• Width: 30 ft. • Material: Galvanized Steel • Installation Type: In-Ground • Barrier Gate Type: Manual Double Swing Gate

NOTE: IF THE TOWNSHIP REQUIRES SHOP DRAWINGS, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING THEM

30' DOUBLE ARM SWING GATE DETAIL (OR APPROVED EQUAL)

N.T.S.





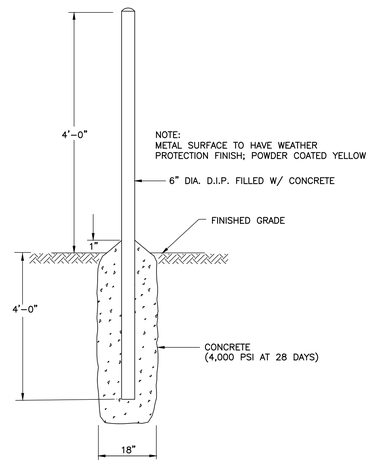
REMOVABLE BOLLARDS

NOT TO SCALE

NOTES:

1. ALL PIPE SECTIONS SHALL CONSTRUCTED OF SCHEDULE 40 STEEL PIPE AND ALL COMPONENTS SHALL BE PAINTED BLACK AFTER FABRICATION.
2. CONTRACTOR TO PROVIDE SHOP DRAWING FOR ENGINEER'S APPROVAL PRIOR TO INSTALLATION

Victor Stanley
L-89, L-289, & L-89



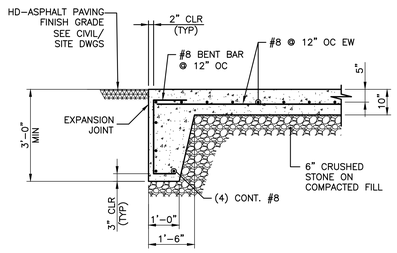
NOTE:
1. BOLLARDS SHALL BE VICTOR STANLEY OR APPROVED EQUAL
2. INSTALL PER MANUFACTURER'S INSTALLATION REQUIREMENTS

BOLLARD DETAIL

NOT TO SCALE

HEAVY DUTY CONCRETE BOLLARD

NOT TO SCALE



REINFORCED CONCRETE PAD DETAIL & NOTES

N.T.S

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO THE INTERNATIONAL BUILDING CODE LATEST EDITION, PENNSYLVANIA EDITION, AND ASCE/SEI 7-16 "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES".
2. ALL CONSTRUCTION WORK SHALL BE PERFORMED IN ACCORDANCE WITH ALL NATIONALLY ACCEPTED SAFETY PRACTICES, APPLICABLE SAFETY CODES AND ANY OTHER PARTIES THAT MAY HAVE JURISDICTION OVER SAFETY.
3. NO STRUCTURAL MEMBERS (BEAMS, JOISTS, GIRDERS, BEARING WALLS, SLABS, DECKS, COLUMNS, BRIDGING, BRACING, ETC.) SHALL BE CUT OR ALTERED UNLESS SPECIFICALLY NOTED ON THE STRUCTURAL DRAWINGS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS AND METHODS, CONSTRUCTION TECHNIQUES, SEQUENCE OF CONSTRUCTION, ETC. TO ENSURE THE SAFETY OF HIS EMPLOYEES AND THE GENERAL PUBLIC AT ALL TIMES. JOBSITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
5. CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE BEFORE ORDERING ANY MATERIAL OR COMMENCEMENT OF ANY WORK. CONTRACTOR IS SOLELY RESPONSIBLE FOR SURVEYING AND VERIFICATION OF EXISTING CONDITIONS, INCLUDING BUT NOT LIMITED TO THE LOCATIONS, ELEVATIONS AND DIMENSIONS OF EXISTING WALLS AND STRUCTURAL MEMBERS.
6. THE CONTRACTOR SHALL COORDINATE OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS AND DEPRESSIONS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL AND PLUMBING DRAWINGS AND TYPICAL DETAILS.
7. CONTRACTOR SHALL COORDINATE ALL RELATED TRADE ACTIVITY REGARDING SHUT-DOWNS, RE-ROUTING, TEMPORARY INSTALLATION, ETC. WITH THE OWNER'S REPRESENTATIVE.
8. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION TO THE DETAILS SHOWN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED IN WRITING BY THE ARCHITECT/ENGINEER.
9. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO THE START OF FABRICATION AND COMMENCEMENT OF WORK. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS AND SIMILAR DATA, AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
10. THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT PROPER STORAGE OF MATERIAL IS MAINTAINED SO AS NOT TO CAUSE OVERLOADING OF THE EXISTING STRUCTURE OR NEW STRUCTURE DURING PERFORMANCE OF THIS WORK. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.
11. ALL COSTS OF INVESTIGATION AND/OR REDESIGN DUE TO CONTRACTOR REMOVAL OR INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
12. ANY FRAMING MEMBERS OR SUPPORTS REQUIRED BY THE ELECTRICAL OR MECHANICAL TRADES FOR THE SUPPORT OF THEIR EQUIPMENT, WHICH ARE NOT SHOWN ON THE STRUCTURAL DRAWINGS, SHALL BE DESIGNED AND PROVIDED BY THE TRADE REQUIRING SUCH SUPPORT.

BICYCLE RACK DETAIL (OR APPROVED EQUAL)

N.T.S.

CONCRETE:

1. ALL CONCRETE WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE LATEST EDITION OF THE "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE" (ACI 318), THE ACI DETAILING MANUAL (ACI 315), AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301).
2. ALL CONCRETE SHALL BE NORMAL WEIGHT, READY-MIX CONCRETE AND SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS, WITH A MAXIMUM WATER CEMENT RATIO OF 0.45 BY WEIGHT. CEMENT SHALL CONFORM TO ASTM C150, TYPE I, WITH A MAXIMUM AGGREGATE SIZE OF 3/4 INCH, CONFORMING TO ASTM C33. SLUMP AT POINT OF CONCRETE PLACEMENT SHALL BE THREE (3) INCH MINIMUM AND SIX (6) INCH MAXIMUM. CONCRETE EXPOSED TO WEATHER SHALL HAVE 6 PERCENT AIR ENTRAINMENT.
3. SUBMIT CONCRETE MIX DESIGNS AND ASSOCIATED PRODUCT DATA, IN ACCORDANCE WITH ACI 301, TO THE STRUCTURAL ENGINEER FOR REVIEW, A MINIMUM OF TWO WEEKS PRIOR TO CONCRETE PLACEMENT. CONCRETE MIX DESIGN SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO, COMPRESSIVE STRENGTH TEST RESULTS, UNIT WEIGHT AND MIX PROPORTIONS. PRODUCT DATA SUBMITTAL SHALL INCLUDE, BUT NOT BE LIMITED TO, CEMENT MILL TEST CERTIFICATE, AGGREGATE GRADATION, ADMIXTURE MANUFACTURER DATA SHEETS AND COMPATIBILITY LETTER. ADMIXTURES SHALL BE FROM A SINGLE SOURCE MANUFACTURER.
4. TESTING OF COMPOSITE SAMPLES OF CONCRETE SHALL BE PERFORMED AT THE FREQUENCY INDICATED IN ACI 318, PER ASTM C172. CAST AND LABORATORY CURE, PER ASTM C31, ONE SET OF FOUR STANDARD CYLINDER SPECIMENS FOR EACH COMPOSITE SAMPLE. PERFORM COMPRESSIVE STRENGTH TESTS, PER ASTM C39, FOR TWO LABORATORY-CURED SPECIMENS AT SEVEN DAYS AND TWO SPECIMENS AT 28 DAYS. OWNER TO RETAIN INDEPENDENT TESTING AND INSPECTION AGENCY. TEST CONCRETE SLUMP PER ASTM C143 AND AIR CONTENT PER ASTM C231. SUBMIT CONCRETE TEST REPORTS TO THE ENGINEER FOR RECORD.
5. ALL REINFORCING STEEL SHALL BE MANUFACTURED FROM HIGH STRENGTH BILLET STEEL CONFORMING TO ASTM A615 GRADE 60. WELDED WIRE REINFORCEMENT SHALL COMPLY WITH ASTM A1064 (FORMERLY ASTM A185).
6. LAP SPLICE LENGTH FOR #6 BARS AND SMALLER SHALL BE A MINIMUM OF 48 BAR DIAMETERS, UNLESS OTHERWISE NOTED. LAP ALL BARS LARGER THAN #6 WITH A CLASS B TENSION LAP SPLICE. LAP ALL WELDED WIRE REINFORCING A MINIMUM OF TWO (2) FULL WIRE SPACES AND WIRE TOGETHER.
7. SUBMIT REINFORCING STEEL SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL PRIOR TO PLACING ANY CONCRETE. PLACING OF CONCRETE SHALL NOT COMMENCE UNTIL PLACEMENT OF REINFORCING HAS BEEN INSPECTED AND APPROVED BY THE TESTING AND INSPECTION AGENCY.
8. PROVIDE PLASTIC-TIPPED CHAIRS AT ALL LOCATIONS WHERE THE CONCRETE SURFACE IN CONTACT WITH THE CHAIRS IS EXPOSED.
9. FOR GRADE BEAMS, LAP ALL TOP STEEL AT MID-SPAN AND LAP ALL BOTTOM STEEL OVER SUPPORT.
10. BONDING AGENT SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST EXISTING CONCRETE.
11. CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS OTHERWISE NOTED ON THE ARCHITECTURAL DRAWINGS.
12. GUARD AGAINST EARLY DRYING OUT OF CONCRETE, ESPECIALLY IN THE FIRST 24 HOURS. ALL SURFACES SHALL BE MOIST-CURED OR PROTECTED USING A MEMBRANE CURING AGENT, APPLIED AS SOON AS FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, EXERCISE CARE NOT TO DAMAGE COATING.
13. COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 306R. HOT WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305R.

FOUNDATIONS:

1. PERFORM ALL SITE PREPARATION AND EXCAVATION WORK IN STRICT ACCORDANCE WITH THE REPORT OF GEOTECHNICAL INVESTIGATION REPORT FOR SOUTH BRANDYWINE ELEMENTARY SCHOOL, COATESVILLE AREA SCHOOL DISTRICT, PREPARED BY RPGEOSTRUCTURES, INC., DATED MAY 14, 2024.
2. EXCAVATE THE BUILDING SITE TO THE DEPTH AND EXTENT INDICATED IN THE SOILS REPORT. ALL SUBGRADE SHALL BE APPROVED IN WRITING BY THE SOILS ENGINEER PRIOR TO BACKFILLING.
3. BOTTOM OF FOOTINGS SHALL BEAR ON SOIL CAPABLE OF SAFELY SUPPORTING 3000 POUNDS PER SQUARE FOOT. FOUNDATIONS BEARING ON SOIL EXPOSED TO OUTSIDE AMBIENT AIR TEMPERATURES SHALL EXTEND A MINIMUM OF 3'-0" BELOW GRADE.
4. BOTTOM OF ALL FOOTINGS MUST BE INSPECTED AND APPROVED BY A LICENSED PROFESSIONAL ENGINEER OR QUALIFIED GEOTECHNICAL ENGINEER IMMEDIATELY BEFORE PLACING ANY CONCRETE. APPROVAL IN WRITING MUST INDICATE THE SOIL IS ADEQUATE TO SAFELY SUSTAIN SPECIFIED SOIL BEARING PRESSURE.
5. CONCRETE FOOTINGS AND FOUNDATIONS SHALL BE CONSTRUCTED WITH WOOD FORMS OR OTHER APPROVED FORM MATERIALS. EARTH FORMS ARE NOT PERMITTED.
6. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL IN WRITING FROM THE STRUCTURAL ENGINEER.
7. THE CONTRACTOR SHALL OBSERVE WATER CONDITIONS AT THE SITE AND TAKE THE NECESSARY PRECAUTIONS TO ENSURE THAT THE FOUNDATION EXCAVATIONS REMAIN DRY DURING CONSTRUCTION. ANY SHEETING OR SHORING REQUIRED FOR DE-WATERING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

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PROJECT INFORMATION:
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FILE NAME: CAS00000_DTL.dwg
LAST SAVED: 04 Oct 2024, 4:55PM
LAST SAVE BY: JKelley

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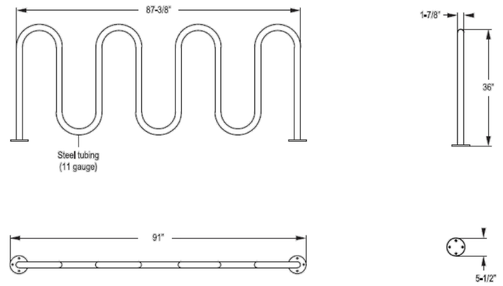
thepark AND FACILITIES CATALOG

Spec Sheet

9 Bike Wave Rack - Stainless Steel (1-7/8" O.D.)
593-3003



JH-04272023

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DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

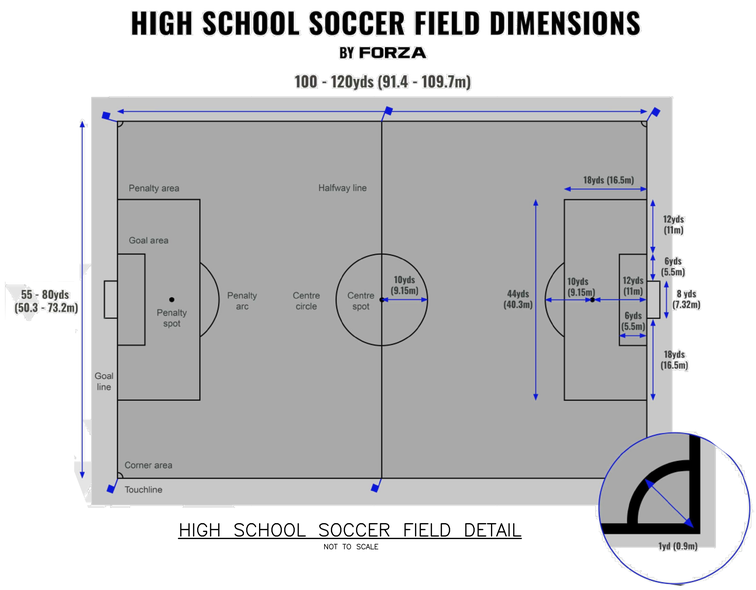
Scale: 1" = 1000'

Drawing Title:
CONSTRUCTION SITE DETAILS - 3

Drawing Number:
022A

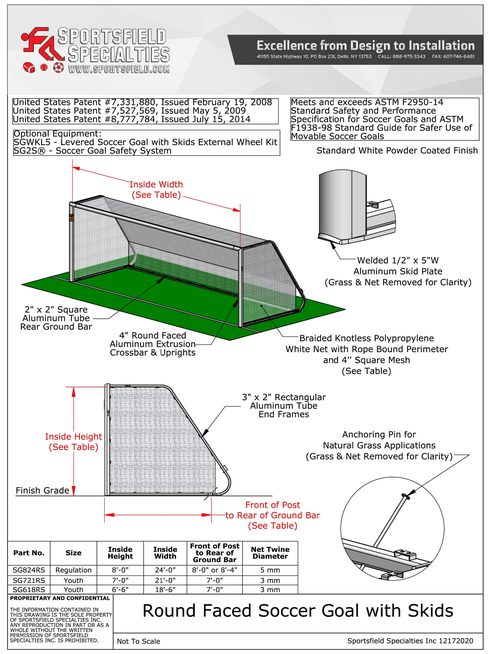
HIGH SCHOOL SOCCER FIELD DIMENSIONS

BY FORZA



HIGH SCHOOL SOCCER FIELD DETAIL

NOT TO SCALE

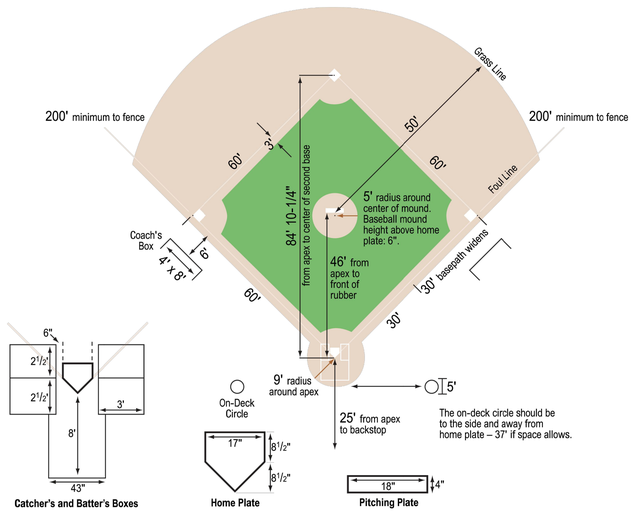


Part No.	Size	Inside Height	Inside Width	Front of Post to Rear of Ground Bar	Net Twine Diameter
SG824RS	Regulation	8'-0"	24'-0"	8'-0" or 8'-4"	5 mm
SG721RS	Youth	7'-0"	21'-0"	7'-0"	3 mm
SG618RS	Youth	6'-6"	18'-6"	7'-0"	3 mm

REGULATION SIZED SOCCER GOAL WITH SKIDS DETAIL
(OR APPROVED EQUAL)

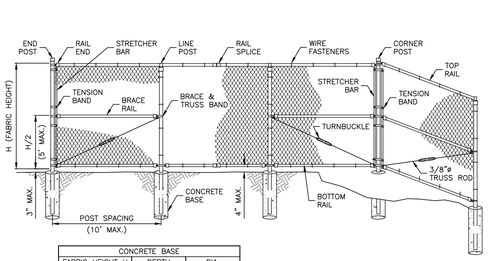
N.T.S.

60' Little League Field



LITTLE LEAGUE FIELD DETAIL

NOT TO SCALE



CONCRETE BASE		
FABRIC HEIGHT H	DEPTH	DIA.
FEET	INCHES	
3 THRU 6	48	12
>6 THRU 18	72	24

* ALL POSTS 3 IN. CLEARANCE FROM BOTTOM OF CONCRETE BASE

ROUND PIPE			
NOMINAL I.D.	O.D.	WALL THICK.	WEIGHT
	INCHES		LB./FT.
1.25	1.660	0.140	2.27
1.50	1.900	0.145	2.72
2.00	2.375	0.154	3.65
2.50	2.875	0.203	5.79
3.00	3.500	0.216	7.58
3.50	4.000	0.226	9.11
4.00	4.500	0.237	10.79
5.00	5.563	0.258	14.62
6.00	6.625	0.280	18.97
8.00	8.625	0.322	28.55

ROLL-FORMED STEEL			
PART	SIZE	THICKNESS	WEIGHT
	INCHES	GAGE	LB./FT.
TOP & BRACE RAILS	1.250 x 1.625	14	2.08
LINE POST (H = 3FT – 6FT)	1.875 x 1.625	12	2.75
LINE POST (H = >6FT – 8FT)	1.875 x 1.625	11	3.36
LINE POST (H = >8FT – 12FT)	2.250 x 1.625	11	4.02
END, CORNER & LINE BRACE POSTS	3.50 x 3.50	10	7.59

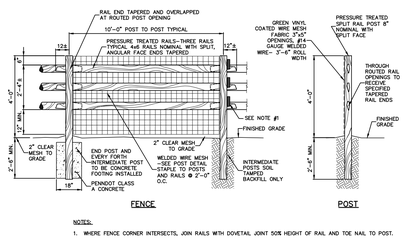
FENCE MATERIAL						
FABRIC HEIGHT	END, CORNER & LINE BRACE POSTS		LINE POSTS		TOP & BRACE RAILS	
H	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL	ROUND PIPE I.D.	ROLL-FORMED STEEL
FEET	INCHES		INCHES		INCHES	
3 THRU 6	2.5	3.5 x 3.5	1.5	1.875 x 1.625	1.25	1.25 x 1.625
>6 THRU 8	2.5	3.5 x 3.5	2.0	1.875 x 1.625	1.25	1.25 x 1.625
>8 THRU 12	2.5	3.5 x 3.5	2.0	1.875 x 1.625	1.25	1.25 x 1.625

NOTES:

1. H (HEIGHT OF FABRIC) SHALL BE AS SHOWN ON THE PLANS.
2. CHAIN LINK FENCE SHALL CONFORM TO THE REQUIREMENTS OF AASHTO M 181.
3. CHAIN LINK FABRIC SHALL BE 2" MESH NO. 9 GAGE GALVANIZED OR ALUMINUM COATED WIRE SECURELY FASTENED TO TENSION WIRE, LINE POSTS, RAILS, BRACES, AND STRETCHER BARS SPACED AS SHOWN HEREON. WIRE FASTENERS AND TIE CLIPS SHALL BE NO. 11 GAGE (W&M) ALUMINUM WIRE, AND HOG RINGS SHALL BE NO. 9 GAGE, ALL IN CONFORMANCE WITH ASTM F 626.
4. ATTACH FABRIC TO ALL FENCE AND GATE STRUCTURES AT 12" INTERVALS VERTICALLY AND AT 20" HORIZONTALLY.
5. STEEL POSTS, RAILS, AND GATE FRAMES SHALL CONFORM TO AASHTO M 181 TYPE 1, GRADE 1 OR GRADE 2.
6. TENSION WIRE SHALL BE CONTINUOUS BETWEEN END OR CORNER POST AND LINE BRACE POST. A TURNBUCKLE OR OTHER APPROVED TIGHTENING DEVICE SHALL BE USED FOR EACH CONTINUOUS SPAN OF TENSION WIRE.
7. TENSION WIRE SHALL BE AS SPECIFIED IN AASHTO M 181.
8. CONCRETE FOOTINGS SHALL HAVE TOPS CROWNED AT GROUND LEVEL AND SHALL BE PENNDOT CLASS B.
9. CHAIN LINK FABRIC SHALL BE KNUCKLED AT THE TOP AND BOTTOM SELVAGES.
10. BRACE RAIL WILL NOT BE REQUIRED FOR 36", 42" OR 48" FABRIC HEIGHTS. BRACE RAIL FOR FENCE WITH ROLL-FORMED STEEL ELEMENTS IS 12" BELOW THE TOP RAIL.
11. FENCE MAY BE CONSTRUCTED WITH EITHER ROUND PIPE OR ROLL-FORMED STEEL COMPONENTS.
12. FINISH (MESH, POSTS, AND RAIL): GALVANIZED WITH BLACK PVC COATING.

FENCE – CHAIN LINK

NOT TO SCALE

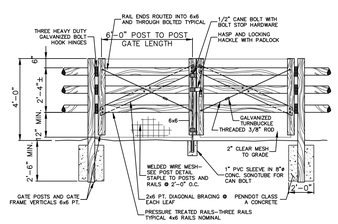


NOTES:

1. WHERE FENCE CORNER INTERSECTS, JOIN RAILS WITH DOVETAIL JOINT 50% HEIGHT OF RAIL AND TOE NAIL TO POST.

FENCE – SPLIT RAIL

NOT TO SCALE



GATE – SPLIT RAIL

NOT TO SCALE

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PROJECT INFORMATION:
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FILE NAME: CAD000001_DTL.dwg
PLOT DATE: 04 Oct 2024, 4:58PM
LAST SAVE BY: JKelley

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY INFORMATION. THIS DOES NOT IMPLY COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND NOTIFY PA ONE CALL PRIOR TO START OF WORK.
SERIAL NO.
20232512731–000

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE–076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

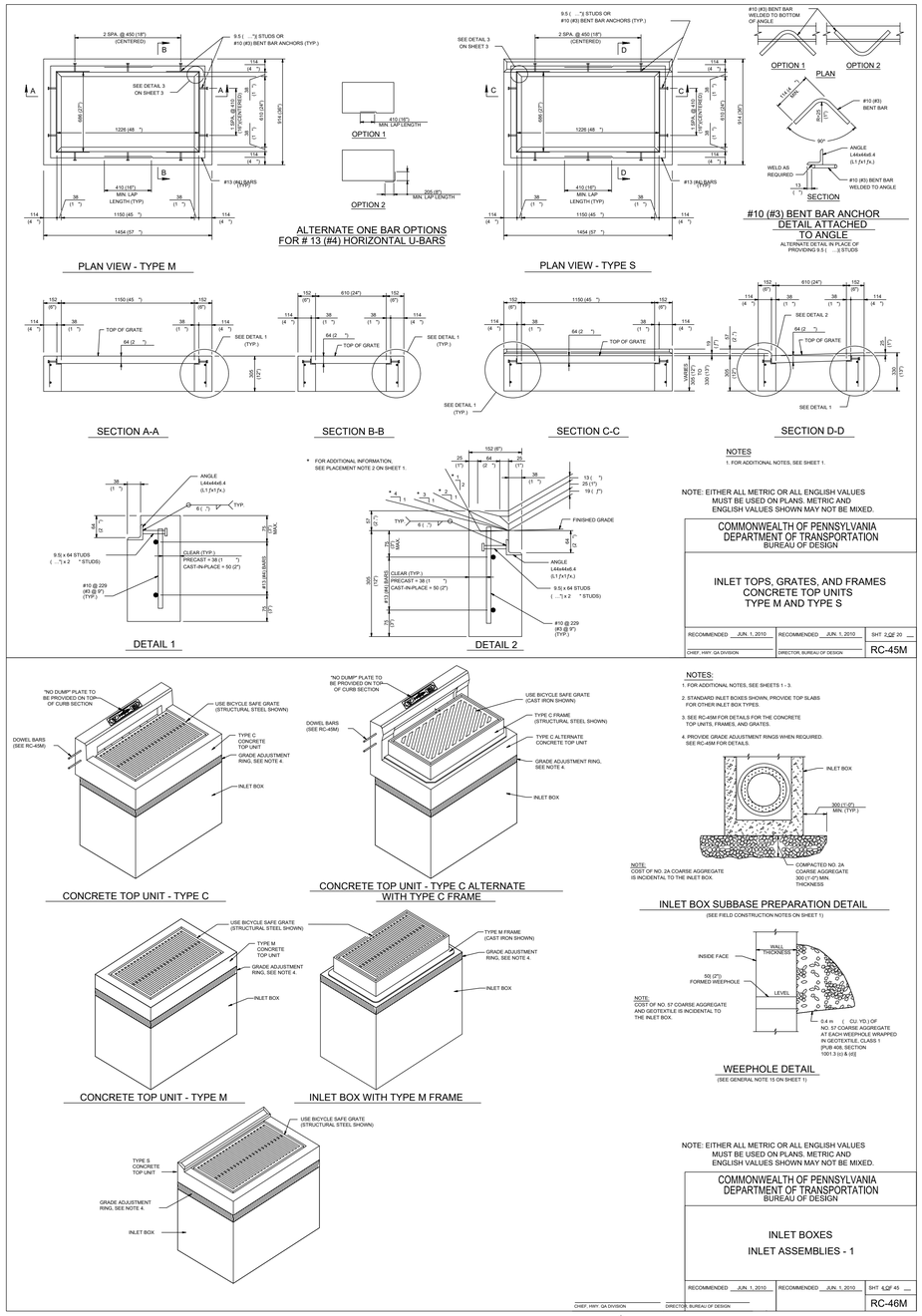
Key Plan:

N
PROJECT

Scale: 1" = 1000'

Drawing Title:
CONSTRUCTION DETAILS - 4

Drawing Number:
022B



NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLET TOPS, GRATES, AND FRAMES
CONCRETE TOP UNITS
TYPE M AND TYPE S

RECOMMENDED JUN. 1, 2010	RECOMMENDED JUN. 1, 2010	SHT 2 OF 20
CHIEF, HWY. QA DIVISION	DIRECTOR, BUREAU OF DESIGN	RC-45M

CONCRETE TOP UNIT - TYPE C ALTERNATE WITH TYPE C FRAME

NOTES:
1. FOR ADDITIONAL NOTES, SEE SHEETS 1 - 3.
2. STANDARD INLET BOXES SHOWN, PROVIDE TOP SLABS FOR OTHER INLET BOX TYPES.
3. SEE RC-45M FOR DETAILS FOR THE CONCRETE TOP UNITS, FRAMES, AND GRATES.
4. PROVIDE GRADE ADJUSTMENT RINGS WHEN REQUIRED. SEE RC-45M FOR DETAILS.

INLET BOX SUBBASE PREPARATION DETAIL
(SEE FIELD CONSTRUCTION NOTES ON SHEET 1)

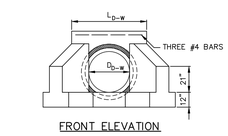
WEEPHOLE DETAIL
(SEE GENERAL NOTE 15 ON SHEET 1)

NOTE: EITHER ALL METRIC OR ALL ENGLISH VALUES MUST BE USED ON PLANS. METRIC AND ENGLISH VALUES SHOWN MAY NOT BE MIXED.

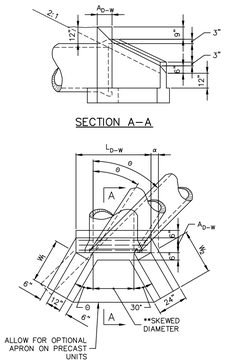
COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF TRANSPORTATION
BUREAU OF DESIGN

INLET BOXES
INLET ASSEMBLIES - 1

RECOMMENDED JUN. 1, 2010	RECOMMENDED JUN. 1, 2010	SHT 4 OF 45
CHIEF, HWY. QA DIVISION	DIRECTOR, BUREAU OF DESIGN	RC-46M

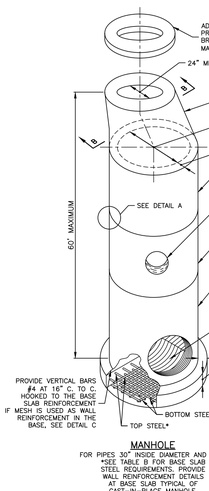


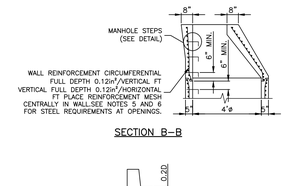
PIPE DIAMETER	SKEW =90° TO 60°		θ = 30°	
D_{D-W}* (IN.)	L_{D-W}* (FT.)	α (FT.)	W_1 & W_2 (FT.)	A_{D-W}* (IN.)
12	3.5	0	0.0	12
18	4.0	0	1.2	12
24	4.6	0	2.3	12
30	5.2	0	3.5	12
36	5.8	0	4.6	12
42	6.3	0	5.8	12
48	6.9	0	6.9	12
54	7.5	0	8.0	12
60	8.1	0	9.2	12
72	9.2	0	11.5	12

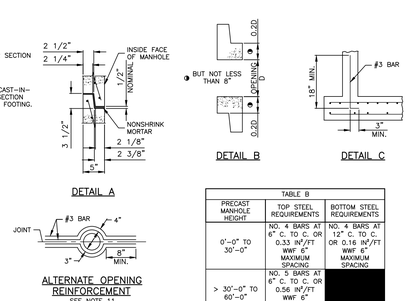


NOTES:
1. ALL MATERIALS AND CONSTRUCTION METHODS TO MEET THE REQUIREMENTS OF PENNDOT PUBLICATION 408 AND 72-M (RC-31M), LATEST REVISION.
2. CHILD SAFETY GRATES SHALL BE PROVIDED ON ALL ENDWALLS. TRASH RACKS SHALL BE PROVIDED ON ALL HEADWALLS.

HEADWALL/ENDWALL – TYPE D–W
NOT TO SCALE







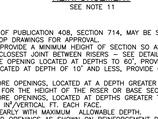
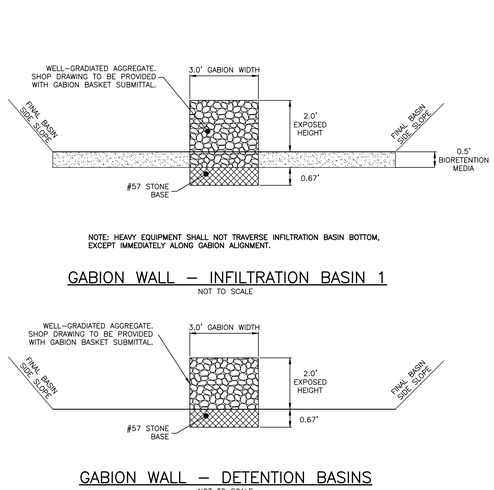
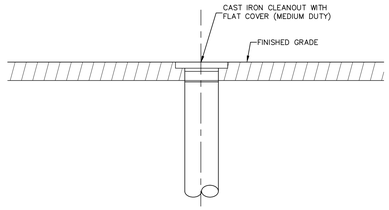


TABLE B		
PRECAST MANHOLE HEIGHT	TOP STEEL REQUIREMENTS	BOTTOM STEEL REQUIREMENTS
0'-0" TO 30'-0"	NO. 4 BARS AT 6" C. TO C. OR 0.33 IN²/FT WWF 6" MAXIMUM SPACING	NO. 4 BARS AT 12" C. TO C. OR 0.16 IN²/FT WWF 6" MAXIMUM SPACING
> 30'-0" TO 60'-0"	NO. 5 BARS AT 6" C. TO C. OR 0.56 IN²/FT WWF 6" MAXIMUM SPACING	

NOTES:
1. PRECAST MANHOLES MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 714, MAY BE SUBSTITUTED FOR THE STANDARD CAST-IN-PLACE MANHOLE. FOR DEVIATION OR MODIFICATION OF THE STANDARDS, SUBMIT SHOP DRAWINGS FOR APPROVAL.
2. FOR RISERS OR BASE SECTIONS WITH OPENINGS, PROVIDE A MINIMUM HEIGHT OF SECTION SO AS TO PROVIDE AN UNCUT WALL EQUAL TO 20% OF THE OPENING, BUT NO LESS THAN 8", BETWEEN THE OPENING AND THE CLOSEST JOINT BETWEEN RISERS – SEE DETAIL B.
3. FOR PRECAST RISER OR BASE SECTIONS WITH ONE OPENING LOCATED AT DEPTHS TO 40', PROVIDE CIRCUMFERENTIAL REINFORCEMENT IN ACCORDANCE WITH SECTION B-B. FOR SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTH OF 10' AND LESS, PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.16 IN²/VERTICAL FT. FOR THE HEIGHT OF RISER OR BASE SECTION.
4. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT A DEPTH GREATER THAN 10', BUT LESS THAN OR EQUAL TO 25', PROVIDE CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.44 IN²/VERTICAL FT. FOR THE HEIGHT OF THE RISER OR BASE SECTION.
5. FOR RISERS OR BASE SECTIONS WITH TWO OR MORE OPENINGS, LOCATED AT DEPTHS GREATER THAN 25', USE A 10" THICK WALL RISER OR BASE SECTION WITH CIRCUMFERENTIAL REINFORCEMENT EQUAL TO 0.22 IN²/VERTICAL FT. EACH FACE.
6. MARK RISERS OR BASE SECTIONS WITH HOLES CLEARLY WITH MAXIMUM ALLOWABLE DEPTH.
7. PROVIDE ADDITIONAL REINFORCEMENT BARS AROUND OPENINGS AS SHOWN ON REINFORCEMENT DETAILS AT OPENINGS.
8. PROVIDE MANHOLE STEPS MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 605.2(c). ALTERNATE CONFIGURATIONS AND DIMENSIONS, AS APPROVED BY THE ENGINEER, MAY BE USED.
9. PROVIDE MINIMUM 1" SECTION DIMENSION FOR METAL STEPS. PROVIDE MINIMUM 3/4" SECTION DIMENSION FOR NON-DETERIORATING MATERIAL STEPS.
10. MECHANICAL ANCHOR REQUIRED FOR INSTALLATION OF STEPS WITHOUT HOOKS.
11. THE ALTERNATE OPENING REINFORCEMENT DETAIL IS NOT DESIRABLE BY DESIGN. USE IT TO MEET EXISTING PIPE ELEVATIONS.

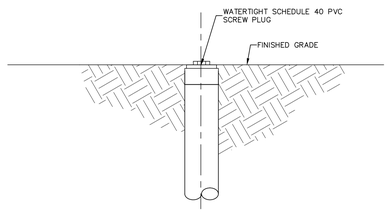
MANHOLE (PRECAST)
NOT TO SCALE





NOTES:
1. ALL PIPE AND JOINT MATERIAL TO MATCH SIZE AND TYPE OF DRAIN.

CLEANOUT (PAVED AREAS)
NOT TO SCALE



NOTES:
1. ALL PIPE AND JOINT MATERIAL TO MATCH SIZE AND TYPE OF DRAIN.

CLEANOUT (UNPAVED AREAS)
NOT TO SCALE

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PROJECT INFORMATION:
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FILE NAME: CA2000001_DTL.dwg
PLOT DATE: 04 Oct 2024, 4:56PM
PLOT SCALE: 1:1
LAST SAVE BY: JKelley

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SERIAL NO.
20232512731–000

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Owner:
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COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
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5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

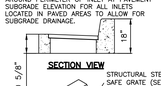
Key Plan:

Scale: 1" = 1000'

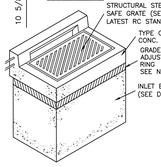
Drawing Title:
STORMWATER DETAILS - 1

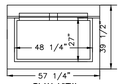
Drawing Number:
023

NOTE: PROVIDE 1" DIA. HOLES @ 12" C.C. AROUND PERIMETER OF INLET AT PAVEMENT SUBGRADE ELEVATION FOR ALL INLETS LOCATED IN PAVED AREAS TO ALLOW FOR SUBGRADE DRAINAGE.



SECTION VIEW



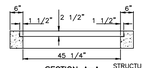


PLAN VIEW

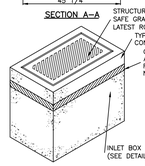
NOTES:
1. CONSTRUCT IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECT. 605, FOR INLET ASSEMBLIES.
2. PROVIDE (HS-25 LOADING) BICYCLE-SAFE, STRUCTURAL STEEL GRATE AS DETAILED IN PENNDOT STANDARD FOR ROADWAY CONSTRUCTION, PDT PUB #72M, CURRENT EDITION.
3. PROVIDE A MINIMUM OF 4 INCHES AND A MAXIMUM OF 8 INCHES OF PRECAST CONCRETE COLLARS WITH THROUGH WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.
4. ALL INLETS GREATER THAN 4' IN DEPTH SHALL BE CONSTRUCTED WITH STEPS.
5. ALL EXPOSED EDGES SHALL BE CHAMFERED 1"X1".
6. THE BACKFILL AROUND THE WEEPHOLES SHALL NOT BE SCREENED; i.e., PLACE CLEAN STONE WITHOUT SCREENING THE VOIDS TO ALLOW WATER TO ENTER WEEPHOLES.
7. THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST CONCRETE PRODUCTS, OR SHALL HAVE A LICENSED ENGINEER CERTIFY THAT THE INLETS CAN SUPPORT AN HS-25 LOADING.

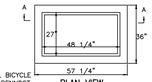
TYPE 'C' INLET

NOT TO SCALE



SECTION A–A





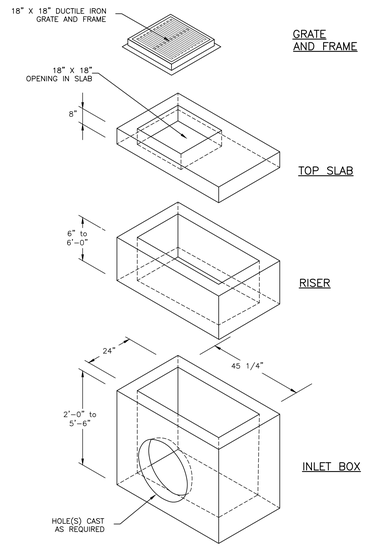
PLAN VIEW

NOTE: PROVIDE 1" DIA. HOLES @ 12" C.C. AROUND PERIMETER OF INLET AT PAVEMENT SUBGRADE ELEVATION FOR ALL INLETS LOCATED IN PAVED AREAS TO ALLOW FOR SUBGRADE DRAINAGE.

NOTES:
1. CONSTRUCT IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLICATION 408, SECT. 605, FOR INLET ASSEMBLIES.
2. CONCRETE TOP UNITS SHALL BE AS DETAILED IN PENNDOT STANDARD FOR ROADWAY CONSTRUCTION, CURRENT EDITION, "INLETS, CONCRETE TOP UNITS CAST-IN-PLACE AND PRECAST".
3. PROVIDE A MINIMUM OF 4 INCHES AND A MAXIMUM OF 8 INCHES OF PRECAST CONCRETE COLLARS WITH THROUGH WALL OPENINGS ADJACENT TO SUBGRADE TO SERVE AS WEEP HOLES.
4. ALL INLETS GREATER THAN 4' IN DEPTH SHALL BE CONSTRUCTED WITH STEPS.
5. ALL EXPOSED EDGES SHALL BE CHAMFERED 1"X1".
6. THE BACKFILL AROUND THE WEEPHOLES SHALL NOT BE SCREENED; i.e., PLACE CLEAN STONE WITHOUT SCREENING THE VOIDS TO ALLOW WATER TO ENTER WEEPHOLES.
7. THE MANUFACTURER OF THE INLETS SHALL BE INCLUDED ON THE PENNDOT LIST OF APPROVED MANUFACTURERS OF PRECAST CONCRETE PRODUCTS, OR SHALL HAVE A LICENSED ENGINEER CERTIFY THAT THE INLETS CAN SUPPORT AN HS-25 LOADING.

STANDARD TYPE 'M' INLET

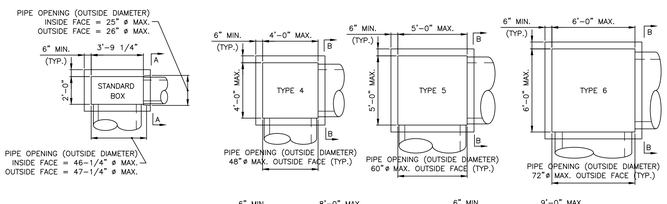
NOT TO SCALE

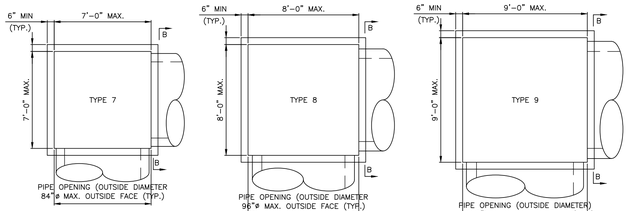


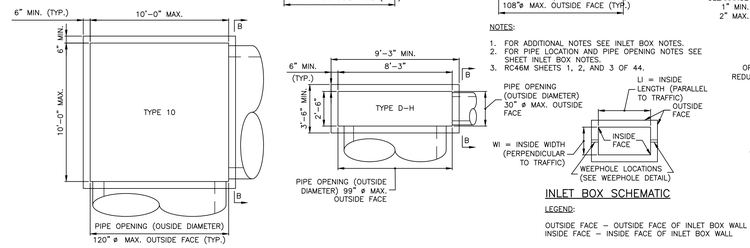
NOTES:
1. FOR ADDITIONAL NOTES SEE GENERAL NOTES ON INLET BOXES, RC46M SHEETS 1, 2, AND 3 OF 44.
2. OUT TO OUT DIMENSIONS OF TOP SLABS TO MATCH SIZE OF INLET BOX.
3. FOR REINFORCEMENT REQUIREMENTS SEE INLET BOXES TOP SLABS 2, RC46M SHEET 8 OF 44.
4. ALL MATERIALS AND CONSTRUCTION METHODS TO MEET THE REQUIREMENTS OF PENNDOT PUBLICATION 408 AND 72M, LATEST REVISION.
5. ALL STRUCTURES AND ASSEMBLIES TO BE PRE-CAST, UNLESS OTHERWISE NOTED.

INLET WITH 18" X 18" GRATE CONVERSION

NOT TO SCALE



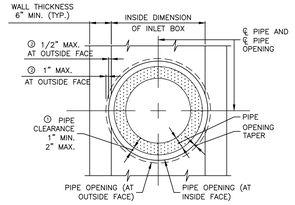




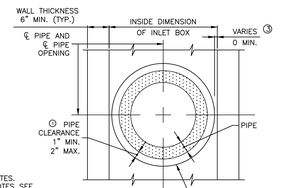
NOTES:
1. FOR ADDITIONAL NOTES SEE INLET BOX NOTES.
2. FOR PIPE LOCATION AND PIPE OPENING NOTES SEE SHEET INLET BOX NOTES.
3. RC46M SHEETS 1, 2, AND 3 OF 44.

INLET BOX SCHEMATIC

LEGEND:
OUTSIDE FACE – OUTSIDE FACE OF INLET BOX WALL
INSIDE FACE – INSIDE FACE OF INLET BOX WALL



SECTION A–A
(STANDARD INLET BOX ONLY)

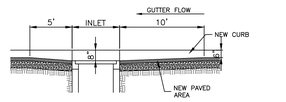


SECTION B–B
(TYPICAL ALL TYPES EXCEPT STANDARD)

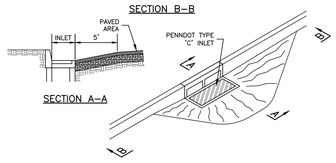
LEGEND:
① OUTSIDE DIAMETER OF PIPE TO PIPE OPENING.
② REDUCTION IN WALL THICKNESS DIMENSION.
③ INSIDE FACE OF BOX WALL TO OUTSIDE DIAMETER OF PIPE OPENING.

INLET BOXES

NOT TO SCALE



SECTION B–B

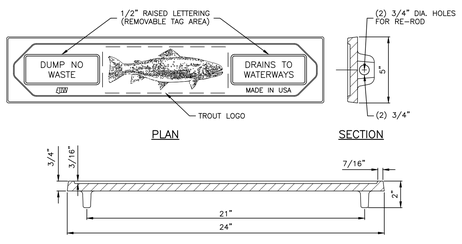


SECTION A–A

ISOMETRIC VIEW

INLET PAVING TAPER

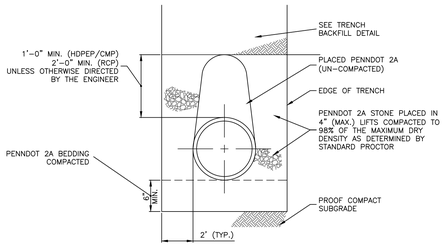
NOT TO SCALE



NOTE:
1. PLATE MUST BE INSTALLED ON ALL INLETS

PLATE – NO DUMP

NOT TO SCALE



NOTES:
1. IF TRENCH IS EXTREMELY WET DUE TO HIGH GROUNDWATER, USE AASHTO #57 STONE UP TO THE HAUNCHES OF THE PIPE. REMAINDER OF BEDDING TO BE PENNDOT 2A.
2. FOLLOW "PIPE INSTALLATION PROCEDURES" PER PENNDOT PUBLICATION 72M – RC-30M.

PIPE BEDDING (STORM SEWER)

NOT TO SCALE

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20232512731-000

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE ELEMENTARY SCHOOL
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

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5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

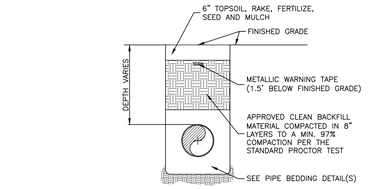
Key Plan:

N
PROJECT

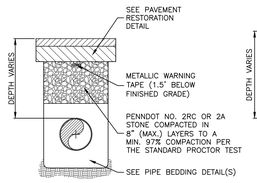
Scale: 1" = 1000'

Drawing Title:
STORMWATER DETAILS - 2

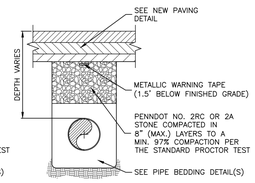
Drawing Number:
024



UNPAVED AREAS



EXISTING PAVED AREAS



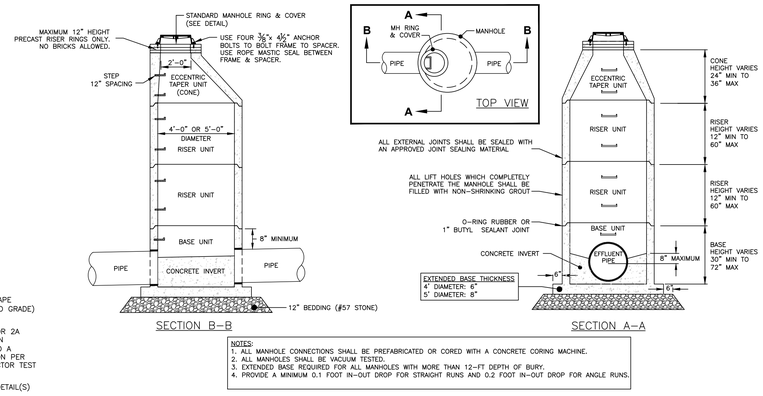
NEW ROADWAYS & PARKING AREAS

NOTES:

1. TRENCH COMPACTION TO BE TESTED, AT THE DEVELOPER'S EXPENSE, IN ACCORDANCE WITH PENNDOT PUB 408, LATEST REVISION, AS REQUIRED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
2. CLEAN FILL MUST BE APPROVED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION PRIOR TO PLACEMENT IN THE TRENCH.
3. AREAS AROUND MANHOLES, INLETS, AND OTHER APPURTENANCES SHALL BE HAND COMPACTED AS DIRECTED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.
4. NO SLAG MATERIAL PERMITTED.
5. IF WATER IS ENCOUNTERED IN THE EXCAVATION TRENCH, AASHTO #57 AGGREGATE MUST BE USED.
6. ALL MATERIALS AND CONSTRUCTION METHODS SHALL COMPLY WITH PENNDOT SPECIFICATIONS, PUBLICATION 408 AND 67 PA CODE SECTION 459.
7. UNDER NO CIRCUMSTANCES SHALL WATER BE ALLOWED TO COLLECT IN EXCAVATED TRENCHES. ANY WATER IN THE TRENCHES SHALL BE REMOVED THROUGH A PUMPED WATER FILTER BAG.

BACKFILL (TRENCH)

NOT TO SCALE

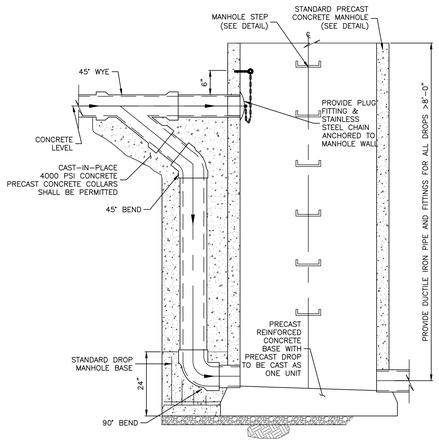


NOTES:

1. ALL MANHOLE CONNECTIONS SHALL BE PREFABRICATED OR CORED WITH A CONCRETE CORING MACHINE.
2. ALL MANHOLES SHALL BE VACUUM TESTED.
3. EXTENDED BASE REQUIRED FOR ALL MANHOLES WITH MORE THAN 12-FT DEPTH OF BURY.
4. PROVIDE A MINIMUM 0.1 FOOT IN-OUT DROP FOR STRAIGHT RUNS AND 0.2 FOOT IN-OUT DROP FOR ANGLE RUNS.

STANDARD SANITARY SEWER PRECAST CONCRETE MANHOLE DETAIL

NOT TO SCALE

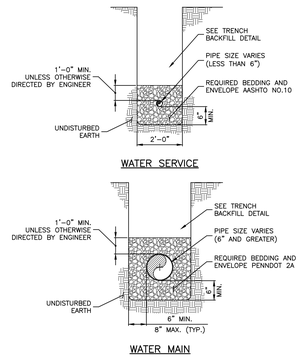


NOTE:

1. 4' DIAMETER FOR 8" PIPE, 5' DIAMETER FOR 10"-12."

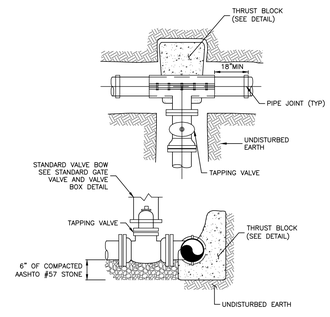
SANITARY MANHOLE CONNECTION (GREATER THAN 4' DROP)

NOT TO SCALE



PIPE BEDDING - WATER MAIN AND SERVICE

NOT TO SCALE



NOTES:

1. TAPPING SLEEVE SHALL BE AIR-TESTED PRIOR TO THE LIVE MAIN BEING TAPPED.

TAPPING SLEEVE AND VALVE

NOT TO SCALE

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FILE NAME: CASD00001_DTL.dwg
LAST PLOT DATE: 04 Oct 2024, 4:56PM
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STAKE NO.
20232512731-000

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ENGINEER
NO. PE-076464

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PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
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DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

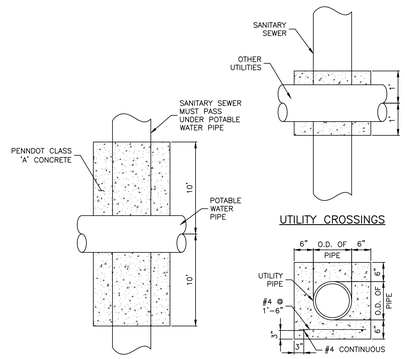
Key Plan:

N
PROJECT

Scale: 1" = 1000'

Drawing Title:
UTILITY DETAILS

Drawing Number:
025



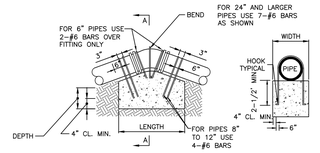
WATER CROSSINGS ENCASEMENT SECTION

NOTES:

1. PROVIDE REINFORCEMENT AT UTILITY CROSSINGS OR AS DIRECTED BY THE MUNICIPALITY/AUTHORITY HAVING JURISDICTION.

UTILITY CROSSING – CONCRETE ENCASEMENT

NOT TO SCALE



TYPICAL SECTION – VERTICAL THRUST UPWARD SECTION A–A

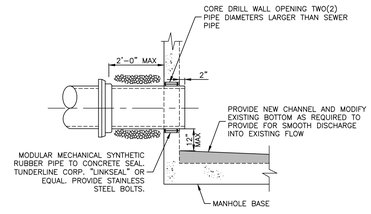
	CONCRETE BLOCKING DIMENSIONS, VERTICAL THRUST UPWARD 150 P.S.I. WORKING PRESSURE								
	LENGTH			WIDTH			DEPTH		
PIPE SIZES	11.25°	22.25°	45°	11.25°	22.25°	45°	11.25°	22.25°	45°
6" & 8"	3'	4'	6'	3'	3'	3'	2'	3'	4'
10" & 12"	3.5'	4'	7'	4'	4'	4'	2.5'	3'	4'
14" & 16"	4'	6'	9'	4.5'	4.5'	4.5'	3.5'	4'	5'
18" & 20"	5'	6.5'	11.5'	5'	5'	5'	4'	5'	5.5'
24"	5'	9'	12.5'	5'	5'	6'	4.5'	5'	6'
30"	5.5'	9'	13.5'	5.5'	6'	7'	5.5'	6'	7'
36"	6.5'	11'	14'	5.5'	6.5'	7'	6'	6.5'	7'
42"	9'	13.5'	15'	6'	7'	7'	6'	7'	7'
48"	10'	14'	16'	6'	7'	7'	6'	7'	7'

NOTES:

1. ALL CONC. SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT THE END OF 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS. (ASTM GRADE 60)
3. ALL FITTINGS AND JOINTS SHALL BE COVERED WITH POLYETHELENE FILM BEFORE PLACING CONC.
4. PAINT ALL EXPOSED STEEL WITH TWO COATS OF VALDURA PAINT OR APPROVED EQUAL.
5. REINFORCING BARS SHALL BE U–SHAPE AROUND THE PIPE.

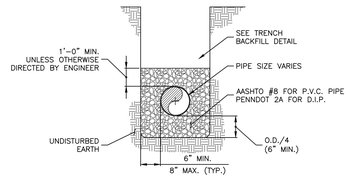
THRUST BLOCKING TABLE–VERTICAL–UPWARD

NOT TO SCALE



PIPE CONNECTION (EXISTING MANHOLE)

NOT TO SCALE



PIPE BEDDING – SANITARY MAIN AND LATERAL

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FILE NAME: CASD0001_DTL.dwg
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LAST SAVE BY: JKelley

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20232512731–000

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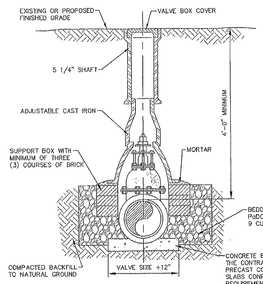
Key Plan:
N
PROJECT
Scale: 1" = 1000'

Drawing Title:
SANITARY DETAILS

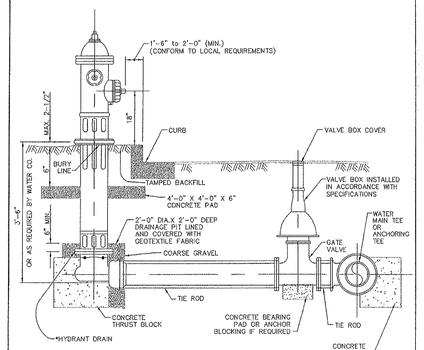
Drawing Number:
025A

TYPICAL VALVE BOX INSTALLATION
NOT TO SCALE



IP
TYPICAL VALVE BOX INSTALLATION
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-6 SK

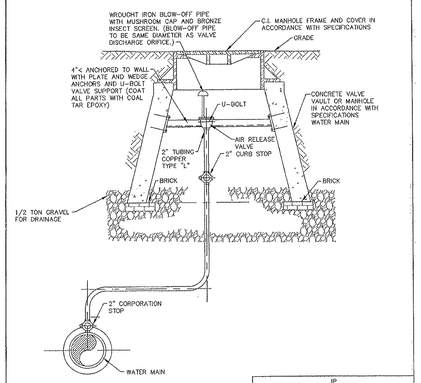
FIRE HYDRANT ASSEMBLY
NOT TO SCALE



*NOTE:
FOR INSTALLATION IN HIGH GROUND WATER TABLES, ENGINEER MAY DELETE DRAINAGE PIT AND REQUIRE THE HYDRANT DRAIN TO BE PLUGGED.

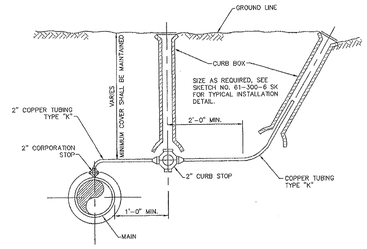
IP
FIRE HYDRANT ASSEMBLY
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-7 SK

DEEP BURY AIR RELEASE VALVE ASSEMBLY
NOT TO SCALE



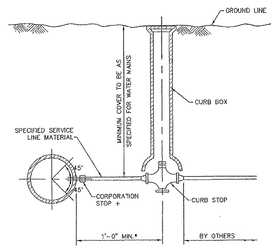
IP
DEEP BURY AIR RELEASE VALVE ASSEMBLY
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-8 SK

TYPICAL AIR BLOW-OFF DETAIL
NOT TO SCALE



IP
TYPICAL AIR BLOW-OFF DETAIL
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-9 SK

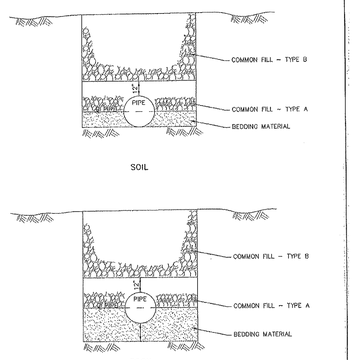
TYPICAL SERVICE LINE DETAIL
NOT TO SCALE



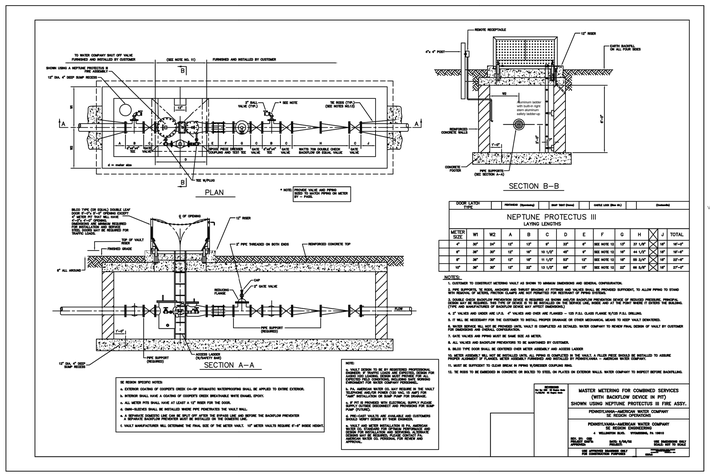
NOTES
* LOCATION OF CURB STOP TO BE PER THE OWNERS REQUIREMENTS
+ CORPORATION STOP MAY BE INSTALLED WITH THE ±45° RANGE SHOWN.

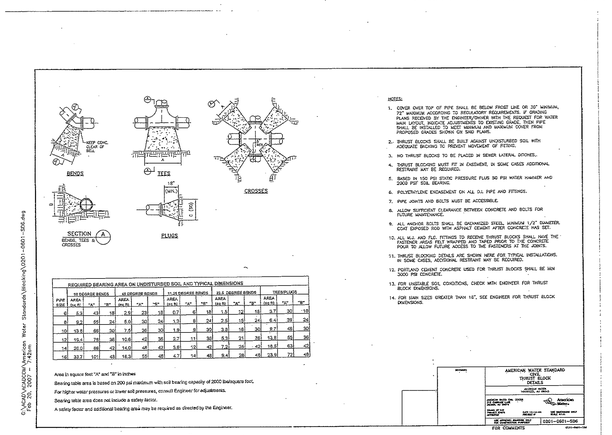
IP
TYPICAL SERVICE LINE DETAIL
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-10 SK

TRENCH BACKFILL MATERIALS
NOT TO SCALE



IP
TRENCH BACKFILL MATERIALS
JOB TITLE
TOWNSHIP, COUNTY
PENNSYLVANIA-AMERICAN WATER COMPANY SYSTEM
PENNSYLVANIA-AMERICAN WATER COMPANY CORPORATE ENGINEERING 800 WEST HERSHEY PARK DRIVE HERSHEY, PA. 17033
DRAWN BY / PROJECT MGR'S APPROVAL / DATE / PROJECT / USE (ENGINEERS ONLY) SCALE: AS NOTED
USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES / DETAIL 61-300-3 SK





REQUIRED BRAKING AREA ON UNDISTURBED SOIL AND TYPICAL DIMENSIONS

PIPE SIZE	11.25 DEGREE BENDS AREA (SQ.FT.)	"A"	"B"	22.5 DEGREE BENDS AREA (SQ.FT.)	"A"	"B"	45 DEGREE BENDS AREA (SQ.FT.)	"A"	"B"	TEES/TEE PLUGS AREA (SQ.FT.)	"C"	"D"
6"	0.5	42	18	0.9	2.0	1.0	0.7	4'	18"	1.4	12"	18"	0.7	30"	18"
8"	0.9	66"	20"	0.9	30"	30"	1.3	6'	24"	2.8	18"	24"	6.4	39"	24"
10"	19.9	69"	30"	1.8	3'	30"	1.8	8'	30"	3.8	18"	30"	8.7	45"	30"
12"	15.4	78"	36"	10.8	4'	30"	2.7	11'	30"	8.5	21"	36"	13.8	48"	36"
14"	20.0	88"	42"	14.0"	4'	42"	5.8	12'	42"	7.4	30"	42"	18.8	63"	42"
16"	33.7	101"	48"	14.0"	5'5"	48"	4.7	14'	48"	9.4	28"	48"	23.9	72"	48"

Area is square feet "A" and "B" in inches
Bearing table area is based on 200 psi maximum with soil bearing capacity of 2000 lbs/square foot.
For higher water pressures or lower soil pressures, consult Engineer for adjustments.
Bearing table area does not include a safety factor.
A safety factor and additional bearing area may be required as directed by the Engineer.

NOTES:
1. COVER OVER TOP OF PIPE SHALL BE BELOW FROST LINE OR 30" MINIMUM, 72" MAXIMUM ACCORDING TO REGULATORY REQUIREMENTS, IF GRADING PLANS RECEIVED BY THE ENGINEER/OWNER WITH THE REQUEST FOR WATER SERVICE INDICATE A FUTURE GRADE CHANGE, THE WATER MAIN, AS INSTALLED, SHALL BE INSTALLED TO MEET MINIMUM AND MAXIMUM COVER FROM PROPOSED GRADES SHOWN ON SAID PLANS.
2. THRUST BLOCKS SHALL BE BUILT AGAINST UNDISTURBED SOIL WITH ADEQUATE BACKING TO PREVENT MOVEMENT OF FITTING.
3. NO THRUST BLOCKS TO BE PLACED IN SEWER LATERAL DITCHES.
4. THRUST BLOCKING MUST FIT IN EASEMENT, IN SOME CASES ADDITIONAL RESTRAINT MAY BE REQUIRED.
5. BASED ON 150 PSI STATIC PRESSURE PLUS 90 PSI WATER HAMMER AND 2000 PSI SOIL BEARING.
6. POLYETHYLENE ENCASEMENT ON ALL D.I. PIPE AND FITTINGS.
7. PIPE JOINTS AND BOLTS MUST BE ACCESSIBLE.
8. ALLOW SUFFICIENT CLEARANCE BETWEEN CONCRETE AND BOLTS FOR INSTALLATION OF NUTS.
9. ALL ANCHOR BOLTS SHALL BE GALVANIZED STEEL, MINIMUM 1/2" DIAMETER, CUT EXPOSED ENDS WITH ASPHALT DIGHNY AFTER CONCRETE HAS SET.
10. ALL ELL AND PLUG FITTINGS TO RECEIVE THRUST BLOCKS SHALL HAVE THE FASTENER HOLE FELT WRAPPED AND TAPED PRIOR TO THE CONCRETE POUR TO ALLOW FUTURE ACCESS TO THE FASTENERS AT THE JOINTS.
11. SHOULD BLOCKING DETAILS ARE SHOWN MORE FOR TYPICAL INSTALLATIONS, IN SOME CASES, ADDITIONAL RESTRAINT MAY BE REQUIRED.
12. FOOTINGS AGAINST CONCRETE USED FOR THRUST BLOCKS SHALL BE MIN 3000 PSI CONCRETE.
13. FOR UNUSUAL SOIL CONDITIONS, CHECK WITH ENGINEER FOR THRUST BLOCK DIMENSIONS.
14. FOR SIZES SIZED SMALLER THAN 16", SEE ENGINEER FOR THRUST BLOCK DIMENSIONS.

AMERICAN WATER STANDARD
THRUST BLOCK
DETAIL
APPROVED BY: DATE: / DESIGNED BY: DRAWN BY: CHECKED BY: / SCALE: NONE / DRAWING NO.
ISSUED FOR COMMENTS

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PROJECT INFORMATION:
FILE PATH: C:\Projects\SGA\20065\Calculations & Reports\CAD - South Brandywine ES\Plans\
FILE NAME: CAS20065D1_DTL.dwg
LAST SAVE DATE: Thursday, October 24, 2024, 4:55PM
LAST SAVE BY: JKelley

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 AMENDING ACT 287 OF 1974 AS AMENDED BY ACT 38 OF 2017, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232912731-000

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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

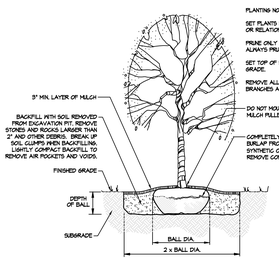
SG PROJECT NUMBER: 23-033

Key Plan:

N
PROJECT
Scale: 1" = 1000'

Drawing Title:
WATER DETAILS

Drawing Number:
026



DECIDUOUS TREE PLANTING

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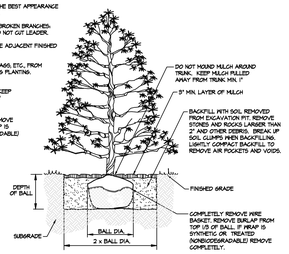

EVERGREEN TREE PLANTING

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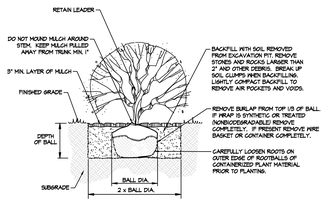

SHRUB PLANTING

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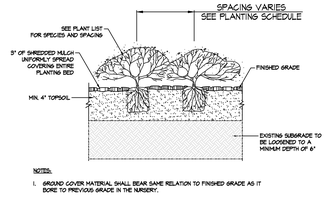
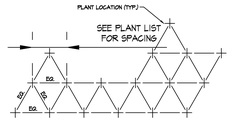


PLUG AND PERENNIAL PLANTING

NOT TO SCALE



PLANT SPACING DIAGRAM

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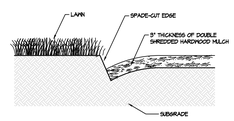

EDGING AT MULCH BED

NOT TO SCALE

LANDSCAPE PLANTING NOTES AND SPECIFICATIONS:

1. ALL PLANT MATERIAL SHALL BE PROVIDED AND INSTALLED IN STRICT CONFORMANCE WITH THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION, LATEST EDITION.
2. NAME OF PLANTS: SHALL AGREE WITH THE NOMENCLATURE OF "STANDARD PLANT NAMES" AS ADOPTED BY THE AMERICAN JOINT COMMITTEE ON HORTICULTURE NOMENCLATURE; SIZE AND GRADING STANDARDS SHALL CONFORM TO THOSE SPECIFIED BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION IN THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.
3. THE CONTRACTOR SHALL VERIFY ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCING WITH ANY EXCAVATIONS AND SHALL BE RESPONSIBLE FOR THEIR PROTECTION.
4. THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST. IF A DISCREPANCY SHOULD ARISE BETWEEN THE AMOUNT OF PLANTS SHOWN ON THE PLAN VS. THE PLANT SCHEDULE, THE PLAN SHALL GOVERN.
5. ALL PLANTS SHALL BE NURSERY GROWN.
6. ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.
7. QUALITY: ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY; THEY SHALL HAVE NORMAL, WELL-DEVELOPED BRANCHES AND VIGOROUS FIBROUS ROOT SYSTEMS AND SHALL BE FREE OF INSECT AND DISEASE PROBLEMS. ALL PLANTS SHALL BE NURSERY-GROWN UNLESS OTHERWISE STATED; THEY SHALL HAVE BEEN GROWN UNDER THE SAME CLIMATIC CONDITIONS AS THE SUBJECT SITE FOR AT LEAST TWO YEARS PRIOR TO DATE OF PLANTING. ALL PLANTS WHICH ARE FOUND UNSUITABLE IN GROWTH OR CONDITION OR WHICH ARE NOT TRUE TO NAME SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE PLANTS.
8. MEASUREMENTS: PLANTS SHALL BE MEASURED AS THEY STAND IN THEIR NATURAL POSITION. TREES OF FOUR-INCH CALIPER AND LESS SHALL BE MEASURED AT SIX INCHES ABOVE GROUND LEVEL. AS DEFINED IN THE AMERICAN STANDARD FOR NURSERY STOCK BY THE AMERICAN NURSERY AND LANDSCAPE ASSOCIATION (2004) OR MOST RECENT EDITION. NURSERY-GROWN TREES OF GREATER THAN FOUR-INCH CALIPER SHALL BE MEASURED 12 INCHES ABOVE THE GROUND LEVEL. STOCK FURNISHED SHALL BE A FAIR AVERAGE OF THE MINIMUM SIZES SPECIFIED OR OF THE RANGE GIVEN IN THE MOST RECENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK. THE HEIGHT OF EXISTING TREES SHALL BE MEASURED AT A HEIGHT OF 4 1/2 FEET (DBH) ABOVE GROUND LEVEL.
9. PREPARATION OF PLANTS: ALL PRECAUTIONS CUSTOMARY IN GOOD TRADE PRACTICE SHALL BE TAKEN IN PREPARING PLANTS FOR MOVING. ALL BALLED AND BURLAPPED PLANTS SHALL BE DUG TO MEET OR EXCEED THE MOST RECENT EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK.
10. SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIED KIND OR SIZE ARE NOT AVAILABLE WITHIN A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR IN WRITING TO THE TOWNSHIP LANDSCAPE ARCHITECT. ANY SUBSTITUTIONS MADE WITHOUT PRIOR RECEIVING PRIOR SUBSTITUTION REQUEST APPROVAL FROM THE TOWNSHIP WILL BE REJECTED UPON INSPECTION.
11. ALL AREAS TO BE SHOWN AS LAWN SHALL BE SEEDED, AS SPECIFIED, AND MATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
12. TREE LOCATIONS MAY NEED TO BE ADJUSTED BASED ON LOCATIONS OF UTILITIES, FIELD CONDITIONS, OR FINAL GRADING. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR THEIR REPRESENTATIVE IF ADJUSTMENTS ARE NECESSARY.
13. ALL PLANTING BEDS TO RECEIVE 3" SHREDDED HARDWOOD MULCH.
14. ROOT BALLS OF ALL PLANTS SHALL BE ADEQUATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST.
15. PLANTS WITH BROKEN ROOT BALLS, TRUNK AND BARK DAMAGE OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REPLACED PRIOR TO PLANTING.
16. ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP 1/3 OF BURLAP. ALL NON- BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED. WIRE BASKETS SHALL BE CAREFULLY REMOVED ENTIRELY AT THE TIME OF PLANTING, PREFERABLY AFTER THE ROOT BALL HAS BEEN INSTALLED IN THE PLANTING PIT.
17. PREPARATION OF PLANTING: CLEAN SOIL EXCAVATED FROM PLANTING PIT OF ROOTS, PLANTS, STONES LARGER THAN 2", CLAY LUMPS, AND OTHER EXTRANEOUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.
18. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
19. NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR HIS/HER EQUAL.
20. INSTALL ALL PLANTS SO THAT THE TOP OF THE ROOTBALL IS SLIGHTLY ABOVE FINISHED GRADE. IN NO CASE SHALL THE PLAN BE INSTALLED WITH NO LESS THAN THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANTS ORIGINAL ROOT CROWN. EXCESS SOIL MAY EXIST AROUND THE ROOT CROWN FROM NURSERY OPERATIONS. THIS EXCESS MATERIAL SHALL BE REMOVED PRIOR TO PLANTING TO DETERMINE THE PROPER BALL INSTALLATION DEPTH.
21. ALL EXISTING TREES THAT ARE TO BE SAVED AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE PROTECTED UNTIL CONSTRUCTION HAS BEEN COMPLETED. AREA WITHIN DRIPLINE SHALL NOT BE TRAVELED ACROSS BY CONSTRUCTION TRAFFIC.
22. ALL STREET TREES SHALL HAVE A SINGLE, STRAIGHT TRUNK AND UNPRUNED CENTRAL LEADER FREE OF CODOMINANT STEMS WITHIN THE LOWER HALF OF THE CROWN AND SHALL BE FREE OF DISEASE AND MECHANICAL DAMAGE.
23. ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL NON-BIODEGRADEABLE ROOT WRAPPING MATERIAL SHALL BE REMOVED AT TIME OF PLANTING.
24. WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS MINIMUM.
25. TREE WRAP: DUE TO THE TENDENCY OF TREE WRAP TO HARBOR PARASITES AND OTHER INSECTS THAT CAN BE DETRIMENTAL TO THE HEALTH OF TREES, TREE WRAP SHALL NOT BE PROVIDED ON ANY TREE.
26. THE CONTRACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTING ALONG WITH THE ARRANGEMENTS AND OUTLINE OF PLANTING BEDS AS INDICATED ON DRAWINGS. THE LAYOUT OF PLANTING WILL THEN BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY EXCAVATION OF PLANT PITS OR PLANT BEDS.
27. AT PLANTING TIME, ALL PLANT MATERIAL SHALL TRIMMED TO REMOVE BROKEN AND/OR DEAD VEGETATIVE MATERIAL. ALL PLANT MATERIAL SHALL BE PRUNED IN ACCORDANCE WITH ANSI A300 STANDARDS.
28. ALL PLANTS SHALL BE INSTALLED AS PER THE PLANTING DETAILS AND THE CONTRACT SPECIFICATIONS, WHERE APPLICABLE.
29. ALL PLANTS SHALL BE INSTALLED PLUMB UNLESS OTHERWISE SPECIFIED.
30. ALL PLANTS SHALL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE MATERED WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.
31. CONDITIONS DETRIMENTAL TO PLANTS. THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS. HE SHALL STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS INCLUDING ANY CHANGE IN COST FOR REVIEW AND ACCEPTANCE BY THE PROJECT REPRESENTATIVE.
32. REMOVAL OF ALL PLANTING DEBRIS. REMOVAL OF ALL DEBRIS IS REQUIRED. THE PROPERTY MUST BE LEFT IN A NEAT AND ORDERLY CONDITION IN ACCORDANCE WITH GOOD AND ACCEPTED PLANTING PRACTICES.
33. ALL PLANT MATERIAL SHALL BE GUARANTEED FOR 18 MONTHS FROM THE DAY OF FINAL APPROVAL OF THE LANDSCAPE INSTALLATION BY THE TOWNSHIP LANDSCAPE ARCHITECT, TOWNSHIP SHADE TREE COMMISSION, OR THE TOWNSHIP ENGINEER. ANY PLANT MATERIAL 25% OR MORE OF WHICH IS DEAD SHALL BE CONSIDERED DEAD. A TREE SHALL BE CONSIDERED DEAD WHEN THE MAIN LEADER HAS DIED OR 25% OF THE CROWN IS DEAD. ANY DEAD PLANT MATERIAL SHALL BE REPLACED AND INSTALLED ACCORDING TO THE APPROVED PLANTING PRACTICES.
34. THE DEVELOPER SHALL CONTACT THE TOWNSHIP IN WRITING TO REQUEST A FINAL INSPECTION FOR ACCEPTANCE AT THE END OF THE GUARANTY PERIOD. THESE INSPECTIONS WILL BE PERFORMED WHEN PLANT MATERIALS ARE IN FULL LEAF ONLY (MAY 1 THROUGH NOVEMBER 15). ALL GUARANTY ESCROW FUNDS WILL BE RELEASED UPON ACCEPTANCE AT THE END OF THE GUARANTY PERIOD. THE GUARANTY WILL BE EXTENDED UNTIL 30 DAYS AFTER RECEIPT OF THE REQUEST LETTER FOLLOWING MAY 1 SHOULD THE END OF THE GUARANTY PERIOD OCCUR AFTER NOVEMBER 15, THE GUARANTY PERIOD SHALL BE EXTENDED TO MAY 15.
35. SHOULD IT BECOME NECESSARY TO DISTURB MORE THAN 1/4 OF THE TOTAL ROOT AREA OF A TREE, THE TREE WILL NO LONGER BE CONSIDERED TO BE PRESERVED AND MUST BE REPLACED.
36. AT THE DIRECTION OF THE TOWNSHIP ENGINEER, TOWNSHIP SHADE TREE COMMISSION OR TOWNSHIP LANDSCAPE ARCHITECT, EXISTING TREES WHICH HAVE NOT BEEN ADEQUATELY PROTECTED ARE TO BE REMOVED AND REPLACED.
37. NO BUILDING PERMIT SHALL BE ISSUED UNLESS A PERFORMANCE BOND OR OTHER SURETY APPROVED BY THE TOWNSHIP SOLICITOR HAS BEEN FILED WITH THE TOWNSHIP IN AN AMOUNT EQUAL TO THE COST OF PURCHASING, PLANTING, MAINTAINING AND REPLACING ALL VEGETATIVE MATERIALS FOR A PERIOD OF 18 MONTHS AFTER WRITTEN ACCEPTANCE OF THE FIRST LANDSCAPE INSTALLATION BY THE TOWNSHIP
38. VEGETATIVE SCREENS SHALL BE PERPETUALLY MAINTAINED DURING THE PERIOD THE PRINCIPAL USE CAUSING THE NEED FOR SCREENING IS IN OPERATION. ANY PLANT MATERIAL WHICH DOES NOT SURVIVE SHALL BE REPLACED WITHIN THE TIMELY GROWING SEASON, BUT NO LATER THAN SIX MONTHS FROM TIME OF FAILURE.

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL CONTACT ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 AS AMENDED BY ACT 121 OF DECEMBER 10, 2008, AS OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232912731-000

RETENTION SEEDING MIX:

ERNST SEEDS

Ernst Conservation Seeds
8884 Mercer Pike
Meadville, PA 16335
(800) 873-3321 Fax (814) 336-5191
www.ernstseed.com

Date: February 29, 2024

Retention Basin Floor Mix - Low Maintenance - ERNMX-126

	Botanical Name	Common Name	Price/Lb
20.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	22.08
20.00 %	*Puccinellia distans, Fults*	Alkaligrass, Fults	4.56
18.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.45
15.00 %	*Agrostis stolonifera, 'Penncross'*	Creeping Bentgrass, 'Penncross'	14.40
15.00 %	*Poa palustris*	Fowl Bluegrass	16.80
10.00 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
1.00 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
1.00 %	*Juncus effusus*	Soft Rush	48.00
100.00 %		**Mix Price/Lb Bulk:**	**$16.06**

Seeding Rate: 20-40 lbs per acre, or 0.5-1 lb/1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

The hardy inexpensive grass and grass-like species are ideal for retention basins that may have high salt inflows and where mowing may be required. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

RAIN GARDEN SEEDING MIX:

ERNST SEEDS

Ernst Conservation Seeds
8884 Mercer Pike
Meadville, PA 16335
(800) 873-3321 Fax (814) 336-5191
www.ernstseed.com

Date: February 29, 2024

Rain Garden Grass Mix - ERNMX-180-1

	Botanical Name	Common Name	Price/Lb
40.40 %	*Schizachyrium scoparium, Fort Indiantown Gap-PA Ecotype*	Little Bluestem, Fort Indiantown Gap-PA Ecotype	14.61
20.00 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
20.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.45
9.00 %	*Panicum clandestinum, Tioga*	Deertongue, Tioga	22.08
5.50 %	*Panicum rigidulum, PA Ecotype*	Redtop Panicgrass, PA Ecotype	57.60
4.00 %	*Chamaecrista fasciculata, WV Ecotype*	River Oats, WV Ecotype	96.00
0.50 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
0.30 %	*Juncus effusus*	Soft Rush	48.00
0.30 %	*Juncus tenuis, PA Ecotype*	Path Rush, PA Ecotype	46.00
100.00 %		**Mix Price/Lb Bulk:**	**$23.44**

Seeding Rate: 15 lb per acre with a cover crop. For sites that drain within 24 hours of a rain event use one of the following cover crops:Oats (1 Jan to 31 Jul; 30 lbs/acre), Japanese Millet (1 May to 31 Aug; 10 lbs/acre), or grain rye (1 Aug to 31 Dec; 30 lbs/acre).

Grasses & Grass-like Species - Herbaceous Perennial; Stormwater Management

Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

FACULTATIVE WETLAND SEEDING MIX:

ERNST SEEDS

Ernst Conservation Seeds
8884 Mercer Pike
Meadville, PA 16335
(800) 873-3321 Fax (814) 336-5191
www.ernstseed.com

Date: February 29, 2024

FACW Wetland Meadow Mix - ERNMX-122

	Botanical Name	Common Name	Price/Lb
22.00 %	*Carex lurida, PA Ecotype*	Lurid Sedge, PA Ecotype	67.20
20.00 %	*Elymus virginicus, Madison-NY Ecotype*	Virginia Wildrye, Madison-NY Ecotype	10.45
19.50 %	*Carex vulpinoidea, PA Ecotype*	Fox Sedge, PA Ecotype	28.80
18.20 %	*Carex scoparia, PA Ecotype*	Blunt Broom Sedge, PA Ecotype	81.60
3.00 %	*Juncus effusus*	Soft Rush	48.00
3.00 %	*Verbena hastata, PA Ecotype*	Blue Vervain, PA Ecotype	38.40
2.00 %	*Asclepias incarnata, PA Ecotype*	Swamp Milkweed, PA Ecotype	177.60
2.00 %	*Helianthus helianthoides, PA Ecotype*	Oxeye Sunflower, PA Ecotype	33.60
1.50 %	*Verbena urticifolia, PA Ecotype*	White Vervain, PA Ecotype	144.00
1.50 %	*Zizia aurea, PA Ecotype*	Golden Alexanders, PA Ecotype	72.00
1.00 %	*Juncus tenuis, PA Ecotype*	Path Rush, PA Ecotype	46.00
1.00 %	*Lycopus americanus, PA Ecotype*	American Water Horehound, PA Ecotype	72.00
0.80 %	*Solidago rugosa, PA Ecotype*	Wrinkleleaf Goldenrod, PA Ecotype	144.00
0.70 %	*Eupatorium perfoliatum, PA Ecotype*	Boneset, PA Ecotype	192.00
0.70 %	*Lobelia siphilitica, PA Ecotype*	Great Blue Lobelia, PA Ecotype	384.00
0.70 %	*Scirpus atrovirens, PA Ecotype*	Green Bulrush, PA Ecotype	144.00
0.60 %	*Carex comosa*	Lance Leaved Aster	432.00
0.50 %	*Carex crinita, PA Ecotype*	Fringed Sedge, PA Ecotype	216.00
0.50 %	*Mimulus ringens, PA Ecotype*	Square Stemmed Monkeyflower, PA Ecotype	216.00
0.40 %	*Aster puniceus, PA Ecotype*	Purplestem Aster, PA Ecotype	432.00
0.30 %	*Scirpus cyperinus, PA Ecotype*	Woolgrass, PA Ecotype	115.20
0.10 %	*Alisma subcordatum, PA Ecotype*	Mud Plantain, PA Ecotype	192.00
100.00 %		**Mix Price/Lb Bulk:**	**$62.77**

Seeding Rate: 20 lb per acre, or 1/2 lb per 1,000 sq ft with a cover crop. For a cover crop use one of the following: grain rye (1 Sep to 30 Apr; 30 lbs/acre), Japanese millet (1 May to 31 Aug; 10 lbs/acre), or barnyard grass (1 May to 31 Aug; 10 lbs/acre).

Grasses & Grass-like Species - Herbaceous Perennial; Herbaceous Flowering Species - Herbaceous Perennial; Wet Meadows & Wetlands

The diverse species provide pollinator habitat and erosion control in wet meadows. Excellent for facultative wetland mitigation sites. Mix formulations are subject to change without notice depending on the availability of existing and new products. While the formula may change, the guiding philosophy and function of the mix will not.

LANDSCAPE REQUIREMENTS TABLE

No.	Section		Requirement	Proposed	Waiver/Variance
Zoning					
1	27-1808.5.A	Minimum Plantings:	Total Required Plantings: Deciduous Trees: 345 Evergreen Trees: 292 Shrubs: 1,491	Deciduous Trees: 268 50 Deciduous trees within parking lot area (see item 5 below) Existing Deciduous Tree to remain: 77 Evergreen Trees: 292 Shrubs: 1503	NO
		Per 1,000 SF gross building area, ground floor only (building "footprint"): Deciduous Trees: 2 Evergreen Trees: 1 Shrubs: 8	76,760 SF building footprint / 1,000 = 76.76 Deciduous Trees: 76.76 x 2 = 154 Evergreen Trees: 76.76 x 1 = 77 Shrubs: 76.76 x 8 = 615	29 existing deciduous trees to remain	NO
		Per 2,000 SF off-street parking or loading areas, excluding driveways less than 18 feet wide: Deciduous Trees: 1 Evergreen Trees: 1 Shrubs: 4	186,935 SF off-street parking or loading / 2,000 = 93.47 Deciduous Trees: 93.47 x 1 = 94 Evergreen Trees: 93.47 x 1 = 94 Shrubs: 93.47 x 4 = 374		NO
		Per 100 linear feet of new and existing public or private road frontage, measured on both sides where applicable: Deciduous Trees: 2 Evergreen Trees: 1 Shrubs: 5	2412 LF road frontage / 100 = 24.12 Deciduous Trees: 24.12 x 2 = 49 Evergreen Trees: 24.12 x 1 = 25 Shrubs: 24.12 x 5 = 121		NO
		Per 100 linear feet of existing tract boundary, where not coincident with existing or proposed road frontage: Deciduous Trees: 1 Evergreen Trees: 2 Shrubs: 8	4755 LF tract boundary / 100 = 47.55 Deciduous Trees: 47.55 x 1 = 48 Evergreen Trees: 47.55 x 2 = 96 Shrubs: 47.55 x 8 = 381	48 existing deciduous trees to remain	NO
2	27-1808.6.A	Screening Landscaping	minimum 20' planting strip between abutting uses/districts intended to be screened vegetative screen shall include a variety of evergreen and deciduous species, but shall include no more than 60% evergreens		NO
3	27-1808.6.B	Perimeter Buffer Landscaping	the entire perimeter of any tract undergoing development shall be provided with a minimum planting strip buffer width of 20'		NO
4	27-1808.7.B	Parking Lot Interior Landscaping: minimum 10% of any parking area	186,935 SF parking area x 10% = 18,694 SF parking lot landscaping required	46,214 SF parking lot landscaping	NO
5	27-1808.7.C	Parking Lot Trees: one three-inch caliper deciduous shade tree for every five parking spaces	210 parking spaces / 5 = 42 trees	42 parking lot trees +50 additional trees within the parking lot area to satisfy requirements of §27-1808.5.A	NO
6	27-1808.7.D	Parking Lot Planting Areas: (1) 10 foot wide landscape area around parking lot periphery (2) Landscaped islands at least 10 feet wide between each set of two parking bays (3) Landscaped islands every 12 parking spaces or at the end of each parking row, whichever is less (4) Two feet of each parking stall adjacent to planting strips shall be of a permeable surface to allow water to percolate into the ground			NO
7	27-1808.8	Building Façade landscaping: B. one specimen tree and one evergreen tree shall be planted for every 50 feet of length of building façade C. five shrubs for every 20 feet of length of building façade	1,123 LF of building façade 1,123 / 50 = 23 specimen trees and 45 evergreen trees 1,123 / 20 = 56.15 x 5 = 281 shrubs	23 specimen trees 45 evergreen trees 281 shrubs	NO
8	27-1808.8.E	Street Trees: Shall be planted no less than 25' and no more than 60' on center along each side of the street. Distance measurement shall average 40 feet on center along each side	1,573 LF along Doe Run Road / 40 = 40 street trees 739 LF along Doe Run Road / 40 = 19 street trees 100 LF along Doe Run Road / 40 = 3 street trees	40 street trees along Doe Run Road 11 street trees along Strasburg Road 3 street trees along Wilmington Road	NO

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1700 Market Street, Suite 3110
Philadelphia, PA 19103
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ENGINEER
No. PE-076464

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PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

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1	NPDES SUBMISSION	3/22/2024
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3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

N
PROJECT

Scale: 1" = 1000'

Drawing Title:
LANDSCAPING DETAILS

Drawing Number:
027

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LAST SAVED: Oct 04, 2024 - TIME: 04 Oct 2024, 4:55PM
LAST SAVE BY: JKelley

PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	REMARKS
BUILDING FACADE DECIDUOUS TREES								
	AA	5	ACER RUBRUM 'AUTUMN FLAME'	AUTUMN FLAME RED MAPLE	B & B	3" MIN.	12'-14'	
	AM	5	ACER SACCHARUM 'MORTON'	CRESCENDO± SUGAR MAPLE	B & B	3" MIN.	12'-14'	
	PB2	6	PLATANUS X ACERIFOLIA 'BLOODGOOD'	LONDON PLANE TREE	B & B	3" MIN.	12'-14'	STRAIGHT SINGLE LEADER
	QP	7	QUERCUS PHELLOS	WILLOW OAK	B & B	3" MIN.	12'-14'	STRAIGHT SINGLE LEADER
BUILDING FACADE EVERGREEN TREES								
	IN	12	ILEX X 'NELLIE R STEVENS'	NELLIE STEVENS HOLLY	B & B		8'-10'	FULL FORM TO GROUND
	JS	18	JUNIPERUS CHINENSIS 'SPARTAN'	SPARTAN JUNIPER	B & B		8'-10'	SYM. SPECIMENS BRANCHED FULL TO GROUND
	PG	6	PICEA GLAUCA	WHITE SPRUCE	B & B		8'-10'	FACADE TREE. SYM. SPECIMENS BRANCHED FULL TO GROUND
	PO	4	PICEA OMORIKA	SERBIAN SPRUCE	B & B		8'-10'	FULL FORM TO GROUND
	PD	5	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	B & B		8'-10'	
DECIDUOUS TREES								
	AM2	50	ACER SACCHARUM 'MORTON'	CRESCENDO± SUGAR MAPLE	B & B	3" MIN.	14' MIN.	
	PO2	45	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	B & B	3" MIN.	14' MIN.	
	QB	73	QUERCUS BICOLOR	SWAMP WHITE OAK	B & B	3" MIN.	14' MIN.	
	QP2	50	QUERCUS PALUSTRIS	PIN OAK	B & B	3" MIN.	14' MIN.	
EVERGREEN TREES								
	JE2	28	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	B & B		8'-10'	
	PA2	76	PICEA ABIES	NORWAY SPRUCE	B & B		8'-10'	
	PW	14	PINUS ALBA	WHITE PINE	B & B		8'-10'	
	PW2	80	PINUS ALBA	WHITE PINE	B & B		8'-10'	
	PD2	14	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	B & B		8'-10'	
	TG	80	THUJA STANDISHII X PLICATA 'GREEN GIANT'	GREEN GIANT ARBORVITAE	B & B		8'-10'	
PARKING AREA TREES								
	ARC	15	ACER RUBRUM 'ARMSTRONG'	ARMSTRONG RED MAPLE	B & B	3" MIN.	14' MIN.	STRAIGHT SINGLE LEADER
	CO2	5	CELTIS OCCIDENTALIS	COMMON HACKBERRY	B & B	3" MIN.	14' MIN.	
	GS	13	GLEDITSIA TRIACANTHOS 'SKYLINE'	SKYLINE HONEY LOCUST	B & B	3" MIN.	14' MIN.	STRAIGHT SINGLE LEADER
	LR	4	LIQUIDAMBAR STYRACIFLUA 'ROTUNDILOBA' TM	ROUND-LOBED SWEET GUM	B & B	3" MIN.	14' MIN.	STRAIGHT SINGLE LEADER
	PB	17	PLATANUS X ACERIFOLIA 'BLOODGOOD'	LONDON PLANE TREE	B & B	3" MIN.	14' MIN.	STRAIGHT SINGLE LEADER
	QR	16	QUERCUS RUBRA	RED OAK	B & B	3" MIN.	14' MIN.	
	ZS	22	ZELKOVA SERRATA	JAPANESE ZELKOVA	B & B	3" MIN.	14' MIN.	
STREET TREES								
	OV	18	OSTRYA VIRGINIANA	AMERICAN HOPHORNBEAM	B & B	3" MIN.	14' MIN.	
	TS	22	TILIA TOMENTOSA 'STERLING'	STERLING SILVER LINDEN	B & B	3" MIN.	14' MIN.	
	UP	14	ULMUS X 'HOMESTEAD'	HOMESTEAD ELM	B & B	3" MIN.	14' MIN.	

SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	CONT	-	HEIGHT	REMARKS
DECIDUOUS SHRUBS								
	CF	107	CORNUS STOLONIFERA 'FARROW'	ARCTIC FIRE® RED TWIG DOGWOOD	7 GAL		2'-4'	
	FG	204	FOTHERGILLA GARDENII 'SUZANNE'	DWARF FOTHERGILLA	5 GAL		24"-30"	HEAVY SPECIMENS
	HO	6	HYDRANGEA QUERCIFOLIA 'SNOW QUEEN'	SNOW QUEEN OAKLEAF HYDRANGEA	7 GAL		30"-36"	HEAVY SPECIMENS
	IR	140	ILEX VERTICILLATA 'RED SPRITE'	RED SPRITE WINTERBERRY	5 GAL		24"-30"	
	IV	140	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	3 GAL		24"-30"	HEAVY SPECIMENS
	VD	6	VIBURNUM DENTATUM 'CHICAGO LUSTER'	CHICAGO LUSTER ARROWWOOD	7 GAL		30"-36"	
EVERGREEN SHRUBS								
	IC	181	ILEX CRENATA 'GREEN LUSTRE'	GREEN LUSTER JAPANESE HOLLY	3 GAL		24"-30"	HEAVY SPECIMENS
	IS	215	ILEX GLABRA 'SHAMROCK'	INKBERRY	3 GAL		24"-30"	MIN. 3 CANES
	KL	78	KALMIA LATIFOLIA	MOUNTAIN LAUREL	5 GAL		24"-36"	
	MM	116	MYRICA PENSYLVANICA 'MORTON'	SILVER SPRITE BAYBERRY	5 GAL		24"-36"	PROVIDE 1 MALE FOR EVERY 5 FEMALE
	TM	234	TAXUS X MEDIA 'HICKSII'	HICKS YEW	#7		24"-30"	HEAVY SPECIMENS
	VA	56	VIBURNUM RHYTIDOPHYLLUM 'ALLEGHANY'	LEATHERLEAF VIBURNUM	7 GAL		30"-36"	HEAVY SPECIMENS
PERENNIALS/GRASSES								
	AS2	109	ANDROPOGON SCOPARIUS	LITTLE BLUESTEM	#2			
	MV	68	MISCANTHUS SINENSIS CONDENSATA 'CABARET'	CABARET EULALIA GRASS	#5			
	PA	124	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN DWARF FOUNTAIN GRASS	#3			

ATTENTION: ALL CONTRACTORS, LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND NOT GUARANTEED. THEY ARE PLOTTED FROM RECORDS AND FIELD OBSERVATIONS BUT NO COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION IS GUARANTEED. CONTRACTOR SHALL CONTACT ONE CALL SYSTEM (GUARANTEED PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 1996) AT LEAST THREE (3) BUSINESS DAYS BUT NOT MORE THAN TEN (10) BUSINESS DAYS PRIOR TO START OF WORK. UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.

20232512731–000

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ENGINEER
No. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
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DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

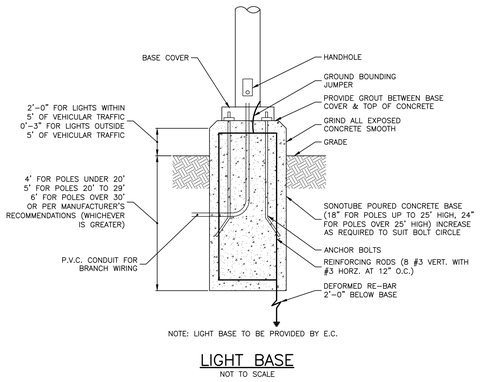
Key Plan:

N
PROJECT

Scale: 1" = 1000'

Drawing Title:
LANDSCAPING
SCHEDULE

Drawing Number:
028



LIGHT BASE

NOT TO SCALE

BEACON

VIPER Area/Site

VIPER LUMINAIRE

DATE: LOCATION:

TYPE: PROJECT:

CATALOG #:

FEATURES

- Low profile LED area/site luminaire with a variety of IES distributions for lighting applications such as auto dealership, retail, commercial, and campus parking lots
- Featuring two different optical technologies, Strike and Micro Strike Optics, which provide the best distribution patterns for retrofit or new construction
- Rated for high vibration applications including bridges and overpasses. All sizes are rated for 1.5G
- Control options including photo control, occupancy sensing, NX Lighting Controls™, LightGRID® and 7-Pin with networked controls
- New customizable lumen output feature allows for the wattage and lumen output to be customized in the factory to meet whatever specification requirements may entail
- Field interchangeable mounting provides additional flexibility after the fixture has shipped

MICRO STRIKE | STRIKE OPTICS

IP65 DLC LISTED DLC 5.1 PREMIUM ida BAA TAA

SIZE 1: 16" x 16" x 6.37" — 21.6" — 2.56"

SIZE 2: 21.69" x 21.69" x 6.37" — 26.69" — 2.56"

SIZE 3: 26.97" x 26.97" x 9.2" — 31.47" — 3.56"

SIZE 4: 31.69" x 31.69" x 9.62" — 36.19" — 3.56"

CONTROL TECHNOLOGY

NX Distributed | NX Connected | NX Wireless | LIGHTGRID®

SERVICE PROGRAMS

STOCK | QS10

SPECIFICATIONS

CONSTRUCTION

- Die-cast housing with hidden vertical heat fins are optimal for heat dissipation while keeping a clean smooth outer surface
- Corrosion resistant, die-cast aluminum housing with 1000 hour powder coat paint finish
- External hardware is corrosion resistant

OPTICS

- Micro Strike Optics (160, 320, 480, or 720 LED counts) maximize uniformity in applications and come standard with mid-power LEDs which evenly illuminate the entire luminous surface area to provide a low glare appearance. Catalog logic found on page 2
- Strike Optics (36, 72, 108, or 162 LED counts) provide best in class distributions and maximum pole spacing in new applications with high uniformities. The Strike Optics are available with a polycarbonate bezel to mimic the appearance of the Micro Strike Optics so both solutions can be combined on the same application. Catalog logic found on page 3
- Both optics maximize target zone illumination with minimal losses at the house-side, reducing light trespass issues. Additional backlight control shields and house side shields can be added for further reduction of illumination behind the pole
- One-piece silicone gasket ensures a weatherproof seal
- Zero up-light at 0 degrees of tilt
- Field rotatable optics

INSTALLATION

- Mounting patterns for each arm can be found on page 11
- Optional universal mounting block for ease of installation during retrofit applications. Available as an option (ASQA) or accessory for square and round poles
- All mounting hardware included
- Knuckle arm fitter option available for 2-3/8" OD tenon
- For products with EPA less than 1 mounted to a pole greater that 20ft, a vibration damper is recommended

ELECTRICAL

- Universal 120-277 VAC or 347-480 VAC input voltage, 50/60 Hz
- Ambient operating temperature -40°C to 40°C
- Drivers have greater than 90% power factor and less than 20% THD
- LED drivers have output power over-voltage, over-current protection and short circuit protection with auto recovery
- Field replaceable surge protection device provides 20kA protection meeting ANSI/ IEEE C62.41.2 Category C High and Surge Location Category C3; Automatically takes fixture off-line for protection when device is compromised
- Dual Driver option provides 2 drivers within luminaire but only one set of leads exiting the luminaire. Dual Driver option provides two drivers which can be wired independently as two sets of leads are extended from the luminaire. Both options cannot be combined

CONTROLS

- Photo control, occupancy sensor programmable controls, and Zigbee wireless controls available for complete on/off and dimming control
- Please consult brand or sales representative when combining control and electrical options as some combinations may not operate as anticipated depending on your application
- 7-pin ANSI C136.41 (2013 photocontrol receptacle option available for twist lock photocontrols or wireless control modules (control accessories sold separately)

CONTROLS (CONTINUED)

- 0- 10V Dimming Drivers are standard and dimming leads are extended out of the luminaire unless control options require connection to the dimming leads. Must specify if wiring leads are to be greater than the 6" standard
- NX Lighting Controls™ available with in fixture wireless control module, features dimming and occupancy sensor
- LightGRID® available with in fixture wireless control module, features dimming and occupancy sensor. Also available in 7-pin configuration

EPA

	VP1 (Size 1)	VP2 (Size 2)	VP3 (Size 3)	VP4 (Size 4)	Config.
Single Fixture	0.454	0.555	0.655	0.898	SF
Two at 90°	0.908	1.110	1.310	1.396	D90
Two at 180°	0.583	0.79	0.857	0.948	D180
Three at 90°	1.037	1.266	1.512	1.646	T90
Three at 120°	0.943	1.155	1.392	1.680	T120
Four at 90°	1.166	1.422	1.714	1.896	Q90

CERTIFICATIONS

- DLC® (DesignLights Consortium Qualified), with some Premium Qualified configurations. Not all product variations listed in this document are DLC® qualified. Refer to http://www.designlights.org for the most up-to-date list.
- Listed to UL1598 and CSA C22.2#250.0-24 for wet locations and 40°C ambient temperatures
- 1.5 G rated for ANSI C136.31 high vibration applications
- Fixture is IP65 rated
- Meets EIA recommendations using 3K CCT configuration at 0 degrees of tilt
- This product meets federal procurement law requirements under the Buy American Act (FAR 52.225-9) and Trade Agreements Act (FAR 52.225-11). See Buy American's Solutions (link to https://www.currentlighting.com/resources/america-solutions)

WARRANTY

- 5 year warranty

Current

currentlighting.com/beacon

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COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — CHRISTOPHER W. JENSEN — ENGINEER — NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.

PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

N
PROJECT

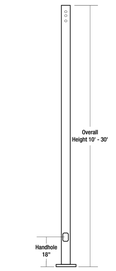
Scale: 1" = 1000'

Drawing Title:
LIGHTING DETAILS

Drawing Number:
029

RSS-B SERIES POLES
ROUND STRAIGHT STEEL

Cat.#
Job
Type
BEACON
Approvals



APPLICATIONS

- Lighting installations for side and top mounting of luminaires with effective projected area (EPA) not exceeding maximum allowable loading of the specified pole in its installed geographic location

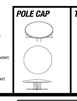
CONSTRUCTION

- SHAFT: One-piece straight steel with round cross section, Minimum yield of 46,000 psi (ASTM-A500, Grade C); Longitudinal weld seam to appear flush in shaft wall; Steel base plate with axial bolt circle slots welded flush to pole shaft having minimum yield of 36,000 psi (ASTM A36)
- BASE COVER: Two-piece square aluminum base cover included standard
- POLE CAP: Pole shaft supplied with removable cover when applicable; Tenon and post-top configurations also available
- HAND HOLE: Rectangular 3x5 steel hand hole frame (2.38" x 4.38" opening); Mounting provisions for grounding lug located behind gasketed cover
- ANCHOR BOLTS: Four galvanized anchor bolts provided per pole with minimum yield of 55,000 psi (ASTM F1554). Galvanized hardware with two washers and two nuts per bolt for leveling

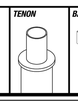
FINISH

- Durable thermoset polyester powder coat paint finish with nominal 3.0 mil thickness
- Powder paint prime applied over "white metal" steel substrate cleaned via mechanical shot blast method
- Decorative finish coat available in multiple standard colors; Custom colors available; RAL number preferable;

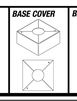
POLE CAP



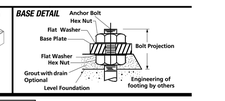
TENON



BASE COVER



BASE DETAIL



ORDERING INFORMATION

ORDERING EXAMPLE: RSS – B – 25 – 40 – A/B/C – *(2) 2L (2) 1 – B2 – BLT – UL

RSS - B - 20 - 40 - B - * - LGS - UL

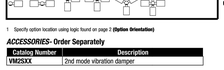
Reference page 2 for available configurations

SERIES	HEIGHT	SHAFT	THICKNESS	MOUNTING
RSS-B Round Straight Steel Pole Beacon	Reference page 2 Ordering matrix	Reference page 2 Ordering matrix	Reference page 2 Ordering matrix	1 Single arm mount 2 Two fixtures at 180° 2L Two fixtures at 90° 3T Three fixtures at 90° 3Y Three fixtures at 120° 4 Four fixtures at 90° TA Tenon (2.375" OD) TB Tenon (2.875" OD) TC Tenon (3.5" OD) OT No drilling (includes pole cap)

FINISH	
BLT	Black Matte Textured
BLS	Black Gloss Smooth
DBT	Dark Bronze Matte Textured
DBS	Dark Bronze Gloss Smooth
GTT	Graphite Matte Textured
LGS	Light Grey Gloss Smooth
PSS	Platinum Silver Smooth
WHT	White Matte Textured
WHS	White Gloss Smooth
VST	Verde Green Textured
Color Option	
CC	Custom Color

OPTIONS	
GFI	20 Amp GFCI Receptacle and Cover
EHH	Extra Handhole
C05	.5" Coupling
C07	.75" Coupling
C20	2" Coupling
MPB*	Mid-pole Luminaire Bracket
VM2	2nd mode vibration damper
LAB	Less Anchor Bolts
UL	UL Certified
RBC	Round Base Cover

MOUNTING ORIENTATION



1 Specify option location using logic found on page 2 **(Option Orientation)**

ACCESSORIES- Order Separately

Catalog Number	Description
VM2SXX	2nd mode vibration damper

DRILL PATTERN	
B1	Cruzer, "AM" arm
B3	2 bolt (2-½" spacing), Viper "A" arm
S2	2 bolt (3-½" spacing), Viper "AD" arm

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PROJECT INFORMATION:
FILE PATH: O:\Projects\SGA\20065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD20001_DTL.dwg
PLOT DATE: Friday, October 04, 2024, 4:55PM
LAST SAVE BY: JMcKay

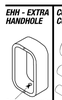
PENNSYLVANIA ONE CALL SYSTEM, INC.
ATTENTION: ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES FOR FIELD LOCATION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 AS AMENDED BY ACT 121 OF DECEMBER 10, 2008, AS OF JULY 1, 2009, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232912731-000

ORDERING INFORMATION Cont.

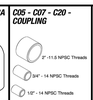
Catalog Number	Height Feet	Height Meters	Nominal Shaft Dimensions	Wall Thickness	Bolt Circle (suggested)	Bolt Circle (range)	Bolt Square (range)	Base Plate Square	Base Plate Thickness	Anchor bolt size	Bolt Projection	Pole weight
RSS-B-10-40-A	10	3.0	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	52
RSS-B-12-40-A	12	3.7	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	62
RSS-B-14-40-A	14	4.3	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	72
RSS-B-16-40-A	16	4.9	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	83
RSS-B-18-40-A	18	5.5	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	93
RSS-B-20-40-A	20	6.1	4" round	0.125"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	103
RSS-B-10-40-B	10	3.0	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	77
RSS-B-12-40-B	12	3.7	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	92
RSS-B-14-40-B	14	4.3	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	107
RSS-B-16-40-B	16	4.9	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	122
RSS-B-18-40-B	18	5.5	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	138
RSS-B-20-40-B	20	6.1	4" round	0.188"	9"	7.5" - 10"	5.30" - 7.07"	9"	0.75	3/4" x 30" x 3"	3.5	153
RSS-B-10-50-B	10	3.0	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	97
RSS-B-12-50-B	12	3.7	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	116
RSS-B-14-50-B	14	4.3	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	135
RSS-B-16-50-B	16	4.9	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	155
RSS-B-18-50-B	18	5.5	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	174
RSS-B-20-50-B	20	6.1	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	193
RSS-B-25-50-B	25	7.6	5" round	0.188"	11"	8.0" - 11"	5.66" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	242
RSS-B-20-60-C	20	6.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	307
RSS-B-25-60-C	25	7.6	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	384
RSS-B-30-60-C	30	9.1	6" round	0.250"	11"	9.0" - 11"	6.36" - 7.79"	10.25	1.0	1" x 36" x 4"	4.5	461

NOTE Factory supplied template must be used when setting anchor bolts. Beacon Products will deny any claim for incorrect anchorage placement resulting from failure to use factory supplied template and anchor bolts.

EHH - EXTRA HANDHOLE



C05 - C07 - C20 - COUPLING



VM2 - VIBRATION DAMPER 2ND MODE

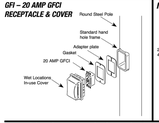
Factory installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

VM2SXX - VIBRATION DAMPER 2ND MODE

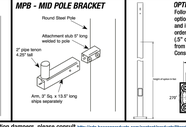
VM2S06 – 8'
VM2S12 – 12'
VM2S16 – 16'
VM2S20 – 20'
VM2S24 – 24'

Field installed, internal damper designed to alter pole resonance to reduce movement and material fatigue caused by 2nd mode vibration.

GFI – 20 AMP GFCI RECEPTACLE & COVER

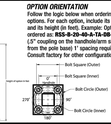


MPB - MID POLE BRACKET



OPTION ORIENTATION

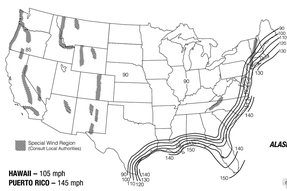
Follow the logic below when ordering location specific options. For each option, include its orientation (in degrees) and its height (in feet). Example: Option C07 should be ordered as: **RSS-B-20-40-A-TA-BB-C05-0-15** (.5" coupling on the handhole/arm side of pole, 15 feet up from the pole base) 1" spacing required between option. Consult factory for other configurations.



For more information about pole vibration and vibration dampers, please consult http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HL060222.pdf

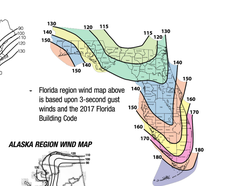
Due to our continued efforts to improve our products, product specifications are subject to change without notice.

ASCE7-05 WIND MAP



*PRINTED WITH PERMISSION FROM ASCE

FLORIDA REGION WIND MAP



- Florida region wind map above is based upon 3-second gust winds and the 2017 Florida Building Code

ALASKA REGION WIND MAP

ASCE 7-05 wind map EPA Load Rating - 3 second gust wind speeds

Catalog Number	85	90	100	110	120	105	145
RSS-B-10-40-A	21.0	19.7	15.0	13.2	10.3	13.5	6.8
RSS-B-12-40-A	16.8	14.8	11.8	9.5	7.7	10.5	5.1
RSS-B-14-40-A	13.8	12.0	9.4	7.4	5.9	8.3	3.9
RSS-B-16-40-A	11.1	9.7	7.5	5.8	4.5	6.5	2.9
RSS-B-18-40-A	9.0	7.8	5.8	4.4	3.3	5.1	2
RSS-B-20-40-A	7.2	6.3	4.5	3.1	2.2	3.8	1.2
RSS-B-10-40-B	25.0	25.0	22.4	18.4	15.3	20.2	10.4
RSS-B-12-40-B	25.0	22.3	17.9	14.5	12.0	16.1	8.1
RSS-B-14-40-B	20.6	18.3	14.6	11.7	9.6	13	6.4
RSS-B-16-40-B	17.2	15.2	12.0	9.5	7.7	10.7	5.1
RSS-B-18-40-B	14.3	12.6	9.8	7.6	6.1	8.6	3.9
RSS-B-20-40-B	11.8	10.3	7.8	6.0	4.7	6.8	2.9
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	25.0	17.7
RSS-B-12-50-B	25.0	25.0	25.0	24.8	20.6	25.0	14.3
RSS-B-14-50-B	25.0	25.0	24.7	20.5	17.2	22.4	11.7
RSS-B-16-50-B	25.0	25.0	20.7	17.1	14.3	18.8	9.7
RSS-B-18-50-B	24.5	21.6	17.3	14.3	11.9	15.7	8.0
RSS-B-20-50-B	20.6	18.1	14.4	11.8	9.8	13.0	6.5
RSS-B-25-50-B	13.9	11.7	8.1	7.3	6.0	8.1	3.8
RSS-B-20-60-C	25.0	25.0	25.0	25.0	21.5	25.0	14.8
RSS-B-25-60-C	25.0	25.0	21.9	18.0	15.0	19.8	10.1
RSS-B-30-60-C	21.8	19.4	15.6	12.7	10.6	14.1	6.9

Florida Building Code 2017 EPA Load Rating - 3 second gust wind speeds

Catalog Number	110	120	130	140	150	160	170	180
RSS-B-10-40-A	25.0	21.5	20.0	17.0	14.5	12.3	11.0	10.0
RSS-B-12-40-A	21.8	19.0	16.0	13.5	11.5	9.5	9.0	8.0
RSS-B-14-40-A	17.5	15.7	13.0	10.8	9.0	7.5	7.0	6.5
RSS-B-16-40-A	14.2	13.0	10.3	8.5	7.0	5.8	5.0	4.5
RSS-B-18-40-A	11.6	10.4	8.2	6.8	5.4	4.4	4.0	3.6
RSS-B-20-40-A	9.5	8.4	6.5	5.2	4.0	3.5	2.8	2.5
RSS-B-10-40-B	25.0	25.0	25.0	22.0	19.0	16.5	15.2	13.4
RSS-B-12-40-B	25.0	25.0	25.0	17.6	15.1	13.0	12.0	10.6
RSS-B-14-40-B	22.5	20.4	17.2	14.4	12.2	10.4	10.0	8.8
RSS-B-16-40-B	18.9	17.0	14.1	11.7	9.8	8.2	7.5	7.0
RSS-B-18-40-B	15.6	14.1	11.5	9.4	7.7	6.4	6.0	5.7
RSS-B-20-40-B	13.0	11.6	9.3	7.5	6.0	4.8	4.0	3.5
RSS-B-10-50-B	25.0	25.0	25.0	25.0	25.0	23.6	20.8	18.4
RSS-B-12-50-B	25.0	25.0	25.0	25.0	22.2	19.3	16.6	14.8
RSS-B-14-50-B	25.0	25.0	23.9	21.5	18.4	15.9	13.8	12.1
RSS-B-16-50-B	25.0	23.8	19.6	16.0	13.4	13.2	11.4	9.9
RSS-B-18-50-B	21.8	19.6	16.1	13.1	12.9	10.8	9.3	8.0
RSS-B-20-50-B	18.2	16.4	14.1	12.7	10.7	9.0	7.7	6.5
RSS-B-25-50-B	11.7	10.2	9.4	8.4	6.8	5.6	4.5	3.7
RSS-B-20-60-C	25.0	25.0	25.0	22.1	18.8	16.1	13.9	12.0
RSS-B-25-60-C	24.7	22.4	18.4	15.3	12.8	10.8	9.1	7.6
RSS-B-30-60-C	18.2	16.3	13.2	10.7	8.7	7.0	5.7	4.5

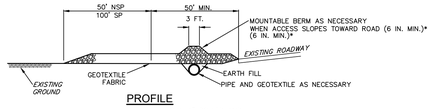
NOTES

Wind-speed Website disclaimer:

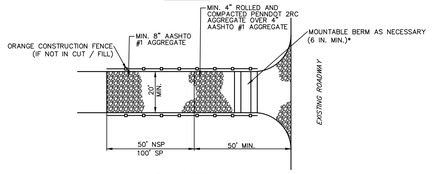
Hubbell Lighting has no connection to the linked website and makes no representations as to its accuracy. While the information presented on this third-party website provides a useful starting point for analyzing wind conditions, Hubbell Lighting has not verified any of the information on this third party website and assumes no responsibility or liability for its accuracy. The material presented in the windspeed website should not be used or relied upon for any specific application without competent examination and verification of its accuracy, suitability and applicability by engineers or other licensed professionals. Hubbell Lighting Inc. does not intend that the use of this information replace the sound judgment of such competent professionals, having experience and knowledge in the field of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the results of the windspeed report provided by this website. Users of the information from this third party website assume all liability arising from such use. Use of the output of these referenced websites do not imply approval by the governing building code bodies responsible for building code approval and interpretation for the building site described by latitude/longitude location in the windspeed report. http://windspeed.atcouncil.org

- Allowable EPA, to determine max pole loading weight, multiply allowable EPA by 30 lbs.
- The tables for allowable pole EPA are based on the ASCE 7-05 Wind Map or the Florida Region Wind Map for the 2010 Florida Building Code. The Wind Maps are intended only as a general guide and cannot be used in conjunction with other maps. Always consult local authorities to determine maximum wind velocities, guiding and unique wind conditions for each specific application
- Allowable pole EPA for jobsite wind conditions must be equal to or greater than the total EPA for fixtures, arms, and accessories to be assembled to the pole. Responsibility lies with the specifier for correct pole selection. Installation of poles without luminaires or attachment of any unauthorized accessories to poles is discouraged and shall void the manufacturer's warranty
- Wind speeds and listed EPAs are for ground mounted installations. Poles mounted on structures (such as bridges and buildings) must consider vibration and coefficient of height factors beyond this general guide; Consult local and federal standards
- Wind Induced Vibration brought on by steady, unidirectional winds and other unpredictable aerodynamic forces are not included in wind velocity ratings. Consult Hubbell Lighting's Pole Vibration Application Guide for environmental risk factors and design considerations. http://cdn.beaconproducts.com/content/products/literature/literature_files/Pole_Wind_Induced_Flyer_HL060222.pdf
- Extreme Wind Events like, Hurricanes, Typhoons, Cyclones, or Tornadoes may expose poles to flying debris, wind shear or other detrimental effects not included in wind velocity ratings

Due to our continued efforts to improve our products, product specifications are subject to change without notice.



PROFILE



PLAN VIEW

* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE
NSP – NONSPECIAL PROTECTION WATERSHED
SP – SPECIAL PROTECTION WATERSHED

NOTES:

REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.

RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.

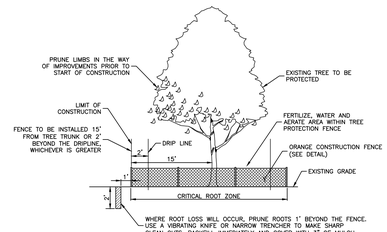
MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

MODIFIED CONSTRUCTION DETAIL #3-1
ALTERNATIVE ROCK CONSTRUCTION ENTRANCE**

NOT TO SCALE

**DETAIL PROVIDED PER THE "ALTERNATIVE E&S AND PCSM BMPS" GUIDANCE DOCUMENT BY PADEP, LAST REVISED 8/22/23

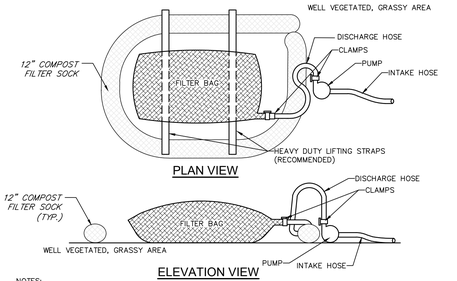


NOTES:

1. NO ENTRY, STORAGE, DISTURBANCE OR ALTERATION SHALL OCCUR IN AREA WITHIN TREE PROTECTION FENCE.

TREE PROTECTION AND PRUNING

NOT TO SCALE



PLAN VIEW

ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4833	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5% FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR INSTALLATIONS IN SPECIAL PROTECTION OR IMPAIRED WATERSHEDS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV AND IMPAIRED WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

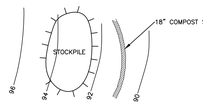
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

MODIFIED CONSTRUCTION DETAIL #3-16
ABACT PUMPED WATER FILTER BAG FOR HQ, EV AND IMPAIRED WATERSHEDS

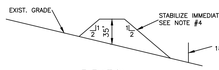
NOT TO SCALE

NOTE: MODIFICATION TO STANDARD DETAIL *ITALICIZED.*

ATTENTION: ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES INDICATED ON THESE PLANS ARE BASED ON SURFACE EVIDENCE AND RECORD AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTOR IS RESPONSIBLE TO CONTACT PA ONE CALL FOR UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232512731–000



PLAN



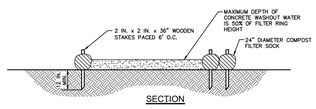
ELEVATION

NOTES:

1. INSTALL SILT FENCE DOWNSLOPE OF AREA OF STOCKPILE.
2. PLACE STOCKPILE IN AREAS SHOWN ON EROSION CONTROL PLAN WITHOUT BLOCKING NATURAL DRAINAGE PATTERNS.
3. FOLLOW DIMENSIONS SHOWN ABOVE. HEIGHT SHOULD NOT EXCEED 35 FT. SIDE SLOPES SHOULD NOT BE STEEPER THAN 2(H):1(V).
4. SEED IMMEDIATELY WITH TEMPORARY SEEDING PENNDOT FORMULA "D OR "E". IF MATERIAL IS NOT TO BE USED WITHIN 20 DAYS. FOLLOW "PERMANENT SEEDING, FERTILIZATION SCHEDULE & SPECIFICATIONS."

MATERIAL STOCKPILE AND MAINTENANCE

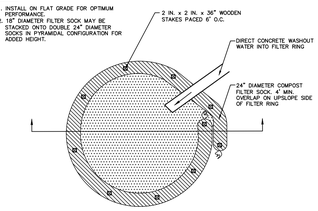
NOT TO SCALE



SECTION

NOTES:

1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



PLAN VIEW

A SUITABLE IMPERVIOUS GEMEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

MAINTENANCE

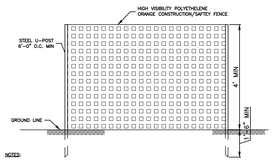
ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.

ACCUMULATED MATERIAL SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.

PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

TYPICAL COMPOST SOCK
CONCRETE WASHOUT INSTALLATION

NOT TO SCALE



NOTES:

1. CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE ALONG LIMIT OF DISTURBANCE BOUNDARY PRIOR TO THE START OF ANY EARTH DISTURBANCE.
2. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN FENCE THOUGHOUT ENTIRE DURATION OF THE PROJECT.

ORANGE CONSTRUCTION FENCE
TREE PROTECTION FENCE

NOT TO SCALE

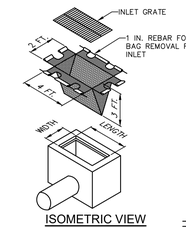
	TEMPORARY SEEDING	PERMANENT SEEDING
	Seed Mix 1	General Seeding / Sod
Species	100% Annual Rye Grass	20% turf type perennial ryegrass 30% fine red or chewings fescue 50% Kentucky bluegrass mixture (poa pratensis)
Application Rate/1000 SY	10 lbs.	8 lbs. (min.)
Where Applied	Anywhere	Anywhere
Seeding Dates	March 5–Oct.1	March 5 – October 1
Fert. and Rate/1000 SY	Comm. Fert. (10–10–10) 100 lbs. Urea Form (38–0–0) 50 lbs.	Comm. Fert. (10–20–20) Min. 1lb. Nitrogen Per 1000 Sq. Ft. and 4% Phosph. Acid and 2% Potassium (50% of Nitrogen To Be Organic)
Mulch: @ Min. 3 ton/ac.	[1] Straw (As directed)	[1] Straw (As directed)
Anchoring Method	[2] Mechanical Anchoring via disk, crimper, or similar tool	[2] Mechanical Anchoring via disk, crimper, or similar tool

NOTES:

1 OR WOOD CELLULOSE (ON SLOPES 4:1 OR GREATER), EXCEPT USE HYDR)-SEEDING
2 EXCEPT FOR HYDRO-SEEDING, WHICH WILL BE ANCHORED VIA SYNTHETIC BINDER TO BE APPLIED AT A RATE OF 50 LB/ACRE.

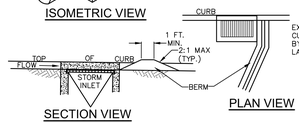
- SEEDING TO BE APPLIED BY BROADCAST SEEDING, OR APPROVED EQUAL
- ALL PROPOSED SEED MIX SHALL HAVE A MINIMUM SHALL BE A MINUMUM OF 90 PERCENT PURE LIVE SEED.

SOIL, SEEDING, FERTILIZATION SCHEDULE AND SPECIFICATIONS



ISOMETRIC VIEW

INSTALLATION DETAIL



SECTION VIEW

PLAN VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE. BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.
AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS, A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-15
FILTER BAG INLET PROTECTION - TYPE C INLET

NOT TO SCALE

TABLE 11.4
Recommended Seed Mixtures

Mixture Number	Species	Seeding Rate - Pure Live Seed [1] Most Sites	Adverse Sites
1 [2]	Spring oats (spring), or	64	96
	Annual ryegrass (spring or fall), or	10	15
	Winter wheat (fall), or	90	120
	Winter rye (fall)	56	112
2 [3]	Tall fescue, or	60	75
	Fine fescue, or	35	40
	Kentucky bluegrass, plus	25	30
	Redtop[4], or	3	3
	Perennial ryegrass	15	20
3	Birdsfoot trefoil, plus	6	10
	Tall fescue	30	35
4	Birdsfoot trefoil, plus	6	10
	Reed canarygrass	10	15
5[5]	Crownvetch, plus	10	15
	Tall fescue, or	20	25
	Perennial ryegrass	20	25
6 [5,6]	Crownvetch, plus	10	15
	Annual ryegrass	20	25
7[5]	Birdsfoot trefoil, plus	6	10
	Crownvetch, plus	10	15
	Tall fescue	20	30
8	Flatpea, plus	20	30
	Tall fescue, or	20	30
	Perennial ryegrass	20	25
9 [5]	Sericea lespedeza, plus	10	20
	Tall fescue, plus	20	25
	Redtop[4]	3	3
	Tall fescue, plus	40	60
10	Fine fescue	10	15
	Deertongue, plus	15	20
11	Birdsfoot trefoil	6	10
12 [7]	Switchgrass, or	15	20
	Big Bluestem, plus	15	20
	Birdsfoot trefoil	6	10
13	Orchardgrass, or	20	30
	Smooth bromegrass, plus	25	35
	Birdsfoot trefoil	6	10

Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. PLS is the product of the percentage of pure seed times percentage germination divided by 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag. Thus, if the PLS content of a given seed lot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.
2. If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushel per acre.
3. This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.
4. Keep seeding rate to that recommended in table. These species have many seeds per pound and are very competitive. To seed small quantities of small seeds such as weeping lovegrass and redtop, dilute with dry sawdust, sand, rice hulls, buckwheat hulls, etc.
5. Use for highway slopes and similar sites where the desired species after establishment is crownvetch.
6. Use only in extreme southeastern or extreme southwestern Pennsylvania. *Sericea lespedeza* is not well adapted to most of PA.
7. Do not mow shorter than 9 to 10 inches.
8. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels due to the invasive nature of this species.

TABLE 11.6
Mulch Application Rates

Mulch Type	Application Rate (Min.) Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Straw	3 tons	140 lb.	1,240 lb.	Either wheat or oat straw, free of weeds, not chopped or finely broken
Hay	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4 - 6 tons	185 - 275 lb.	1,650 - 2,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415	See limitations above

Mulch on slopes of 8% or steeper should be held in place with netting. Lightweight plastic, fiber, or paper nets may be stapled over the mulch according to manufacturer's recommendations.

Shredded paper hydromulch should not be used on slopes steeper than 5%. Wood fiber hydromulch may be applied on steeper slopes provided a tackifier is used. The application rate for any hydromulch should be 2,000 lb/acre at a minimum.

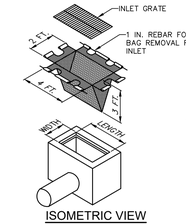
TABLE 11.1
Cubic Yards of Topsoil Required for Application to Various Depths

Depth (in)	Per 1,000 Square Feet	Per Acre
1	3.1	134
2	6.2	268
3	9.3	403
4	12.4	537
5	15.5	672
6	18.6	806
7	21.7	940
8	24.8	1,074

Adapted from VA DSWC

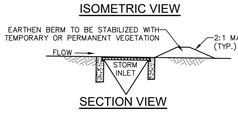
NOTES:

1. USE SEED MIX 1 PLUS SEED MIX 2 FOR TEMPORARY/PERMANENT STABILIZATION OF ALL DISTURBED AREAS. FERTILIZE AND MULCH PER THE METHODS DESCRIBED IN TASKS 11.2 AND 11.6
2. ALL PROPOSED SEED MIX SHALL SHALL BE A MINIMUM OF 90 PERCENT PURE LIVE SEED.
3. ALL PROPOSED SEED MIX SHALL BE A MINIMUM OF 90 PERCENT PURE LIVE SEED.



ISOMETRIC VIEW

INSTALLATION DETAIL



SECTION VIEW

PLAN VIEW

NOTES:

MAXIMUM DRAINAGE AREA = 1/2 ACRE.

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.

ROLLED EARTHEN BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.

AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.

INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

STANDARD CONSTRUCTION DETAIL #4-16
FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE

TABLE 11.5
Recommended Seed Mixtures for Stabilizing Disturbed Areas

Site Condition	Nurse Crop	Seed Mixture (Select one mixture)
Slopes and Banks (not mowed)		
Well-drained	1 plus	3, 5, 8, or 12[1]
Variable drainage	1 plus	3 or 7
Slopes and Banks (mowed)		
Well-drained	1 plus	2 or 10
Slopes and Banks (grassed/hay)		
Well-drained	1 plus	2, 3, or 13
Gullies and Eroded Areas	1 plus	3, 5, 7, or 12[1]
Erosion Control Facilities (BMPs)		
Sod waterways, spillways, frequent water flow areas	1 plus	2, 3, or 4
Drainage ditches		
Shallow, less than 3 feet deep	1 plus	2, 3, or 4
Deep, not mowed	1 plus	5 or 7
Pond banks, dikes, levees, dams, diversion channels, And occasional water flow areas		
Mowed areas	1 plus	2 or 3
Non-mowed areas	1 plus	5 or 7
For hay or silage on diversion channels and occasional water flow areas	1 plus	3 or 13
Highways [2]		
Non-mowed areas		
Pure crownvetch[3]	1 plus	5 or 6
Well-drained	1 plus	5, 7, 8, 9, or 10
Variable drained	1 plus	3 or 7
Poorly drained	1 plus	3 or 4
Areas mowed several times per year	1 plus	2, 3, or 10
Utility Right-of-way		
Well-drained	1 plus	5, 8, or 12[1]
Variable drained	1 plus	3 or 7
Well-drained areas for grazing/hay	1 plus	2, 3, or 13
Effluent Disposal Areas	1 plus	3 or 4
Sanitary Landfills	1 plus	3, 5, 7, 11[1], or 12[1]
Surface mines		
Spoils, mine wastes, fly ash, slag, settling basin Residues and other severely disturbed areas (lime to soil test)	1 plus	3, 4, 6, 7, 8, 9, 11[1], or 12[1]
Severely disturbed areas for grazing/hay	1 plus	3 or 13

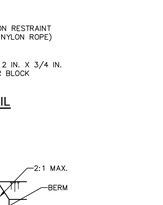
Penn State, "Erosion Control and Conservation Plantings on Noncropland"

1. For seed mixtures 11 and 12, only use spring oats or weeping lovegrass (included in mix) as nurse crop.
2. Contact the Pennsylvania Department of Transportation district roadside specialist for specific suggestions on treatment techniques and management practices.
3. Seed mixtures containing crown vetch should not be used in areas adjacent to wetlands or stream channels due to the invasive nature of this species.

TABLE 11.2
Soil Amendment Application Rate Equivalents

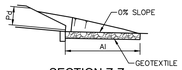
Soil Amendment	Permanent Seeding Application Rate Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	Notes
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test; may not be required in agricultural fields
10–20–20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test; may not be required in agricultural fields
	Temporary Seeding Application Rate			
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

Adapted from Penn State, "Erosion Control and Conservation Plantings on Noncropland"



PLAN VIEW

SECTION Y-Y



SECTION Z-Z

OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R–	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL TERMINAL WIDTH Alw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW A.36	18	R–4	18	7	5	8
EW A.26	30	R–5	27	12	8	13
EW A.41	24	R–5	27	9	6	10
EW A.46	18	R–4	18	7	5	8
EW A.13	30	R–5	27	12	8	13
EW A.42	48	R–5	27	17	12	19
EW B.8	15	R–5	27	6	4	7
EW B.10	36	R–5	27	13	9	15
EW B.12	30	R–5	27	12	8	13

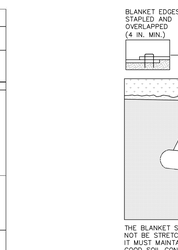
NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

NOT TO SCALE



NOTES:

SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.

PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.

SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.

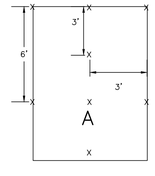
BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.

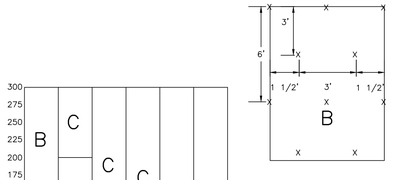
THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

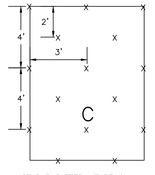
BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

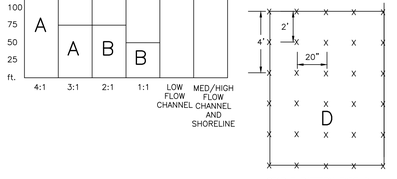
STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION

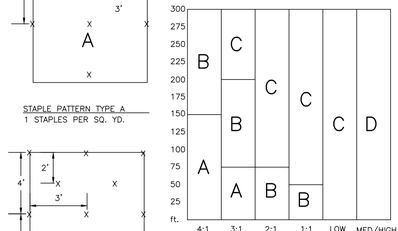
NOT TO SCALE



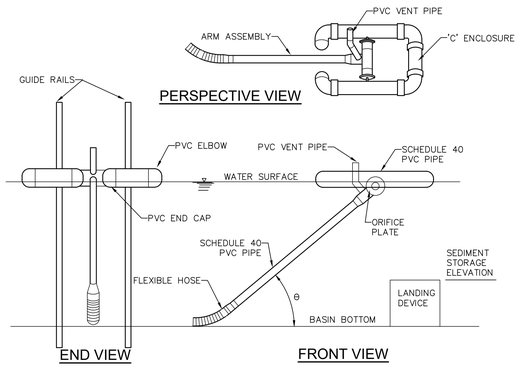








NORTH AMERICAN GREEN STAPLE P



BASIN NO.	WATER SURFACE ELEVATION (FT)	ARM LENGTH (FT)	ARM DIA. (IN)	ORIFICE DIA. (IN)	TOP OF LANDING DEVICE ELEVATION (FT)	FLEXIBLE HOSE LENGTH (IN)	FLEXIBLE HOSE ATTACHMENT ELEVATION (FT)
1	545.0	8.0	4.0	3.8	542.20	48	540.5
2	535.8	8.0	4.0	3.8	531.50	48	530.5

NOTES:

ORIFICE DIAMETER MUST BE EQUAL TO OR LESS THAN ARM DIAMETER

A ROPE SHALL BE ATTACHED TO THE SKIMMER ARM TO FACILITATE ACCESS TO THE SKIMMER ONCE INSTALLED.

SKIMMER SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT, ANY MALFUNCTIONING SKIMMER SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.

ICE OR SEDIMENT BUILDUP AROUND THE PRINCIPAL SPILLWAY SHALL BE REMOVED SO AS TO ALLOW THE SKIMMER TO RESPOND TO FLUCTUATING WATER ELEVATIONS.

SEDIMENT SHALL BE REMOVED FROM THE BASIN WHEN IT REACHES THE LEVEL MARKED ON THE SEDIMENT CLEAN-OUT STAKE OR THE TOP OF THE LANDING DEVICE.

A SEMI-CIRCULAR LANDING ZONE MAY BE SUBSTITUTED FOR THE GUIDE RAILS (STANDARD CONSTRUCTION DETAIL # 7-3).

STANDARD CONSTRUCTION DETAIL #7-1
SKIMMER

NOT TO SCALE

BASIN NO.	Z1 (FT)	Z2 (FT)	TEMP RISER EXT. ELEV TRE (FT)	EMBANKMENT				CLEAN OUT ELEV COE (FT)	BOTTOM ELEV BE (FT)
				TOP ELEV ETE (FT)	TOP WIDTH ETw (FT)	KEY TRENCH DEPTH (FT)	KEY TRENCH WIDTH (FT)		
1	3	4	544.50	547.40	10	2	4	542.2	540.5
2	3	4	535.30	538.20	10	2	4	531.5	530.5

BASIN NO.	SKIMMER			OUTLET BARREL				
	DIA SAd (IN)	LENGTH SAi (FT)	MAT'L	DIA Bd (IN)	INLET ELEV BIE (FT)	MAT'L	LENGTH Bl (FT)	OUTLET ELEV BOE (FT)
1	4	8	PVC	48	540.15	HDPE	62	539.80
2	4	8	PVC	30	530.50	HDPE	45.5	530.20

NOTES:

SEDIMENT BASINS, INCLUDING ALL APPURTENANT WORKS, SHALL BE CONSTRUCTED TO THE DETAIL AND DIMENSIONS SHOWN ON THE E&S PLAN DRAWINGS.

AREA UNDER EMBANKMENT SHALL BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO A DEPTH OF TWO FEET PRIOR TO ANY PLACEMENT AND COMPACTION OF EARTHEN FILL. IN ORDER TO FACILITATE MAINTENANCE AND RESTORATION, THE POOL AREA SHALL BE CLEARED OF ALL BRUSH, TREES, AND OBJECTIONABLE MATERIAL. FILL MATERIAL FOR THE EMBANKMENTS SHALL BE FREE OF ROOTS, OR OTHER WOODY VEGETATION, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS. THE EMBANKMENT SHALL BE COMPACTED IN LAYERED LIFTS OF NOT MORE THAN 6 TO 9 IN. THE MAXIMUM ROCK SIZE SHALL BE NO GREATER THAN 2/3 THE LIFT THICKNESS.

UPON COMPLETION, THE EMBANKMENT SHALL BE SEEDED, MULCHED, BLANKETED OR OTHERWISE STABILIZED ACCORDING TO THE SPECIFICATIONS OF THE E&S PLAN DRAWINGS. TREES SHALL NOT BE PLANTED ON THE EMBANKMENT.

INSPECT ALL SEDIMENT BASINS ON AT LEAST A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. PROVIDE ACCESS FOR SEDIMENT REMOVAL AND OTHER REQUIRED MAINTENANCE ACTIVITIES. A CLEAN OUT STAKE SHALL BE PLACED NEAR THE CENTER OF EACH BASIN. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED THE CLEAN OUT ELEVATION ON THE STAKE AND THE BASIN RESTORED TO ITS ORIGINAL DIMENSIONS. DISPOSE OF MATERIALS REMOVED FROM THE BASIN IN THE MANNER DESCRIBED IN THE E&S PLAN.

BASIN EMBANKMENTS, SPILLWAYS, AND OUTLETS SHALL BE INSPECTED FOR EROSION, PIPING AND SETTLEMENT. NECESSARY REPAIRS SHALL BE IMMEDIATELY. DISPLACED RIPRAP WITHIN THE OUTLET ENERGY DISSIPATER SHALL BE REPLACED IMMEDIATELY.

ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISTURBED AREAS SHALL BE STABILIZED INSIDE THE BASIN BEFORE CONVERSION TO A STORMWATER MANAGEMENT FACILITY. THE DEVICE SHOWN IN STANDARD CONSTRUCTION DETAIL #7-16 MAY BE USED TO DEWATER SATURATED SEDIMENT PRIOR TO ITS REMOVAL. ROCK FILTERS SHALL BE ADDED AS NECESSARY.

STANDARD DETAIL 7-4 ADAPTED FOR SKIMMER INSTALLATION IN TEMPORARY SEDIMENT TRAP.

ALTERNATE CONSTRUCTION DETAIL #7-4
SEDIMENT BASIN EMBANKMENT AND SPILLWAY DETAILS - SKIMMER

NOT TO SCALE

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ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR FIELD SURVEY. THE ACCURACY AND/OR COMPLETENESS OR ACCURACY OF THIS SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. IN ACCORDANCE WITH PENNSYLVANIA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
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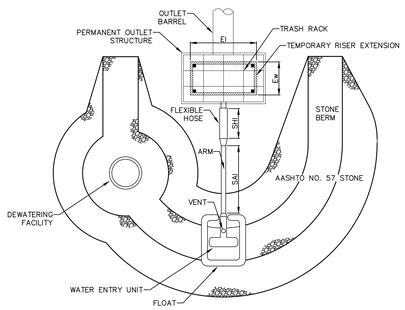


PLAN VIEW

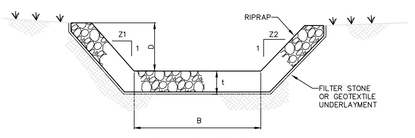
NOTES:

NO GUIDE RAILS SHALL BE REQUIRED FOR THIS INSTALLATION.

THIS DETAIL SHALL BE USED IN CONJUNCTION WITH STANDARD CONSTRUCTION DETAILS #7-2 AND #7-4.

STANDARD CONSTRUCTION DETAIL #7-3
SKIMMER WITH STONE LANDING BERM

NOT TO SCALE



(LOOKING DOWNSTREAM)

CHANNEL CROSS-SECTION

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	RIPRAP GRADATION (R-__)	RIPRAP DEPTH t (IN)	UNDERLAYMENT	UNDER-LAYMENT THICKNESS
2	ALL	20	1.5	4	4	6	36	GEOTEXTILE	6"
POI 1 OUTFALL *	ALL	5	1.75	4	1	5	27	GEOTEXTILE	6"

NOTES:

*** CONTINGENT ON TOWNSHIP AND ADJOINER APPROVAL**

FILTER STONE UNDERLAYMENT FOR BED SLOPES ≥ 0.10 FT/FT (10 %) SHALL BE USED.

CHANNEL DIMENSIONS ARE FOR THE COMPLETED CHANNEL AFTER ROCK PLACEMENT. CHANNEL MUST BE OVER-EXCAVATED A SUFFICIENT AMOUNT TO ALLOW FOR THE VOLUME OF ROCK PLACED WITHIN THE CHANNEL WHILE PROVIDING THE SPECIFIED FINISHED DIMENSIONS.

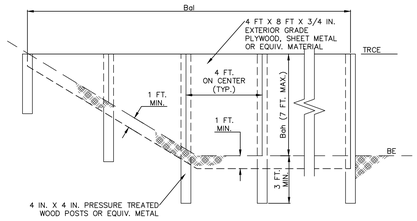
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE.

DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

THE MINIMUM ROCK THICKNESS (t) SHALL BE 1.5 TIMES THE MAX ROCK SIZE.

STANDARD CONSTRUCTION DETAIL #6-3
RIPRAP CHANNEL

NOT TO SCALE



BASIN OR TRAP NO.	BAFFLE		TEMPORARY RISER	BOTTOM
	LENGTH Bal (FT)	HEIGHT Bah (FT)	CREST ELEV. TRCE (FT)	BOTTOM ELEV BE (FT)
1	125	4.0	544.5	540.50
2	180	4.8	535.30	530.50

NOTES:

SEE APPROPRIATE BASIN DETAIL FOR PROPER LOCATION AND ORIENTATION.

AN ACCEPTABLE ALTERNATIVE IS TO INSTALL A SUPER SILT FENCE AT THE BAFFLE LOCATION

IN POOLS WITH DEPTHS EXCEEDING 7', THE TOP OF THE PLYWOOD BAFFLE DOES NOT NEED TO EXTEND TO THE TEMPORARY RISER CREST. SUPER SILT FENCE BAFFLES NEED NOT EXTEND TO TRCE ELEVATION.

BAFFLES SHALL BE TIED INTO ONE SIDE OF THE BASIN UNLESS OTHERWISE SHOWN ON THE PLAN DRAWINGS.

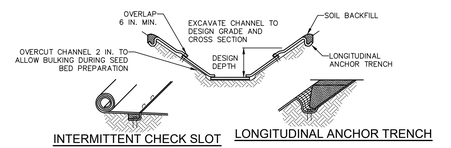
SUBSTITUTION OF MATERIALS NOT SPECIFIED IN THIS DETAIL SHALL BE APPROVED BY THE DEPARTMENT OR THE LOCAL CONSERVATION DISTRICT BEFORE INSTALLATION.

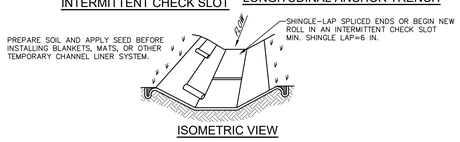
DAMAGED OR WARPED BAFFLES SHALL BE REPLACED WITHIN 7 DAYS OF INSPECTION.

BAFFLES REQUIRING SUPPORT POSTS SHALL NOT BE INSTALLED IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-14
BAFFLE

NOT TO SCALE





* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
1	ALL	6	1.25	16	4	4	NAG SC150 / VEG. C
3	ALL	8	1.25	18	4	4	C350 / VEG. C
4	ALL	8	1.75	22	4	4	C350 / VEG. C

NOTES:

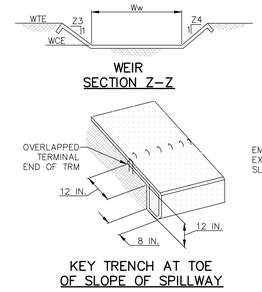
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

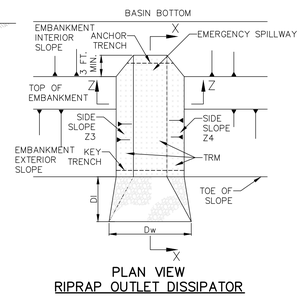
CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

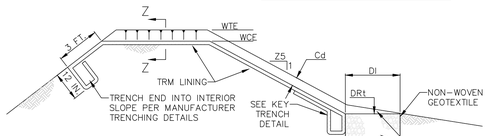
NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE







BASIN NO.	WEIR					LINING		CHANNEL		DISSIPATOR			
	Z3 (FT)	Z4 (FT)	TOP ELEV WTE (FT)	CREST ELEV WCE (FT)	WIDTH Ww (FT)	TRM TYPE	STAPLE PATTERN	Z5 (FT)	DEPTH Cd (FT)	LENGTH DI (FT)	WIDTH Dw (FT)	RIPRAP SIZE (R-__)	RIPRAP THICK. DRt (IN)
1	5	5	547.4	545	90	C350	E	15	0.25	100	90	N/A	N/A
2	5	5	538.2	535.8	80	C350	E	15	0.25	80	80	N/A	N/A

NOTES:

HEAVY EQUIPMENT SHALL NOT CROSS OVER SPILLWAY WITHOUT PRECAUTIONS TAKEN TO PROTECT TRM LINING.

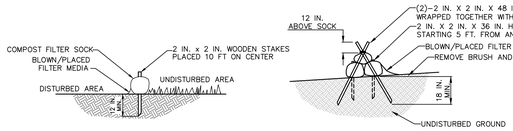
DISPLACED LINER WITHIN THE SPILLWAY AND/OR OUTLET CHANNEL SHALL BE REPLACED IMMEDIATELY.

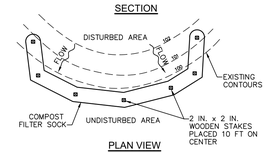
RIPRAP AT TOE OF EMBANKMENT SHALL BE EXTENDED A SUFFICIENT LENGTH IN BOTH DIRECTIONS TO PREVENT SCOUR.

THE USE OF BAFFLES THAT REQUIRE SUPPORT POSTS ARE RESTRICTED FROM USE IN BASINS REQUIRING IMPERVIOUS LINERS.

STANDARD CONSTRUCTION DETAIL #7-13
SEDIMENT BASIN EMERGENCY SPILLWAY WITH TRM LINING

NOT TO SCALE





NOTES:

SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.

COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.

TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.

COMPOST FILTER SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.

BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

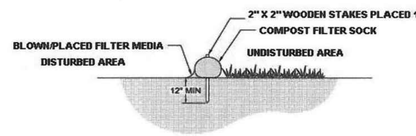
UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

MODIFIED CONSTRUCTION DETAIL #4-1
COMPOST FILTER SOCK

NOT TO SCALE

STANDARD E&SC WORKSHEET #1
Compost Filter Socks

PROJECT NAME:	South Brandywine ES		
LOCATION:	East Fallowfield Township, Chester County		
PREPARED BY:	T&M	DATE:	4/26/2024
CHECKED BY:	T&M	DATE:	4/26/2024



SOCK NO.	DIAMETER (in.)	LOCATION	SLOPE (%)	SLOPE LENGTH ABOVE BARRIER (ft.)
1	12	SOUTHEAST CORNER OF SITE ALONG DOE RUN ROAD	3.9	150
2	12		3.7	230
3	12		4.4	150
4	12		6.4	90
5	12		7.1	10
6	12		7.2	56
7	12		7.4	45
8	12		8.0	15
9	12		8.1	12
10	12		5.6	23
11	12	EASTERN PORTION OF SITE ALONG DOE RUN ROAD BETWEEN DRIVEWAYS	3.8	32
12	12		3.9	40
13	12		3.8	40
14	12		3.5	40
15	12		3.0	30
16	12		3.0	35
17	12		3.0	30
18	12		3.0	35
19	12		3.0	40
20	12		3.0	35
21	12		2.0	90
22	12	NORTHEAST PORTION OF SITE ALONG DOE RUN ROAD	6.0	22
23	12		6.5	50
24	12		5.8	100
25	12		6.1	95
26	12		5.3	75
27	12		3.6	70
28	12		4.0	75
29	12		3.1	190
30	12	NORTHERN PORTION OF SITE ALONG STRASBURG ROAD	4.2	370
31	12		11.0	45
32	12		4.5	500
33	3x18	SOUTH SIDE OF ABOVE GROUND INFILTRATION BASIN 1	9.0	100

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Professional Seal:

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — CHRISTOPHER W. JENSEN — ENGINEER — NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

Scale: 1" = 1000'

Drawing Title:
EROSION & SEDIMENT CONTROL DETAILS - 2

Drawing Number:
031

PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00065\Calculations & Reports\CASD - South Brandywine ES\Plans\
FILE NAME: CASD00031_DTL.dwg
PLOT DATE: Wednesday, October 9, 2024 - 4:56PM
LAST SAVE BY: JeffHey

GENERAL EROSION & SEDIMENT CONTROL PROCEDURES

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN PREPARED BY T&M ASSOCIATES. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.

2. AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS INCLUDING TOWNSHIP ENGINEER, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE OF THE CHESTER COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.

3. AT LEAST THREE (3) DAYS PRIOR TO THE START OF ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.

4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS SCHEDULED TO BE DISTURBED IN EACH STAGE. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.

5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.

6. CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.

7. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS UNLESS REQUIRED TO MINIMIZE DISTURBANCE.

8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN IN THE AMOUNTS NECESSARY TO ENSURE THAT THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.

9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.

10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND RECYCLED OR DISPOSED IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.

11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.

12. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CERTIFIED CLEAN FILL FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER AND MADE AVAILABLE, UPON REQUEST, TO ANY AGENCY OR PARTY IN THE REVIEW OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.

13. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS, UNLESS DISCHARGED INTO A SEDIMENT TRAP OR BASIN THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.

14. VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM THE CONSTRUCTION SITE ONTO ANY PUBLIC ROAD. VEHICLES AND EQUIPMENT MAY ENTER AND EXIT THE CONSTRUCTION SITE ONLY VIA A STABILIZED ROCK CONSTRUCTION ENTRANCE.

15. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE CONTRACTOR WILL MAINTAIN AND MAKE AVAILABLE TO THE LOCAL CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THESE INSPECTIONS AND ANY MAINTENANCE AND REPAIRS. MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

16. A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

17. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND AS NEEDED THROUGHOUT THE WORKDAY OR AS DIRECTED BY CONSERVATION DISTRICT OR MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEPT INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.

18. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN A MANNER DESCRIBED ON PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

19. UPON FINAL GRADING, AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES – 6 TO 12 INCHES ON COMPACTED SOILS – PRIOR TO PLACEMENT OF TOPSOIL. AREAS TO BE VEGETATED SHALL HAVE A MINIMUM FOUR (4) INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL.

20. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.

21. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.

22. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.

23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.

24. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.

25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED. SEEDED AREAS WITHIN 50 FEET OF A SURFACE WATER, OR AS OTHERWISE SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.

26. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT AND UPON RECEIPT OF CLEAN TEST SAMPLES, THE OPERATOR SHALL STABILIZE THOSE AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AT THE RECOMMENDED RATES AND METHODS. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR SHALL BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS, WHICH ARE NOT AT FINISHED GRADE OR WILL NOT BE RE-DISTURBED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.

27. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION. CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

28. EROSION AND SEDIMENT CONTROLS (BMP'S) MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE CONTROLS. EROSION AND SEDIMENT BMPS SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.

29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS. TEMPORARY CONTROLS MAY BE REMOVED ONLY UPON APPROVAL OF THE LOCAL CONSERVATION DISTRICT.

30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE CONTROLS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVALS/CONVERSIONS ARE TO BE DONE ONLY DURING GERMINATING SEASON.

31. FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTIONS TO RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO $10,000 PER DAY IN CIVIL PENALTIES, UP TO $10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO $25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

32. IN THE EVENT OF SINKHOLE DISCOVERY OR OCCURRENCE, A PROFESSIONAL GEOLOGIST OR ENGINEER SHALL BE CONTACTED CONCERNING MITIGATION. ADDITIONAL, THE CHESTER COUNTY CONSERVATION DISTRICT SHALL BE IMMEDIATELY MADE AWARE OF THE SINKHOLE DISCOVERY.

33. THE CONTRACTOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

34. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

35. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.

36. THE OPERATOR / PERMITTEE SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS (BMPS) AND RELATED ITEMS INCLUDED WITHIN THIS PLAN AND NARRATIVE.

37. EROSION AND SEDIMENT BMP CONTROLS MUST BE CONSISTENT WITH STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION "EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL" DATED MARCH 2012.

38. ALL EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE MAINTAINED IN THE APPROVED DESIGN CONDITION THROUGHOUT THE CONSTRUCTION PERIOD OR UNTIL THE DESIGN AREA IS STABILIZED.

39. SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE OPERATOR TO ELIMINATE ALL SUCH PROBLEMS.

40. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE CONTRACTOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE LOCAL CONSERVATION DISTRICT.

41. THE CONTRACTOR SHALL NOTIFY THE LOCAL CONSERVATION DISTRICT PRIOR TO ANY CESSATION IN EARTHMOVING ACTIVITIES OF MORE THAN TWENTY (20) DAYS.

42. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE PROPER AGENCY, IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

43. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.

44. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

45. CLEAN FILL AND TOPSOIL STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

46. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.

47. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER, WITHIN ALL STORM WATER CONVEYANCE CHANNELS AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.

48. ALL VEGETATED AREAS IN UNDISTURBED SECTIONS WILL REMAIN FOR EROSION PROTECTION, CONSTRUCTION AND EQUIPMENT MAY ENTER AND EXIT THE CONSTRUCTION SITE ONLY VIA A STABILIZED ROCK CONSTRUCTION ENTRANCE.

49. DUST WILL BE KEPT WITHIN TOLERABLE LIMITS BY EITHER THE USE OF SPRAYED WATER.

50. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS HAS BEEN ACHIEVED ACROSS THE UPSLOPE AREAS.

52. UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY STAGE THEREOF, WITH THE EXCEPTION OF REMEDIATION AREAS WITH PENDING TEST SAMPLE RESULTS, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. (PLEASE NOTE THAT HYDROSEED IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES). HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

MAINTENANCE OF EROSION CONTROL FACILITIES

1. THE OPERATOR SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROL (BMP) ITEMS INCLUDED WITHIN THE PLAN HEREWITH. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT HIS OPERATIONS TO MINIMIZE EROSION OF SOILS AND TO PREVENT SILTING AND MUDDYING OF STREAMS, RIVERS AND DRAINAGE SYSTEMS.

2. EROSION AND SEDIMENTATION POLLUTION CONTROL SPECIALISTS' CONTACTS:
   DELAWARE COUNTY CONSERVATION DISTRICT (484) 892-9484
   PADEP SOUTHEAST REGIONAL OFFICE (484) 250-5900

3. ALL EROSION AND SEDIMENTATION POLLUTION CONTROL MEASURES MUST REMAIN IN PLACE UNTIL THE SITE IS STABILIZED, REGARDLESS IF CONSTRUCTION IS TAKING PLACE OR NOT.

4. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT POLLUTION CONTROLS (BMPS) MUST BE PROPERLY MAINTAINED. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT CONTROLS OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.

5. SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

6. SEEDED AREAS THAT WASH OUT MUST BE FILLED AND GRADED AS NECESSARY, AND THEN RESEEDED, AN ANCHORING METHOD SHOULD THEN BE USED TO HOLD SEED AND MULCH IN PLACE; THIS IS ESPECIALLY IMPORTANT AROUND WATER COURSES, IN SWALES, AND AREAS OF CONCENTRATED FLOWS, AND ON SLOPES.

7. IN THE EVENT OWNERS OF THE PROPERTY OR THE OPERATOR FAILS TO PROPERLY MAINTAIN THE CONTROL FACILITIES, THE TOWNSHIP SHALL HAVE THE RIGHT TO ENTER SAID AREA AND PERFORM THE REQUIRED MAINTENANCE AFTER PROPER NOTIFICATION OF THE OWNERS.

8. IN THE EVENT THAT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE LOCAL CONSERVATION DISTRICT, THE MUNICIPALITY OR THE DESIGN ENGINEER OR THEIR AGENTS DEEM THAT ADDITIONAL CONTROLS, MEASURES OR PROCEDURES BEYOND THOSE SHOWN OR DESCRIBED ARE NECESSARY TO CONTROL OR CORRECT CONDITIONS WHICH WERE UNFORESEEN DURING THE DESIGN STAGE, THE CONTRACTOR SHALL BE RESPONSIBLE TO IMPLEMENT ADDITIONAL CONTROLS, MEASURES OR PROCEDURES AS IS DEEMED REASONABLY NECESSARY AND WARRANTED.

9. NO SEDIMENT, STONES OR DEBRIS SHALL BE TRACKED ON TO SURROUNDING ROADS. ANY SEDIMENT THAT IS TRACKED ONTO THE SURROUNDING ROADS MUST BE CLEANED OFF BEFORE THE END OF THE DAY UTILIZING MECHANICAL METHODS OR VIA HAND SWEEPING TO THE SATISFACTION OF THE LOCAL CONSERVATION DISTRICT AND TOWNSHIP ENGINEER.

10. ANY FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR TORPED, MUST BE REPLACED IMMEDIATELY WITH ROCK FILTER OUTLETS.

11. ANY SOIL BORROW OR SPOIL SITES, ON OR OFFSITE SHALL HAVE AN APPROVED AND IMPLEMENTED EROSION CONTROL PLAN BY THE LOCAL CONSERVATION DISTRICT. TRANSPORTATION OF ANY EXCESS MATERIALS SHALL BE SUCH THAT SPILLAGE, TRACKING OFF SITE AND OTHER DISTURBANCES ARE KEPT TO A MINIMUM.

12. THE CONTRACTOR SHALL PERIODICALLY AND ESPECIALLY AFTER HEAVY RAINFALL, INSPECT ALL CONTROL FACILITIES FOR PROPER FUNCTION. FACILITIES SHALL BE REPAIRED IF DAMAGES OR MALFUNCTIONING OR REPLACED AS NECESSARY. MAINTENANCE OF ALL CONTROL FACILITIES SHALL CONTINUE UNTIL THE ENTIRE AREA TRIBUTARY TO THE FACILITY IS STABILIZED.

13. THE LOCAL CONSERVATION DISTRICT MUST BE CONTACTED PRIOR TO REMOVAL OF ANY EROSION AND SEDIMENTATION CONTROL DEVICE SUCH AS FILTER FABRIC FENCES, ROCK FILTERS, INLET PROTECTION, TEMPORARY CHANNELS, ETC. TEMPORARY CONTROLS MAY BE REMOVED ONLY AFTER A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER, WITH A DENSITY CAPABLE OF RESISTING ACCELERATED EROSION AND SEDIMENTATION HAS BEEN ACHIEVED ACROSS THE UPSLOPE AREAS.

14. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. ADDITIONALLY, THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, AND HAS BEEN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT AND/OR LOCAL MUNICIPALITY IN COMPLIANCE WITH CHAPTER 102 RULES & REGULATIONS, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL OFF SITE SOIL AND/OR ROCK SPOIL AND/OR BORROW AREAS.

15. ANY DAMAGE THAT OCCURS AS A RESULT OF THE BASIN OR TRAP DISCHARGE WILL BE REPAIRED IN A PERMANENT MANNER THAT IS SATISFACTORY TO THE MUNICIPALITY, CONSERVATION DISTRICT AND DOWN SLOPE LANDOWNER(S).

16. ANY EROSION CAUSED BY DISCHARGES FROM BMPS WITHIN THE SITE WILL BE REPAIRED AND STABILIZED.

MONITORING, INSPECTION, AND REPORTING REQUIREMENTS

VISUAL INSPECTIONS

THE PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOTICE OF TERMINATION (NOT) BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, IN ACCORDANCE WITH THE E&S BMP AND PCSM BMP, IMPLEMENTATION AS CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:

1) A SUMMARY OF SITE CONDITIONS, E&S BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE ACTIONS; AND
2) THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.

NONCOMPLIANCE REPORTING

WHERE ANY INSPECTION FINDS THAT BMPS ARE NOT TO BE INSPECTIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO-PERMITTEE(S) SHALL WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING:

1) ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION;
2) THE PERIOD OF NONCOMPLIANCE, INCLUDING THE EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;
3) STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENCE OF THE NONCOMPLIANCE; AND
4) THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

REDUCTION, LOSS, OR FAILURE OF THE BMPS

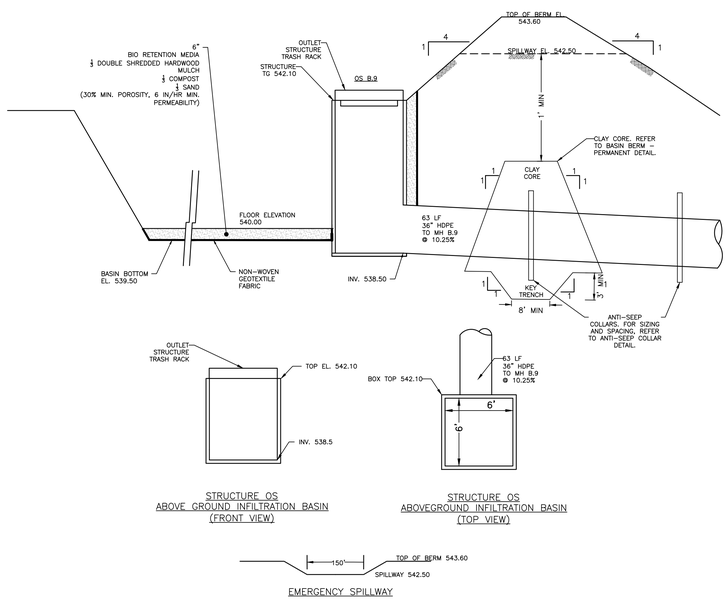
UPON REDUCTION, LOSS, OR FAILURE OF THE BMPS, THE PERMITTEE AND CO-PERMITTEE(S) SHALL IMMEDIATELY MOBILIZE AND IMPLEMENT ADDITIONAL BMPS OR PROVIDE AN ALTERNATE METHOD OF TREATMENT. SUCH RESTORED BMPS OR ALTERNATE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPS.

RECYCLING OR DISPOSAL METHODS

1. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIALS OR WASTES AT THE SITE.
2. EXCEPT FOR ITEMS OR MATERIALS TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN ON THE PROPERTY, DEMOLISHED OR EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SURFACE WATERSHED AREA AS NEEDED TO REMOVE FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ANY AND ALL APPLICABLE MUNICIPAL, COUNTY, STATE AND OTHER CURRENT REGULATIONS.
3. DEBRIS SHALL NOT BE PERMITTED TO ACCUMULATE ON THE JOB-SITE. DUST AND DIRT SHALL BE HELD TO A MINIMUM DURING DEMOLITION, BY WETTING DOWN, AS REQUIRED. ON SITE BURNING OF MATERIALS IS PROHIBITED. AT THE COMPLETION OF THE WORK, THE ENTIRE AREA INVOLVED SHALL BE CLEAN AND LEFT IN A NEAT CONDITION, FREE OF RUBBISH AND DEBRIS.
4. RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THIS PROJECT SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS.
5. SEDIMENT REMOVED FROM CONTROL FACILITIES AS A PART OF REGULAR MAINTENANCE SHALL BE DISPOSED OF UPSLOPE OF CONTROL FACILITIES IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
6. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

UTILITY TRENCH EXCAVATION/DISTURBANCE GUIDELINES

1. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE (1) DAY.
2. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUS INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. DAILY BACKFILLING MAY BE DELAYED A MAXIMUM OF SIX (6 DAYS IF PRESSURE TESTING.
3. WATER WHICH ACCUMULATES IN THE OPEN TRENCH SHALL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND / OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE SUCH AS A PUMPED WATER FILTER BAG.
4. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA SHALL BE GRADED TO FINAL CONTOURS.
5. SEE SPECIFICATIONS AND DETAILS FOR BACKFILLING AND COMPACTION REQUIREMENTS IN UTILITY TRENCH. ALL FILL, COMPACTION, AND BACKFILL MATERIALS FOR UTILITY INSTALLATION SHALL BE AS PER THE RECOMMENDATIONS PROVIDED IN THE GEOTEC



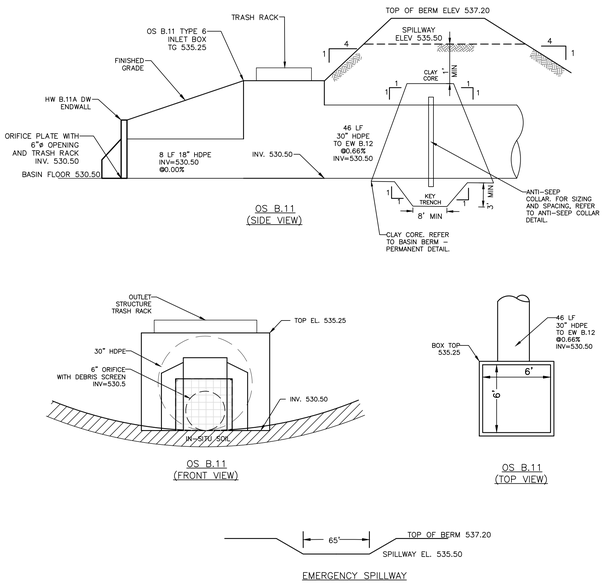
STRUCTURE OS
ABOVE GROUND INFILTRATION BASIN
(FRONT VIEW)

STRUCTURE OS
ABOVEGROUND INFILTRATION BASIN
(TOP VIEW)

EMERGENCY SPILLWAY

ABOVE GROUND INFILTRATION BASIN 1 AND OUTLET STRUCTURE B.9 DETAIL

N.T.S.



OS B.11
(SIDE VIEW)

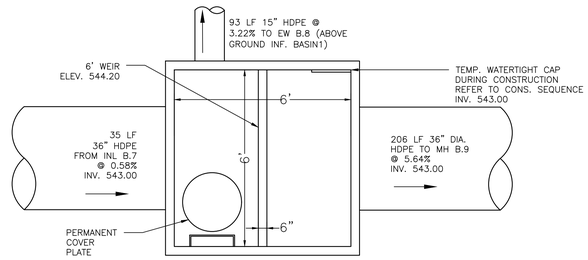
OS B.11
(FRONT VIEW)

OS B.11
(TOP VIEW)

EMERGENCY SPILLWAY

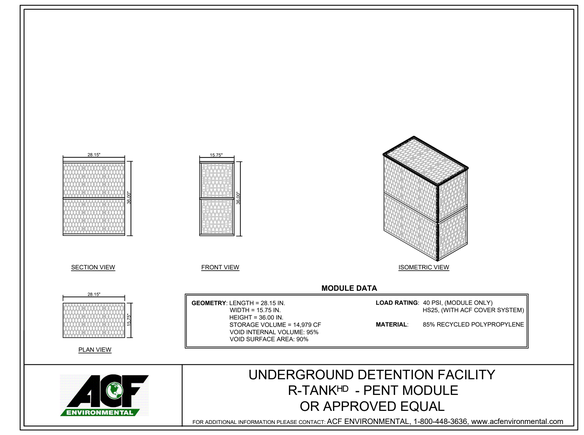
NATURALIZED DETENTION BASIN 2 AND OUTLET STRUCTURE B.11 DETAIL

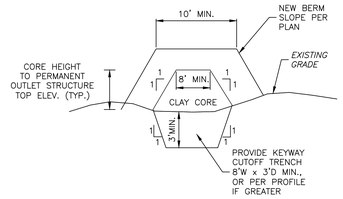
N.T.S.



MH B.8 DIVERSION STRUCTURE (PLAN VIEW)

NOT TO SCALE



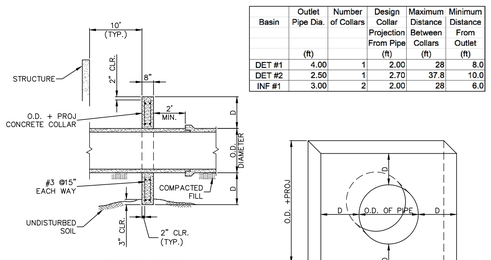


NOTES:

1. APPLICABILITY OF CLAY CORE AND KEYWAY CUTOFF DIMENSIONS, AS DEPICTED ON PROFILES SHALL BE FIELD DETERMINED BY GEOTECHNICAL ENGINEER BASED ON SOIL CONDITIONS, AS APPROVED BY MINUCIPAL ENGINEER AND CONSERVATION DISTRICT/PADEP.
2. THE BERM SHALL BE TESTED FOR STRUCTURAL SOUNDNESS MEETING THE REQUIREMENTS SET FORTH BY THE MUNICIPAL ENGINEERS' OFFICE.
3. THE MINIMUM TOP WIDTH OF THE DETENTION/RETENTION BASIN BERM SHALL AS NOTED. A CUTOFF TRENCH (KEY–WAY) OF IMPERVIOUS MATERIAL SHALL BE PROVIDED UNDER ALL EMBANKMENTS THAT REQUIRE FILL MATERIAL. THE CUTOFF TRENCH SHALL BE SIZED AS NOTED.
4. ALL DETENTION/RETENTION BASIN EMBANKMENTS SHALL BE PLACED IN MAXIMUM OF EIGHT (8) INCH LIFTS AND COMPACTED TO A MINIMUM OF 95% OF MAXIMUM DRY DENSITY AS ESTABLISHED BY ASTM D–1557. PRIOR TO PROCEEDING TO THE NEXT LIFT, THE COMPACTION SHALL BE CHECKED BY THE MUNICIPAL ENGINEER OR SOILS ENGINEER. COMPACTION TESTS WILL BE RUN ON THE LEADING AND THE TRAILING EDGE OF THE BERM ALONG WITH THE TOP OF THE BERM. INTERIOR SLOPES AND EXTERIOR SLOPES ARE TO MATCH EXISTING GRADE.
5. ALL BASIN EMBANKMENTS SHOULD BE COMPACTED BY SHEEPSFOOT OR PAD ROLLER. THE LOOSE LIFT THICKNESS SHOULD BE 9 INCHES OR LESS, DEPENDING ON ROLLER SIZE, AND THE MAXIMUM PARTICLE SIZE IS 6 INCHES OR LESS — 2/3 LIFT THICKNESS. FIVE PASSES OF THE COMPACTION EQUIPMENT OVER THE ENTIRE SURFACE OF EACH LIFT IS REQUIRED. EMBANKMENT COMPACTION TO VISIBLE NON–MOVEMENT IS ALSO REQUIRED.

BASIN BERM – PERMANENT

NOT TO SCALE



Basin	Outlet Pipe Dia.	Number of Collars	Design Collar Projection From Pipe	Maximum Distance Between Collars	Minimum Distance From Outlet
	(ft)		(ft)	(ft)	(ft)
DET #1	4.00	1	2.00	28	8.0
DET #2	2.50	1	2.70	37.8	10.0
INF #1	3.00	2	2.00	28	6.0

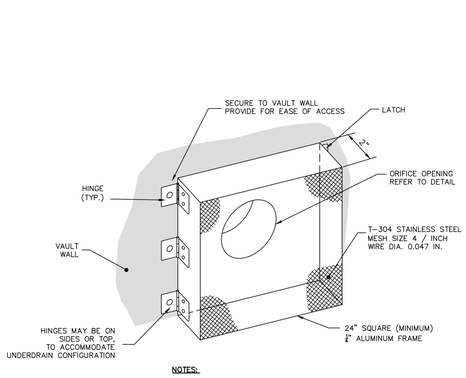
SECTION VIEW

NOTES:

1. USE PENNDOT CLASS A CONCRETE.
2. MAINTAIN A MINIMUM 6" COVER OVER ANTI–SEEP COLLAR.
3. THE CONNECTION OF ANTI–SEEP COLLARS TO OUTLET PIPES SHALL BE WATERTIGHT.
4. O–RING GASKETS SHALL BE USED ON BASIN DISCHARGE PIPES THROUGH BERM AREAS.
5. MINIMUM REINFORCEMENT SHALL BE PROVIDED USING #3 BARS @ 1'–3" HORIZONTAL AND VERTICAL SPACING.
6. PRECAST ANTI–SEEP COLLARS MAY BE USED (AS APPROVED BY MUNICIPAL ENGINEER) IN PLACE OF CAST–IN–PLACE COLLARS.
7. A QUALITY NON–SHRINK GROUT MATERIAL SHALL BE USED TO SEAL THE ANNULAR SPACE BETWEEN THE COLLAR AND THE PIPE SURFACE. THE GROUT SHALL BE INSTALLED FOR THE FULL THICKNESS OF THE COLLAR.

ANTI–SEEP COLLAR

NOT TO SCALE

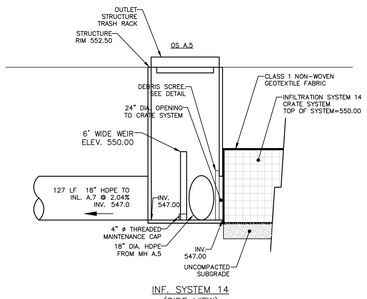


NOTES:

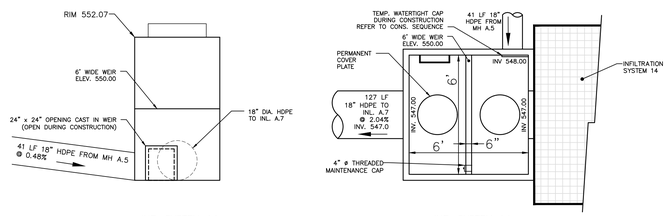
- SHOP DRAWING TO BE PROVIDED FOR APPROVAL
- APPLICABLE TO BASIN OPENING IN OS A.5

UNDERGROUND OUTLET STRUCTURE ELEVATED ORIFICE SCREEN COVER DETAIL

NOT TO SCALE



INF. SYSTEM 14
(SIDE VIEW)



INF. SYSTEM 14
(FRONT VIEW)

INF. SYSTEM 14
(TOP VIEW)

UNDERGROUND INFILTRATION BED 14 AND OUTLET STRUCTURE A.5 DETAIL

N.T.S.

PCSM SHEET INDEX		
SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
002	LEGEND AND NOTES	LEG
020	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN – A	PCSM–A
020A	POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN	PCSM–DA
033	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	PCSM–1
034	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS – 2	PCSM–2
035	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	PCSM–4

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE–GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 OF 1996 AS AMENDED BY ACT 38 OF 2017, AS OF JUNE, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232012731–000

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PROJECT INFORMATION:
FILE PATH: C:\Projects\SCHA\00065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_DTL.dwg
LAST SAVED: Friday, 04 Oct 2024, 4:55PM
LAST SAVE BY: JKelley

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555 E North Lane, Suite 5100, Building D
Conshohocken, PA 19428
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Structural Engineer
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Lancaster PA, 17602
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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE–076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

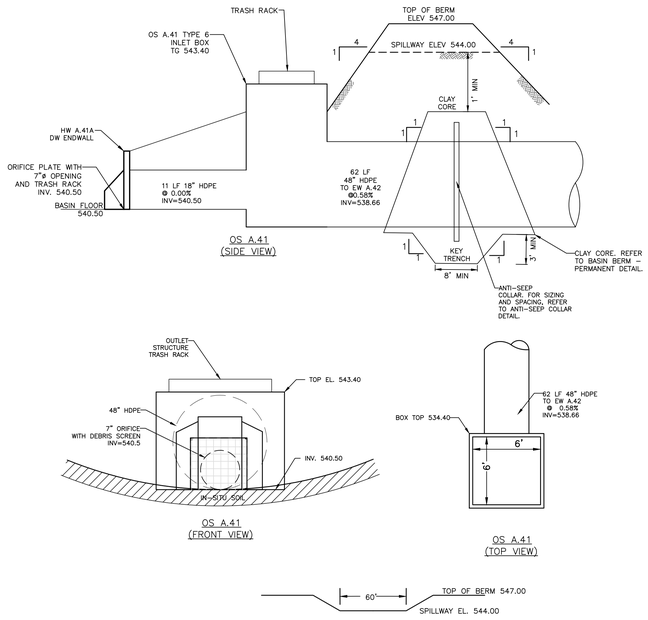
Key Plan:

N
PROJECT

Scale: 1" = 1000'

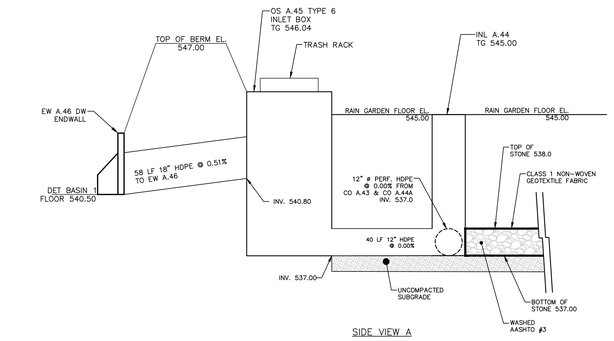
Drawing Title:
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

Drawing Number:
033

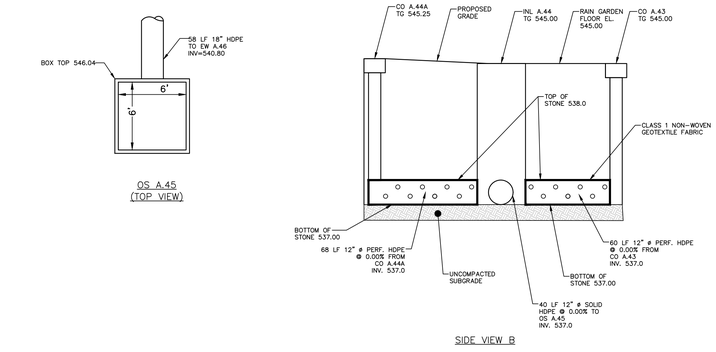


NATURALIZED DETENTION BASIN 1 AND OUTLET STRUCTURE A.41 DETAIL

N.T.S.



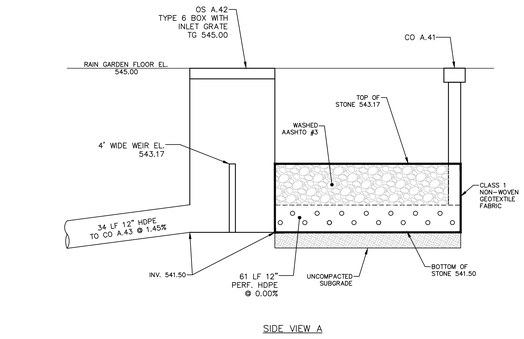
SIDE VIEW A



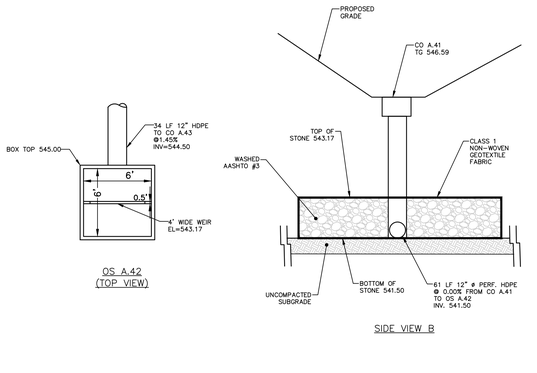
SIDE VIEW B

UNDERGROUND INFILTRATION BEDS 1–2 AND OUTLET STRUCTURE OS A.45 DETAIL

N.T.S.



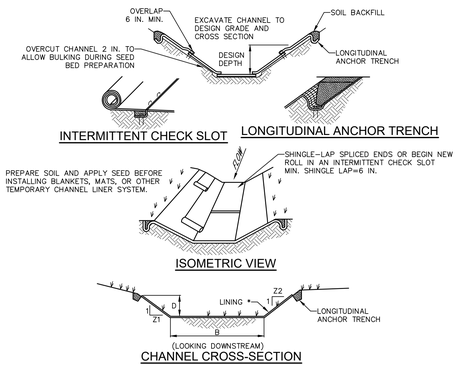
SIDE VIEW A



SIDE VIEW B

UNDERGROUND INFILTRATION BED 3 AND OUTLET STRUCTURE OS A.42 DETAIL

N.T.S.



* SEE MANUFACTURER'S LINING INSTALLATION DETAIL FOR STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES AND MULCHING INFORMATION

CHANNEL NO.	STATIONS	BOTTOM WIDTH B (FT)	DEPTH D (FT)	TOP WIDTH W (FT)	Z1 (FT)	Z2 (FT)	LINING *
1	ALL	6	1.25	16	4	4	NAG SC150 / VEG. C
3	ALL	8	1.25	18	4	4	C350 / VEG. C
4	ALL	8	1.75	22	4	4	C350 / VEG. C

NOTES:

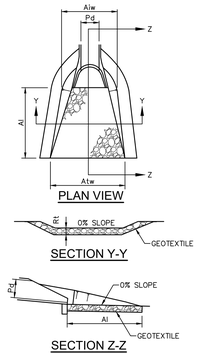
ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.

CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.

NO MORE THAN ONE THIRD OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS HEIGHT SHALL BE MAINTAINED BETWEEN 2 AND 3 INCHES UNLESS OTHERWISE SPECIFIED. EXCESS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.

STANDARD CONSTRUCTION DETAIL #6-1
VEGETATED CHANNEL

NOT TO SCALE



OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP SIZE R--	RIPRAP THICK. Rt (IN)	APRON LENGTH Al (FT)	APRON INITIAL WIDTH Aiw (FT)	APRON TERMINAL WIDTH Atw (FT)
EW A.36	18	R-4	18	7	5	8
EW A.26	30	R-5	27	12	8	13
EW A.41	24	R-5	27	9	6	10
EW A.46	18	R-4	18	7	5	8
EW A.13	30	R-5	27	12	8	13
EW A.42	48	R-5	27	17	12	19
EW B.8	15	R-5	27	6	4	7
EW B.10	36	R-5	27	13	9	15
EW B.12	30	R-5	27	12	8	13

NOTES:

ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.

ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

STANDARD CONSTRUCTION DETAIL #9-1
RIPRAP APRON AT PIPE OUTLET WITH FLARED END SECTION OR ENDWALL

NOT TO SCALE

FLEXSTORM

FLEXSTORM® INLET FILTERS

FLEXSTORM PURE (PERMANENT) FILTERS

FILTERS FOR RECTANGULAR/ SQUARE FRAMES/GRATES*

Sizing Guidelines (Up to)	Storage Capacity ft³ (m³)	FX-Large Sediment + Trash	FX+ Trash + Oils	PC-Oils, Fine Sediments & TSS	PC+ Excessive Oils, Fine Sediments & TSS
18" x 18" (450 x 450 mm)	1.6 (0.05)	62SHDFX	62SHDFXP	62SHDPC	62SHDPCP
24" x 24" (600 x 600 mm)	2.1 (0.06)	62MHDFX	62MHDFXP	62MHDPC	62MHDPCP
36" x 24" (900 x 600 mm)	3.8 (0.11)	62LHDFX	62LHDFXP	62LHDPC	62LHDPCP
48" x 48" (1200 x 1200 mm)	6.6 (0.18)	62XLHDFX	62XLHDFXP	62XLHDPC	62XLHDPCP

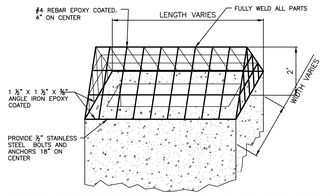
NOTES:

1. FLEXSTORM FILTERS TO BE INSTALLED AS SHOWN ON PCSM PLAN
2. "PC–OILS, FINE SEDIMENTS & TSS" MODEL SHALL BE USED UNLESS SPECIFIED OTHERWISE.

BMP 6.6.4 FLEXSTORM INLET FILTERS

(OR APPROVED EQUAL)

NOT TO SCALE



OUTLET STRUCTURE TRASH RACK AND MAINTENANCE DETAILS

NOT TO SCALE

APPLICATION FOR OS–B1 AND OS–C1

- PROVIDE HINGED LOCKING ACCESS OPENING 36" SQUARE, MINIMUM. RACKS TO BE OPENABLE FOR MAINTENANCE ACCESS.
- PROVIDE STEPS WITHIN OUTLET STRUCTURES.
- PROVIDE 6" DIA THREADED CAP IN FACE OF INSIDE WITH INVERT 6" BELOW FLOOR ELEVATIONS. CAP TO REMAIN IN PLACE UNDER NORMAL OPERATING CONDITIONS BUT MAY BE REMOVED FOR DEWATERING/MAINTENANCE.
- CONTRACTOR TO PROVIDE BOUYANCY CALCULATIONS FOR ALL OUTLET STRUCTURES.

PCSM SHEET INDEX

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
002	LEGEND AND NOTES	LEG
020	POST CONSTRUCTION STORMWATER MANAGEMENT PLAN – A	PCSM–A
020A	POST CONSTRUCTION STORMWATER MANAGEMENT DRAINAGE AREA PLAN	PCSM–DA
033	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS	PCSM–1
034	POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS – 2	PCSM–2
035	POST CONSTRUCTION STORMWATER MANAGEMENT NOTES	PCSM–4

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE–GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO CONSTRUCTION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 AMENDING ACT 287 OF 1974 AS AMENDED, AS OF JULY 1, 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232912731–000

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PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:

N
PROJECT

Scale: 1" = 1000'

Drawing Title:
POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS – 2

Drawing Number:
034

BMP SPECIFICATIONS

BMP 6.4.5 BIORETENTION:

VEGETATION – SEE APPENDIX B OF PA BMP MANUAL

EXECUTION

A. SUBGRADE PREPARATION

1. INITIAL EXCAVATION CAN BE PERFORMED DURING ROUGH SITE GRADING BUT SHALL NOT BE CARRIED TO WITHIN ONE FEET OF THE FINAL BOTTOM ELEVATION. FINAL EXCAVATION SHOULD NOT TAKE PLACE UNTIL ALL DISTURBED AREAS IN THE DRAINAGE AREA HAVE BEEN STABILIZED.
2. WHERE EROSION OF SUB-GRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING IN THE GRADED BOTTOM, THIS MATERIAL SHALL BE REMOVED.
3. BRING SUB-GRADE OF INFILTRATION AREA TO LINE, GRADE, AND ELEVATIONS INDICATED, FILL AND LIGHTLY REGRADE ANY AREAS DAMAGED BY EROSION, PONDING, OR TRAFFIC COMPACTION. ALL INFILTRATION AREAS AREAS SHALL BE LEVEL GRADE ON THE BOTTOM.
4. HALT EXCAVATION AND NOTIFY ENGINEER IMMEDIATELY IF EVIDENCE OF SINKHOLE ACTIVITY OR PINNACLES OF CARBONATE BEDROCK ARE ENCOUNTERED IN THE INFILTRATION AREA.

B. INSTALLATION.

1. UPON COMPLETION OF SUB-GRADE WORK, THE ENGINEER SHALL BE NOTIFIED AND SHALL INSPECT AT HIS/HER DISCRETION BEFORE PROCEEDING WITH INSTALLATION.
2. THE UNDERDRAIN AND FILTER MEDIA SHOULD BE PLACED ON THE BOTTOM TO THE SPECIFIED DEPTH.
3. PLANTING SOIL SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUB-GRADE PREPARATION/BED INSTALLATION AND REMOVAL OF ALL STICKS OR DEBRIS OR MATERIAL THAT TAKES PLACE AFTER APPROVAL OF SUB-GRADE SHALL BE REMOVED PRIOR TO INSTALLATION OF PLANTING SOIL AT NO EXTRA COST TO THE OWNER.
4. INSTALL PLANTING SOIL (EXCEPT MULCH) IN 18–INCH MAXIMUM LIFTS AND LIGHTLY COMPACT (TAMP WITH BACKHOE BUCKET OR BY HAND). KEEP EQUIPMENT MOVEMENT OVER PLANTING SOIL TO A MINIMUM – DO NOT OVER COMPACT. INSTALL PLANTING SOIL TO GRADES INDICATED ON THE DRAWINGS.
5. PLANT TREES AND SHRUBS ACCORDING TO SUPPLIER'S RECOMMENDATIONS AND ONLY FROM MID–MARCH THROUGH THE END OF JUNE OR FROM MID–SEPTEMBER THROUGH MID–NOVEMBER.
6. INSTALL 2–3" SHREDDED HARDWOOD MULCH (MINIMUM AGE 6 MONTHS) OR COMPOST MULCH EVENLY AS SHOWN ON PLANS. DO NOT DIRECTLY MULCH IN AREAS WHERE GROUND COVER IS TO BE GRASS OR WHERE COVER WILL BE ESTABLISHED BY SEEDING.
7. PROTECT INFILTRATION AREAS FROM SEDIMENT AT ALL TIMES DURING CONSTRUCTION. HAY BALES, DIVERSION BERMS AND/OR OTHER APPROPRIATE MEASURES SHALL BE USED AT THE TOE OF THE SLOPES THAT ARE ADJACENT TO INFILTRATION AREAS TO PREVENT SEDIMENT FROM WASHING INTO THESE AREAS DURING SITE DEVELOPMENT.
8. WHEN THE SITE IS FULLY VEGETATED AND THE SOIL MANTLE STABILIZED THE PLAN DESIGNER SHALL BE NOTIFIED AND SHALL INSPECT THE DRAINAGE AREA AT HIS/HER DISCRETION BEFORE THE AREA IS BROUGHT ONLINE AND BECOMES A BMP.
9. WATER VEGETATION AT THE END OF EACH DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED. CONTRACTOR SHOULD PROVIDE A ONE–YEAR MAINTENANCE CARE AND REPLACEMENT WARRANTY FOR ALL PLANTING BEGINNING AFTER INSTALLATION AND INSPECTION OF ALL PLANTS.

BMP 6.4.3 SUBSURFACE INFILTRATION BED:

1. STONE FOR INFILTRATION BEDS SHALL BE 2–INCH TO 1–INCH UNIFORMLY GRADED COARSE AGGREGATE, WITH A WASH LOSS OF NO MORE THAN 0.5% ACCORDING TO ASTM NUMBER 3 PER AASHTO SPECIFICATIONS, PART 1, 19TH ED., 1998, OR LATER AND SHALL HAVE VOIDS 40% AS MEASURED BY ASTM–229.
2. NON–WOVEN GEOTEXTILE SHALL CONSIST OF NEEDED NON–WOVEN POLYPROPYLENE FIBERS AND MEET THE FOLLOWING PROPERTIES:
   A. GRAB TENSILE STRENGTH (ASTM–D4632) 120 LBS
   B. MULLEN BURST STRENGTH (ASTM–D3786) 225 PSI
   C. FLOW RATE (ASTM D–4491) 95 GAL/MIN/FT2
   D. UV RESISTANCE AFTER 500 HRS (ASTM D–4355) 70%
   E. HEAT–SET OR HEAT CALENDARED FABRICS ARE NOT PERMITTED
   F.A. ACCEPTABLE TYPES INCLUDE MIRAFI 140N, AMOCO 4547, AND GEOTEX 451.
3. PIPE SHALL BE CONTINUOUSLY PERFORATED, SMOOTH INTERIOR, WITH A MINIMUM INSIDE DIAMETER OF 6–INCHES. HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL MEET AASHTO M252, TYPE S OR AASHTO M294, TYPE S.
4. STORM DRAIN INLETS AND CLEANOUTS:
   A. CONCRETE CONSTRUCTION: CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 1001, PENNDOT SPECIFICATIONS, 1990 OR LATEST EDITION
   B. PRECAST CONCRETE INLETS AND CLEANOUTS: PRECAST CONCRETE INLETS MAY BE SUBMITTED FOR CAST–IN–PLACE STRUCTURES AND SHALL BE CONSTRUCTED AS SPECIFIED FOR CAST–IN PLACE. PRECAST STRUCTURES MAY BE USED IN ONLY HOSE AREAS WHERE THERE IS NO CONFLICT WITH EXISTING UNDERGROUND STRUCTURES THAT MAY NECESSITATE REVISION OF INVERTS. TYPE M STANDARD PENNDOT INLET BOXES WILL BE MODIFIED TO PROVIDE MINIMUM 12 INCH SUMP STORAGE AND BOTTOM MACHINE BASING, OPEN TO GRAVEL SUMPS IN SUB–GRADE, WHEN SITUATED IN THE RECHARGE BED.
   C. ALL PVC CATCH BASINS/CLEANOUTS/LINE DRAINS SHALL HAVE H–10 OR H–20 RATED GRATES, DEPENDING ON THEIR PLACEMENT 9H–20 IF VEHICULAR LOADING).
   D. STEEL REINFORCING BARS OVER THE TOP OF THE OUTLET STRUCTURE SHALL CONFORM TO ASTM A615, GRADES 60 AND 40.
5. ALTERNATIVE STORAGE MEDIA: (IF APPLICABLE) FOLLOW APPROPRIATE MANUFACTURERS' SPECIFICATIONS.

BMP 6.6.4 WATER QUALITY INSERTS

FOLLOW MANUFACTURE'S INSTRUCTIONS AND SPECIFIC SPECIFICATIONS.

BMP MAINTENANCE & INSPECTION

BMP 6.4.5 BIO–RETENTION:

PROPERLY DESIGNED AND INSTALLED BIORETENTION AREAS REQUIRE SOME REGULAR MAINTENANCE.

- WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
- DEBRIS MAY ALSO NEED TO BE REMOVED DURING EVERY YEAR. PERENNIAL PLANTINGS MAY BE CUT DOWN AT THE END OF THE GROWING SEASON.
- MULCH SHOULD BE RE–SPREAD WHEN EROSION IS EVIDENT AND BE REPLENISHED AS NEEDED. ONCE EVERY 2 TO 3 YEARS THE ENTIRE AREA MAY REQUIRE MULCH REPLACEMENT.
- INFILTRATION AREAS SHOULD BE INSPECTED AT LEAST TWO TIMES PER YEAR FOR SEDIMENT BUILDUP, EROSION, VEGETATIVE CONDITION.
- DURING PERIODS OF EXTENDED DROUGHT, BIO–RETENTION BMPS MAY REQUIRE WATERING.
- TREES AND SHRUBS SHOULD BE INSPECTED TWICE PER YEAR TO EVALUATE HEALTH.
- UPGRADIENT CATCH BASINS AND INLETS SHOULD BE INSPECTED AND CLEANED ANNUALLY, OR MORE OFTEN IF HISTORICAL MAINTENANCE RECORDS SUGGEST A MORE FREQUENT CLEANING.
- THE VEGETATION (FOR THE BIORETENTION BMP AND CONTRIBUTING DRAINAGE AREA) SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED.
- CARE SHOULD BE TAKEN TO AVOID EXCESSIVE COMPACTION BY MOWERS. MOW ONLY AS APPROPRIATE FOR VEGETATIVE SPECIES.
- INSPECT AT LEAST TWO TIMES PER YEAR AFTER RUNOFF EVENTS GREATER THAN 0.8 INCH AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN THE DESIGN PARAMETERS (A LICENSED PROFESSIONAL ENGINEER SHOULD CLEARLY IDENTIFY WHAT THESE PARAMETERS ARE)
- AT LEAST TWO TIMES PER YEAR, OR MORE IF HISTORICAL MAINTENANCE INDICATE IT IS NECESSARY, INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, EROSION, SIGNS OF WATER CONTAMINATION/SPILLS, AND INSTABILITY.
- LEAF LITTER NEEDS TO BE REMOVED ANNUALLY.
- AS NEEDED, REMOVE ACCUMULATED SEDIMENT AS REQUIRED TO MAINTAIN INFILTRATION THROUGH SOIL MEDIA AND TO MAINTAIN WATER QUALITY FUNCTIONALITY. RESTORE ORIGINAL CROSS SECTION. PROPERLY DISPOSE OF SEDIMENT.
- ALL BIORETENTION BMP COMPONENTS SHOULD BE MAINTAINED AS INDICATED IN THE STORMWATER BMP MANUAL.
- LEAF LITTER SHOULD BE REMOVED ANNUALLY

BMP 6.4.3 SUBSURFACE INFILTRATION BED

MAINTENANCE ACTIVITIES REQUIRED FOR THE SUBSURFACE BED ARE SIMILAR TO THOSE OF ANY INFILTRATION SYSTEM AND FOCUS ON REGULAR SEDIMENT AND DEBRIS REMOVAL. THE FOLLOWING REPRESENTS THE RECOMMENDED MAINTENANCE EFFORTS:

- ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH.
- STRUCTURES INCLUDE BASIN BOTTOMS, TRASH RACKS, OUTLETS STRUCTURES, RIPRAP OR GABION STRUCTURES, AND INLETS.
- SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY ONCE REMOVED.
- ALL CATCH BASINS AND INLETS SHOULD BE INSPECTED AND CLEANED AT LEAST 2 TIMES PER YEAR.
- THE OVERLYING VEGETATION OF SUBSURFACE INFILTRATION FEATURES SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.
- INSPECT FOR SIGNS OF LEAKING WITHIN THE OUTLET STRUCTURE. ENSURE THE TEMPORARY PIPE PLATE COVERS REMAIN IN PLACE AND THE CONNECTION TO THE STRUCTURE BOX REMAINS IN PLACE. IF LEAKAGE IS OBSERVED, THE PLATE MAY REQUIRE SILICON GROUT.

BMP 6.4.8 VEGETATED SWALE:

SWALES SHALL BE KEPT FREE OF ANY BLOCKAGE AT ALL TIMES.

MAINTENANCE ACTIVITIES TO BE DONE ANNUALLY AND WITHIN 48 HOURS AFTER EVERY MAJOR STORM EVENT:

- INSPECT AND CORRECT EROSION PROBLEMS, DAMAGE TO VEGETATION, AND SEDIMENT AND DEBRIS ACCUMULATION (ADDRESS WHEN > 3 INCHES AT ANY SPOT OR COVERING VEGETATION)
- INSPECT VEGETATION ON SIDE SLOPES FOR EROSION AND FORMATION OF RILLS OR GULLIES, CORRECT AS NEEDED PER SEEDING/MULCHING SPECIFICATIONS.
- INSPECT FOR POOLS OF STANDING WATER; DEWATER AND DISCHARGE TO AN APPROVED LOCATION AND RESTORE TO DESIGN GRADE.
- INSPECT FOR UNIFORMITY IN CROSS–SECTION AND LONGITUDINAL SLOPE, CORRECT AS NEEDED
- INSPECT SWALE INLET (CURB CUTS, PIPES, ETC.) AND OUTLET FOR SIGNS OF EROSION OR BLOCKAGE, CORRECT AS NEEDED

MAINTENANCE ACTIVITIES TO BE DONE AS NEEDED:

- PLANT ALTERNATIVE GRASS SPECIES IN THE EVENT OF UNSUCCESSFUL ESTABLISHMENT
- RESEED BARE AREAS; INSTALL APPROPRIATE EROSION CONTROL MEASURES WHEN NATIVE SOIL IS EXPOSED OR EROSION CHANNELS ARE FORMING
- WATER DURING DRY PERIODS, FERTILIZE, AND APPLY PESTICIDE ONLY WHEN ABSOLUTELY NECESSARY

WINTER CONDITIONS ALSO NECESSITATE ADDITIONAL MAINTENANCE CONCERNS, WHICH INCLUDE THE FOLLOWING:

- INSPECT SWALE IMMEDIATELY AFTER THE SPRING MELT, REMOVE RESIDUALS (E.G. SAND) AND REPLACE DAMAGED VEGETATION WITHOUT DISTURBING REMAINING VEGETATION.
- IF ROADSIDE RUNOFF IS DIRECTED TO THE SWALE, MULCHING AND/OR SOIL AERATION/MANIPULATION MAY BE REQUIRED IN THE SPRING TO RESTORE SOIL STRUCTURE AND MOISTURE CAPACITY AND TO REDUCE THE IMPACTS OF DEICING AGENTS.

BMP 6.6.4 WATER QUALITY INSERT:

- INSPECT TWICE A YEAR AND AFTER EACH RUNOFF PRODUCING RAINFALL
- REMOVE ALL TRASH AND DEBRIS ACCUMULATED IN THE INLET.
- MONITOR INLETS AFTER RUNOFF PRODUCING EVENTS TO ENSURE STORMWATER IS COMPLETELY DRAINING FROM INLETS.
- AT A MINIMUM, ALL INLETS SHALL BE CLEANED QUARTERLY.
- INLET FILTER BAGS SHALL BE CLEANED AN MAINTAINED PER MANUFACTURER'S RECOMMENDATIONS.

RESPONSIBILITIES FOR FILL MATERIALS

1. THE OPERATOR MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT ANY NECESSARY FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PADEP'S POLICY "MANAGEMENT OF FILL", DOCUMENT NUMBER 258–2182–773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WWW.DEPWEB.STATE.PA.US.
2. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON–WATER SOLUBLE, NON–DECOMPOSED, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATED FROM THE WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE–USE).
3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP–1A AND FP–1B FOUND IN PADEP'S POLICY "MANAGEMENT OF FILL".
4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP–001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP–001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP–001 CAN BE FOUND AT WWW.DEPWEB.STATE.PA.US.
5. ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREEN, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.
6. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF PADEP'S POLICY "MANAGEMENT OF FILL".
7. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS. A RESIDUAL WASTE GENERAL PERMIT 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.
8. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SUPPING, EROSION OR EXCESS SATURATION.
9. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

RECYCLING OR DISPOSAL METHODS

1. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH ANY AND ALL FEDERAL, STATE, MUNICIPAL OR OTHER GOVERNMENT AGENCY CURRENT REGULATIONS INCLUDING BUT NOT LIMITED TO: THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ. AND 287.1 ET SEQ. THE OPERATOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
2. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN ON THE PROPERTY, REMOVED OR EXCAVATED MATERIALS SHALL BE REMOVED FROM THE SITE. MATERIALS SLATED FOR REMOVAL FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL OR OTHER GOVERNMENTAL AGENCY CURRENT REGULATIONS.
3. DEBRIS SHALL NOT BE PERMITTED TO ACCUMULATE ON THE JOB–SITE. DUST AND DIRT SHALL BE HELD TO A MINIMUM DURING DEMOLITION, SITE WORK AND CLEAN–UP, IF APPROVED BY THE TOWNSHIP ENGINEER, A STATEMENT OF SPECIFIC ALLOWABLE USES OF THE BMP (I.E., RECREATIONAL BENCHES, BIRD HOUSES, ETC.) MAY BE PROVIDED BY A HOMEOWNERS' ASSOCIATION, OR ALLOWABLE USES BY AN INDIVIDUAL RESIDENTIAL LANDOWNER).
4. RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THIS PROJECT SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS.
5. SEDIMENT REMOVED FROM CONTROL FACILITIES AS A PART OF REGULAR MAINTENANCE SHALL BE DISPOSED OF UPSLOPE OF CONTROL FACILITIES IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAIN OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
6. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

PCSM RECYCLING/DISPOSAL NOTES

1. AS PART OF THE ROUTINE MAINTENANCE OF POST CONSTRUCTION BMPS (ABOVE GROUND EXTENDED DETENTION BASINS, UNDERGROUND EXTENDED DETENTION BASIN AND INLET FILTER BAGS), THE RESPONSIBLE ENTITY SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ANY MATERIAL OR DEBRIS THAT MAY ACCUMULATE IN THE BMPS OVERTIME, IN ACCORDANCE WITH ANY AND ALL APPLICABLE MUNICIPAL OR OTHER GOVERNMENT AGENCY CURRENT REGULATIONS INCLUDING BUT NOT LIMITED TO: THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE RESPONSIBLE ENTITY SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY MATERIAL OR DEBRIS AT THE SITE.
2. TRASH OR OTHER WASTE SHALL NOT BE PERMITTED TO ACCUMULATE IN THE BMPS. THESE MATERIALS SHOULD BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE REGULATIONS LISTED ABOVE AND/OR THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS.
3. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.

OPERATION & MAINTENANCE

STORMWATER MANAGEMENT & WATER QUALITY FACILITIES

THE FOLLOWING NOTES BELOW DESCRIBE GENERAL OPERATION AND MAINTENANCE MEASURES FOR POST CONSTRUCTION STORMWATER MANAGEMENT BEST MANAGEMENT PRACTICES (PCSM BMPs). REQUIREMENTS SPECIFIC TO EACH INDIVIDUAL BMP ARE PROVIDED IN RESPECTIVE DETAILS. MAINTENANCE OF SAID BMPS CAN INCLUDE RECONSTRUCTION SHOULD A FAILURE OCCUR. THEREFORE, THESE RESPECTIVE DETAILS INCLUDE CONSTRUCTION SEQUENCES FOR RESTORATION PER THE APPROVED DESIGN. ANY RECONSTRUCTION ACTIVITIES REQUIRE TOWNSHIP, COUNTY CONSERVATION DISTRICT AND PADEP APPROVAL.

OPERATION & MAINTENANCE RESPONSIBILITIES

ALL STORMWATER MANAGEMENT FACILITIES AND ALL PROPOSED STORM SEWER PIPING LOCATED OUTSIDE OF ROADWAYS RIGHTS–OF–WAY SHALL BE OWNED AND MAINTAINED BY **DOMESTIC AREA SCHOOL DISTRICT**. DISTURBED APPLICABLE BMPS ARE AN INFILTRATION BASIN, SUBSURFACE INFILTRATION BEDS, DRY EXTENDED DETENTION BASINS AND VEGETATED SWALES. OWNER SHALL NOTIFY THE TOWNSHIP OF THE RESPECTIVE PERSONS RESPONSIBLE FOR ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE BMP AND STORMWATER CONVEYANCE SYSTEM AFTER COMPLETION OF CONSTRUCTION. IF RESTORATION ACTIVITIES ARE REQUIRED, A SCHEDULE INDICATING THE DATE WHEN THE RESTORATION ACTIVITIES WILL BE STARTED AND COMPLETED SHALL BE PREPARED AND SUBMITTED TO THE TOWNSHIP.

- THE PERSON RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF A BMP OR CONVEYANCE SHALL MAKE RECORDS OF THE INSTALLATION AND OF ALL MAINTENANCE AND REPAIRS, AND SHALL RETAIN THE RECORDS FOR AT LEAST 10 YEARS. THESE RECORDS SHALL BE SUBMITTED TO THE TOWNSHIP, COUNTY CONSERVATION DISTRICT AND PADEP UPON REQUEST.
- THE PCSM PLAN, INSPECTION REPORTS, AND MONITORING RECORDS BE AVAILABLE FOR REVIEW AND INSPECTION BY THE RESPECTIVE PERSONS RESPONSIBLE FOR ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE BMP AND STORMWATER CONVEYANCE SYSTEM AFTER COMPLETION OF CONSTRUCTION. IF RESTORATION ACTIVITIES ARE REQUIRED, A SCHEDULE INDICATING THE DATE WHEN THE RESTORATION ACTIVITIES WILL BE STARTED AND COMPLETED SHALL BE PREPARED AND SUBMITTED TO THE TOWNSHIP.
- EACH BMP AND CONVEYANCE SHALL BE INSPECTED BY A REGISTERED PROFESSIONAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA ON BEHALF OF THE APPLICANT OR RESPONSIBLE ENTITY (INCLUDING THE TOWNSHIP ENGINEER FOR INSPECTION FACILITIES) ANNUALLY FOR THE FIRST FIVE YEARS AND ONCE EVERY THREE YEARS THEREAFTER.
- THE TOWNSHIP SHALL HAVE THE RIGHT, BUT NOT THE RESPONSIBILITY, TO CONDUCT SUCH INSPECTIONS AS WELL AS TO EXECUTE SUCH ACTIONS AS MAY BE NECESSARY TO ENSURE THAT ANY BMP DOES NOT CREATE A THREAT TO PUBLIC HEALTH, SAFETY, OR WELFARE WITHOUT PRIOR NOTICE TO THE PROPERTY OWNER. THE TOWNSHIP FURTHER RESERVES THE RIGHT TO BILL THE PROPERTY OWNER FOR SUCH INSPECTIONS AND ACTIONS IN ACCORDANCE WITH THE DULY ENACTED FEE SCHEDULE.
- THE PROFESSIONAL ENGINEER CONDUCTING THE INSPECTION SHALL BE REQUIRED TO SUBMIT A REPORT TO THE TOWNSHIP WITHIN ONE MONTH OF THE COMPLETION OF THE INSPECTION. THE REPORT WILL PRESENT DOCUMENTATION AND INCLUDE PICTURES REGARDING THE CONDITION OF THE FACILITY AND RECOMMEND NECESSARY REPAIRS, IF ANY ARE FOUND TO BE NEEDED. THE REPORT SHALL BE COMPLETED BY THE OWNER WITHIN ONE MONTH OF THE DATE OF THE ISSUE OF THE REPORT.
- THE OWNER OF EACH BMP AND CONVEYANCE SHALL KEEP ON FILE WITH THE TOWNSHIP THE NAME, ADDRESS, AND TELEPHONE NUMBER OF THE PERSON RESPONSIBLE FOR MAINTENANCE ACTIVITIES AND IMPLEMENTATION OF THE O&M PLAN. IN THE EVENT OF A CHANGE, NEW INFORMATION SHALL BE SUBMITTED BY THE BMP OR CONVEYANCE OWNER TO THE TOWNSHIP WITHIN 30 CALENDAR DAYS OF THE CHANGE.

INSPECTION ACTIVITIES SHALL, AT A MINIMUM, INCLUDE:

- INSPECTING FOR DAMAGE TO THE FACILITY.
- INSPECTING SEDIMENT AND TRASH/DEBRIS SPILLWAY FOR EROSION, SEEPS OR LEAKS,
- FAILURE OF SLOPE PROTECTION OR RIPRAP AND ADEQUATE GROUND COVER. ENSURE THE EMERGENCY SPILLWAY IS CLEAR OF OBSTRUCTIONS AND DEBRIS.
- MONITOR INLET AREA FOR EVIDENCE OF EROSION, STORMWATER MANAGEMENT, STORMWATER CONVEYANCE AND WATER QUALITY FACILITIES.
- ENSURE INLET AND OUTLET PIPES ARE FREE OF DEBRIS AND OPERATIONAL.
- INSPECT OUTFALLS FOR RIPRAP FAILURES AND SLOPE EROSION.
- INSPECT FACILITIES FOR EXCESSIVE OR WOODY GROWTH.
- INSPECT FOR PROPER INFILTRATION FUNCTION.

THE LANDOWNER(S) ACKNOWLEDGE THAT, PER THE PROVISIONS OF THE TOWNSHIP'S STORMWATER MANAGEMENT ORDINANCE, IT IS UNLAWFUL TO MODIFY, REMOVE, FILL, LANDSCAPE, ALTER OR IMPAIR THE EFFECTIVENESS OF, OR PLACE ANY STRUCTURE, OTHER VEGETATION, LAND USE, GRADE, BERM OR OTHER OBSTRUCTION WITHIN OR INTO ANY PERMANENT STORMWATER MANAGEMENT BMP OR CONVEYANCE DESCRIBED IN THIS O&M PLAN OR TO ALLOW ANY PERSON TO DO SO IN ACCORDANCE WITH THE ABOVE IF SUCH ACTIVITY IS NOT CONFORM TO THIS O&M PLAN, WITHOUT WRITTEN APPROVAL FROM THE TOWNSHIP.

NO BMP OR MAN–MADE CONVEYANCE MAY BE USED BY THE OWNER OR OTHERS FOR ANY PURPOSE OTHER THAN THAT FOR WHICH IT WAS DESIGNED, UNLESS OR, IF APPROVED BY THE TOWNSHIP ENGINEER, A STATEMENT OF SPECIFIC ALLOWABLE USES OF THE BMP (I.E., RECREATIONAL BENCHES, BIRD HOUSES, ETC.) MAY BE PROVIDED BY A HOMEOWNERS' ASSOCIATION, OR ALLOWABLE USES BY AN INDIVIDUAL RESIDENTIAL LANDOWNER).

BMP CHARACTERISTICS & FUNCTIONALITY

DRY EXTENDED DETENTION/UNDERGROUND DETENTION

AN EXTENDED DETENTION BASIN IS A STORAGE STRUCTURE CONSTRUCTED EITHER BY IMPOUNDMENT OF A NATURAL DEPRESSION OR EXCAVATION OF EXISTING SOIL. THAT PROVIDES TEMPORARY STORAGE OF RUNOFF AND FUNCTIONS TRADITIONALLY TO ATTENUATE STORMWATER RUNOFF PEAKS. IT CAN ALSO BE PROVIDED IN A VARIETY OF SUB–SURFACE STRUCTURAL ELEMENTS, SUCH AS LARGE PIPES OR OTHER STRUCTURAL MEDIA PLACED IN AN AGGREGATE BED FILLED IN THE SUB–BASE.

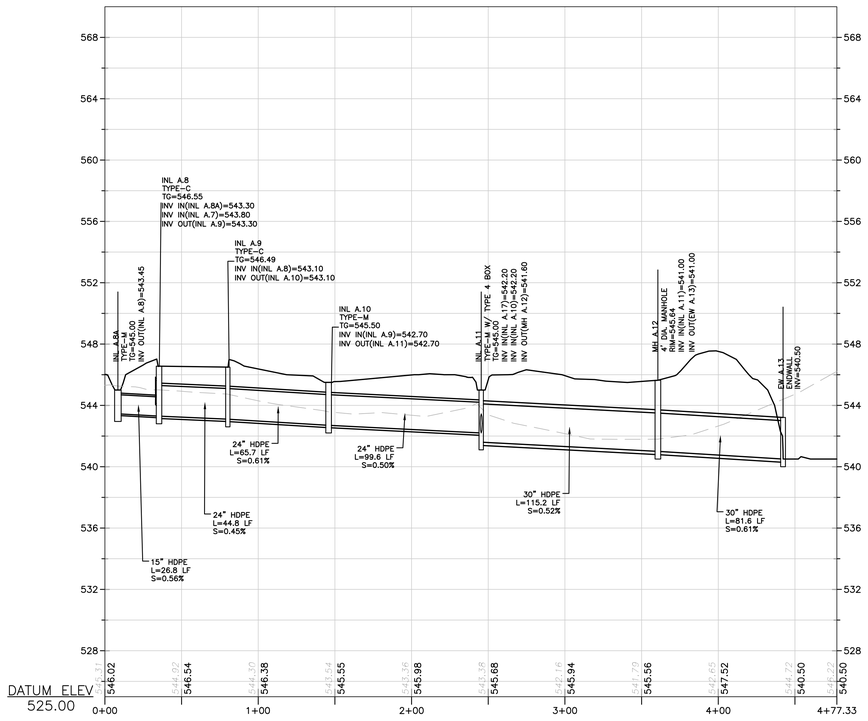
ALL INFILTRATION FACILITIES

OBSERVATIONS SHALL BE MADE TO DETERMINE THE LENGTH OF TIME NEEDED FOR RETAINED WATER TO INFILTRATE INTO THE SOIL AFTER A STORM EVENT. THE OBSERVATIONS SHALL BE MADE BY READING THE WATER LEVEL IN THE DEPRESSION OF THE INFILTRATION BED AND INFILTRATION BERM. INITIAL READINGS SHALL BE TAKEN AT THE END OF THE FIRST HOUR AFTER A LARGE STORM EVENT. THE FIRST OF THESE OBSERVATIONS SHALL PROVIDE A RECORD OF HOW WELL THE SYSTEM IS FUNCTIONING. SUBSEQUENT OBSERVATIONS AND MEASUREMENTS SHOULD BE TAKEN AFTER EACH RAIN EVENT OF 0.5–INCHES OR MORE, OR MONTHLY, AS NECESSARY, TO ASSURE PROPER FUNCTIONING. AT A MINIMUM, OBSERVATIONS SHALL BE MADE TWICE THE FIRST YEAR AND YEARLY THEREAFTER.

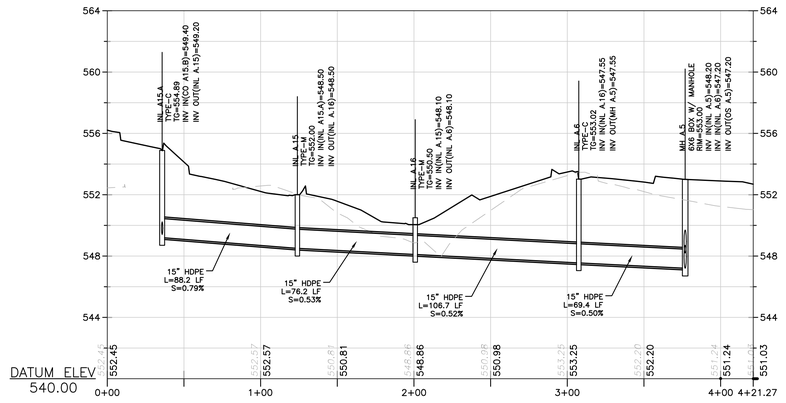
AT A MINIMUM, OPERATION AND MAINTENANCE PROCEDURES FOR INFILTRATION AREAS SHOULD INCLUDE:

- THE OVERLYING VEGETATION OF SUBSURFACE INFILTRATION FEATURES SHOULD BE MAINTAINED IN GOOD CONDITION, AND ANY BARE SPOTS REVEGETATED AS SOON AS POSSIBLE.
- MOWING AND/OR TRIMMING OF VEGETATION SHOULD BE PERFORMED QUARTERLY TO SUSTAIN THE SYSTEM, BUT ALL DEBRIS SHOULD BE REMOVED FROM THE BASIN. VEGETATION SHOULD BE INSPECTED QUARTERLY FOR UNWANTED GROWTH OF EXOTIC/INVASIVE SPECIES.
- VEGETATIVE COVER SHOULD BE MAINTAINED AT A MINIMUM OF 95 PERCENT. IF VEGETATIVE COVER HAS BEEN REDUCED BY 10%, VEGETATION SHOULD BE REESTABLISHED.
- ACCESS TO INFILTRATION BASINS SHOULD BE PROHIBITED, AND CARE SHOULD BE TAKEN TO AVOID COMPACTION OF FLOOR STORAGE AREA.
- SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY ONCE REMOVED. IF SEDIMENT IS REMOVED, DISTURBED AREAS NEED TO BE IMMEDIATELY STABILIZED AND RE–VEGETATED, AS APPLICABLE.
- FENCES AND GATES SHALL BE INSPECTED FOR DAMAGE AND REPAIRED AS NECESSARY.
- ABRASIVES SUCH AS SAND OR CINDERS SHOULD NOT BE APPLIED ON THE SIDEWALKS IN ATHLETIC AREAS.
- SNOW PLOWING IS ACCEPTABLE IF COMPLETED CAREFULLY (I.E. SETTING THE BLADE SLIGHTLY HIGHER THAN USUAL, ABOUT 1–INCH).
- SALT IS ACCEPTABLE FOR USE AS A DECER ON THE PAVEMENT, THOUGH NONTOXIC, ORGANIC DEICERS, APPLIED EITHER AS BLENDED, MAGNESIUM CHLORIDE–BASED LIQUID PRODUCTS OR AS PRETREATED SALT, ARE PREFERRED.

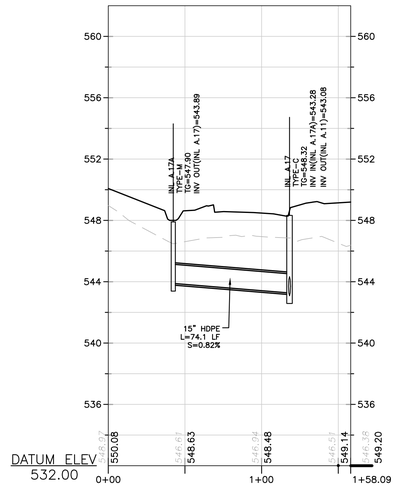
INFILTRATION RATES NATURALLY V



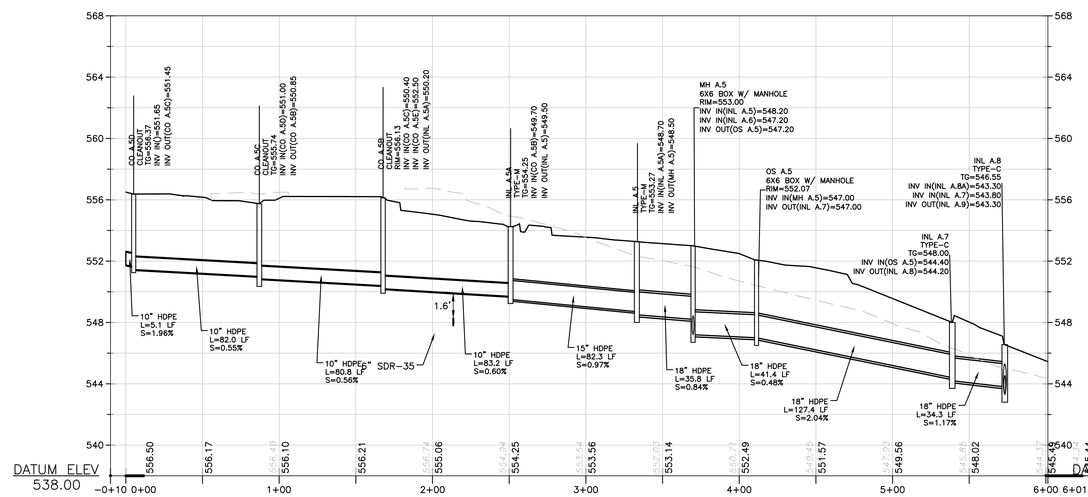
INL A.8A to EW A.13
STA 0+00 TO 4+77



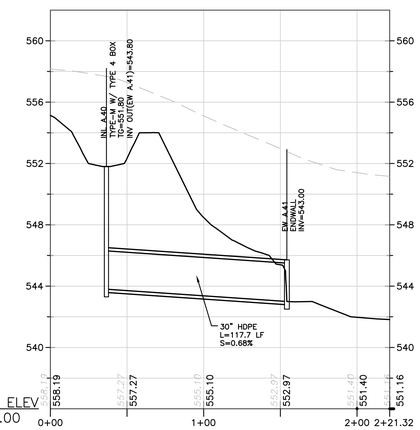
INL A.15A TO MH A.5
STA 0+00 TO 4+21



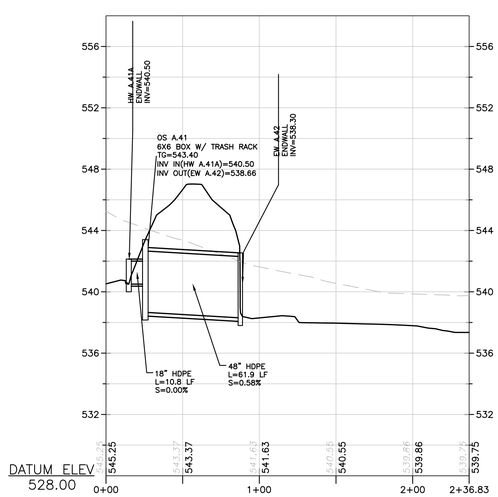
INL A.17A to INL A.17
STA 0+00 TO 1+58



BUILDING TO INL A.8
STA -0+10 TO 6+01



INL A.40 TO EW A.41
STA 0+00 TO 2+21



EW A.41A TO EW A.42
STA 0+00 TO 2+37

LEGEND
EXISTING GRADE
FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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FILE NAME: CASD0065_PRF.dwg
LAST SAVED: Tuesday, 24 Sep 2024, 1:28PM
LAST SAVE BY: SEales

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20232521731-000

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153 East King Street, Suite 211-212
Lancaster PA, 17602
717.299.8965

Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:
PROJECT
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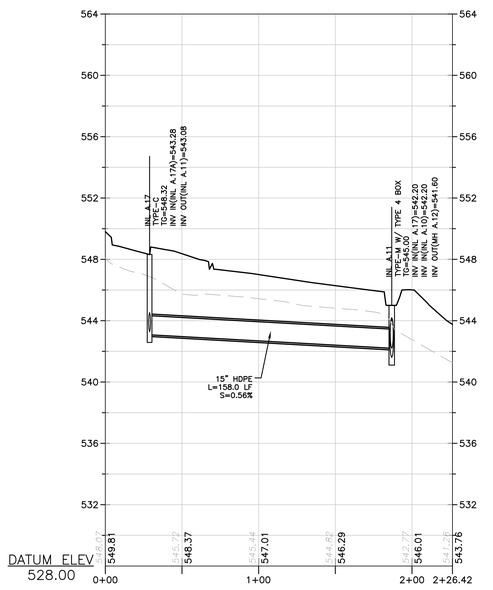
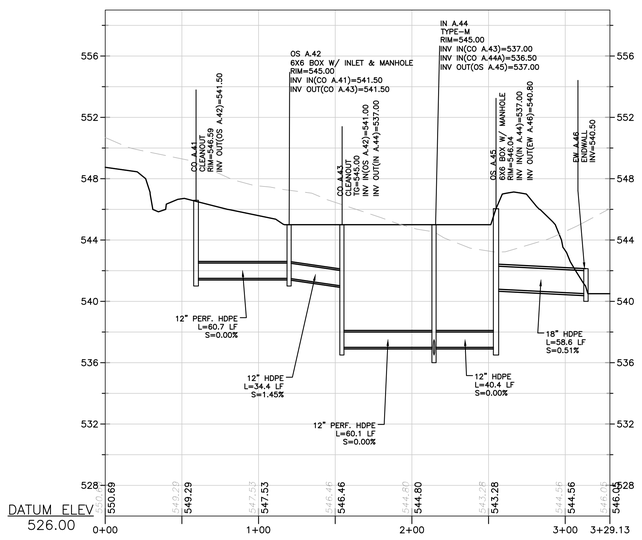
Scale: 1" = 1000'

Drawing Title:
STORM SEWER PROFILES - 1

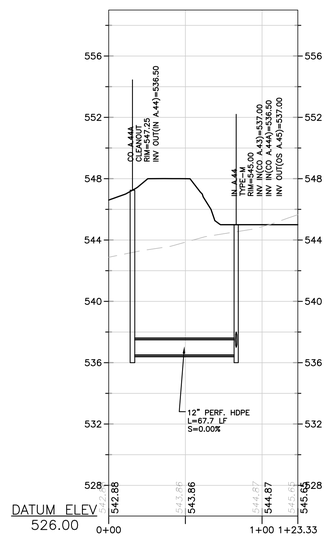
Drawing Number:
036



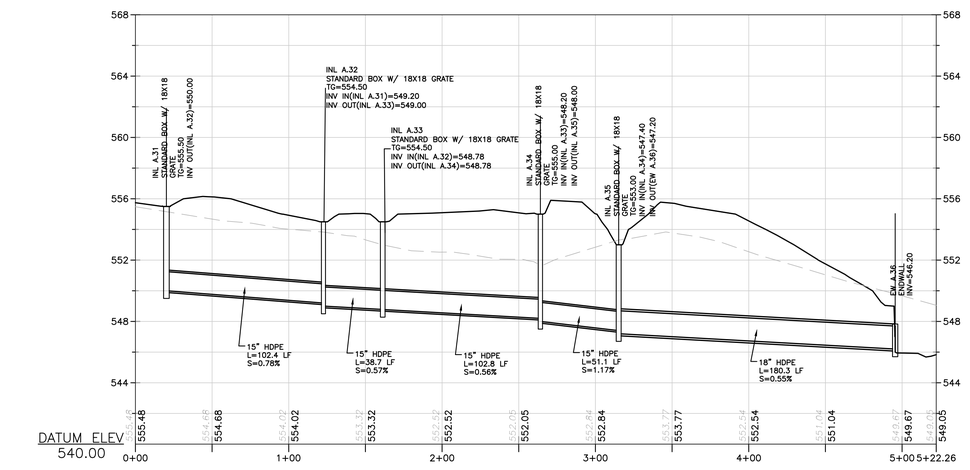
INL A.17 to INL A.11
STA 0+00 TO 2+26



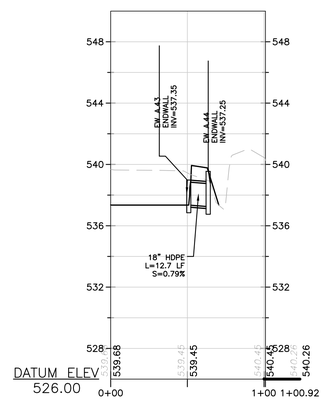
CO A.41 TO EW A.46
STA 0+00 TO 3+29



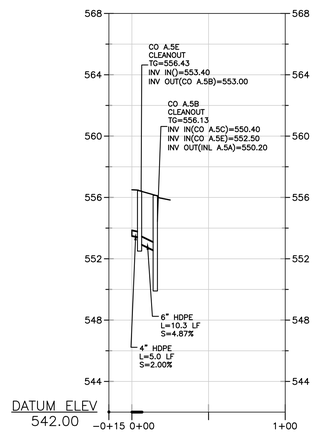
CO A.44A TO CO A.44
STA 0+00 TO 1+23



INL A.31 TO EW A.36
STA 0+00 TO 5+22



EW A.43 TO A.44
STA 0+00 TO 1+01



BUILDING TO CO A.5B
STA −0+15 TO 1+00

LEGEND
EXISTING GRADE
FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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FILE NAME: CASD00001_PRF.dwg
LAST MODIFIED DATE AND TIME: 24 Sep 2024, 1:28PM
LAST SAVE BY: SEskes

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20232512731–000

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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

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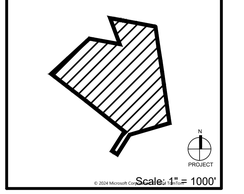
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


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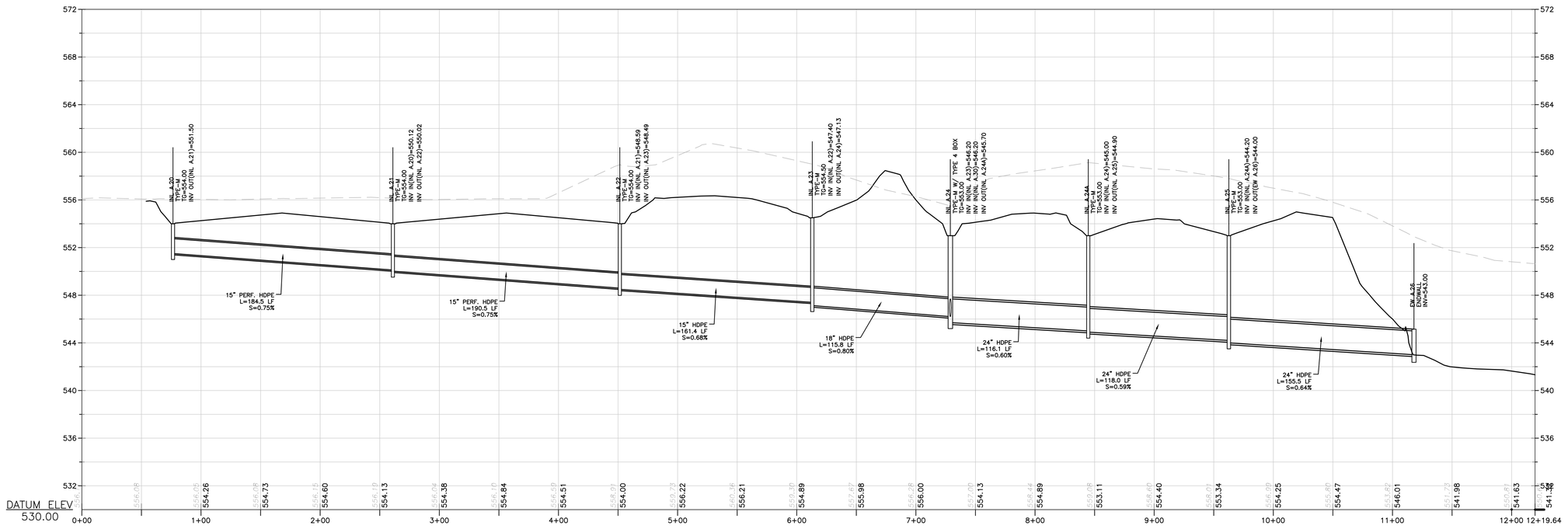
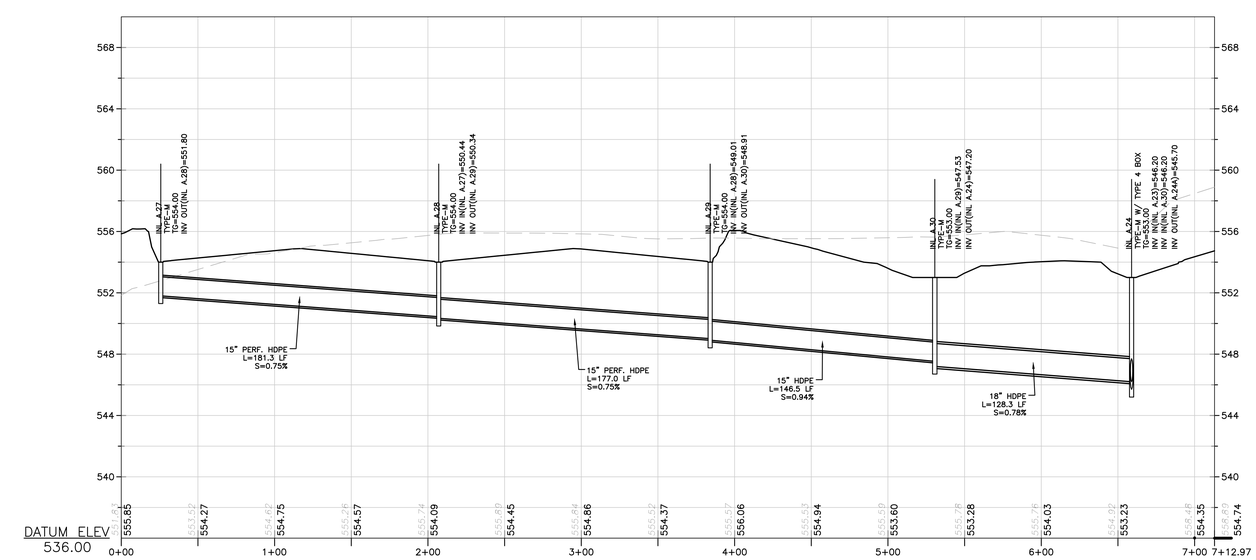
Scale: 1" = 1000'

Drawing Title:
STORM SEWER
PROFILES - 2

Drawing Number:
037



INL A.20 to EW A.26
STA 0+00 TO 12+20



INL A.27 to INL A.24
STA 0+00 TO 7+13

LEGEND

EXISTING GRADE

FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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FILE NAME: CASD00001_PRF.dwg
LAST SAVED: 24 Sep 2024, 1:28PM
LAST SAVE BY: SEales

811 PENNSYLVANIA ONE CALL SYSTEM, INC.
PA ACT 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 REQUIRES YOU TO CONTACT THE PA ONE CALL SYSTEM, INC. AT LEAST THREE (3) BUSINESS DAYS BUT NOT MORE THAN TEN (10) BUSINESS DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION, DEMOLITION OR BLASTING. THIS NOTIFICATION DOES NOT GUARANTEE THE LOCATION OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES. THIS NOTIFICATION DOES NOT GUARANTEE COMPLIANCE WITH REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008 PERTAINING TO THE LOCATION OF ALL UNDERGROUND UTILITIES. ALL CONTRACTORS SHALL BE RESPONSIBLE FOR NOTIFYING ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
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PA. LIC. No. 076464

Owner:
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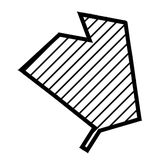
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


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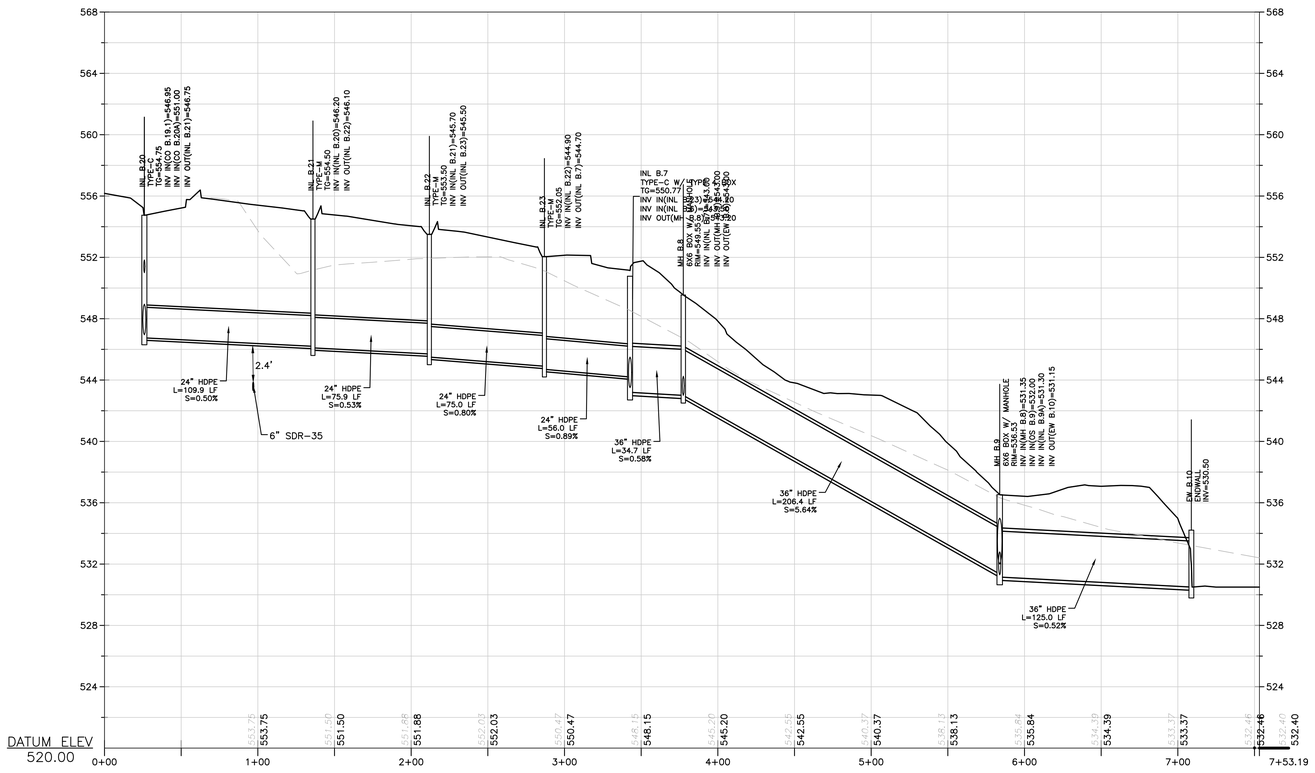
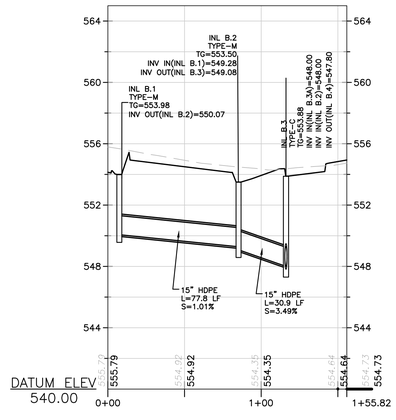
Drawing Title:
STORM SEWER PROFILES - 3

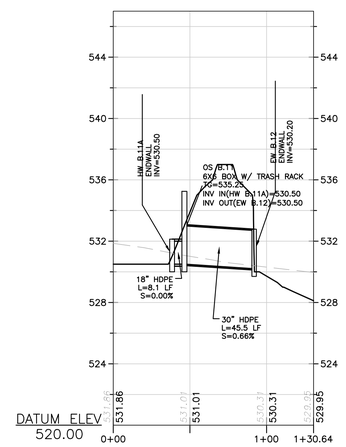
Drawing Number:
038



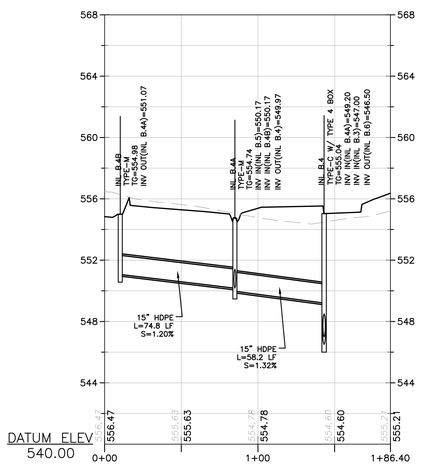
INL B.20 to EW B.10
STA 0+00 TO 7+53



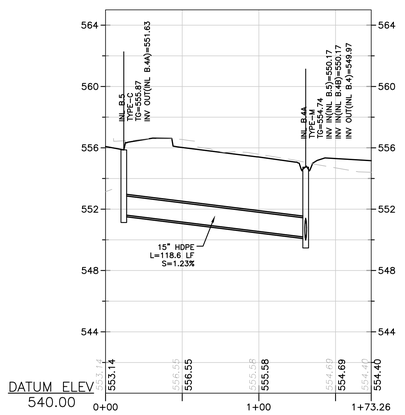
INL B.1 TO INL B.3
STA 0+00 TO 1+56



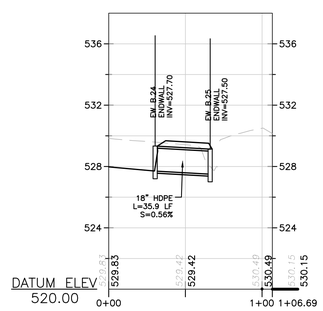
EW B.11A TO EW B.12
STA 0+00 TO 1+31



INL B.4B TO INL B.4
STA 0+00 TO 1+86



INL B.5 TO INL B.4A
STA 0+00 TO 1+73



EW B.24 TO EW B.25
STA 0+00 TO 1+07

LEGEND
EXISTING GRADE
FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_PRF.dwg
ISSUE DATE: DRAWING DATE: 24 Sep 2024, 1:28PM
LAST SAVE BY: SEskes

PENNSYLVANIA ONE CALL SYSTEM, INC.
SERIAL NUMBER
20232512731-000
ACCORDING TO PENNSYLVANIA ONE CALL SYSTEM, INC. (PA ACT 287 OF 1974, AS AMENDED BY ACT 121 OF 2008) THIS DESIGN IS VALID FOR 3 YEARS FROM THE DATE OF THE ORIGINAL REQUEST AND THE NEED FOR MEMBER UTILITIES TO RESPOND TO REQUESTS FOR MARKING OF THEIR UNDERGROUND FACILITIES IS GUARANTEED PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008. CONTRACTORS ARE RESPONSIBLE FOR CONTACTING PA ONE CALL, UNDERGROUND UTILITIES, AND FACILITIES PRIOR TO START OF WORK.

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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
No. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA
SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:
N
PROJECT
Scale: 1" = 1000'
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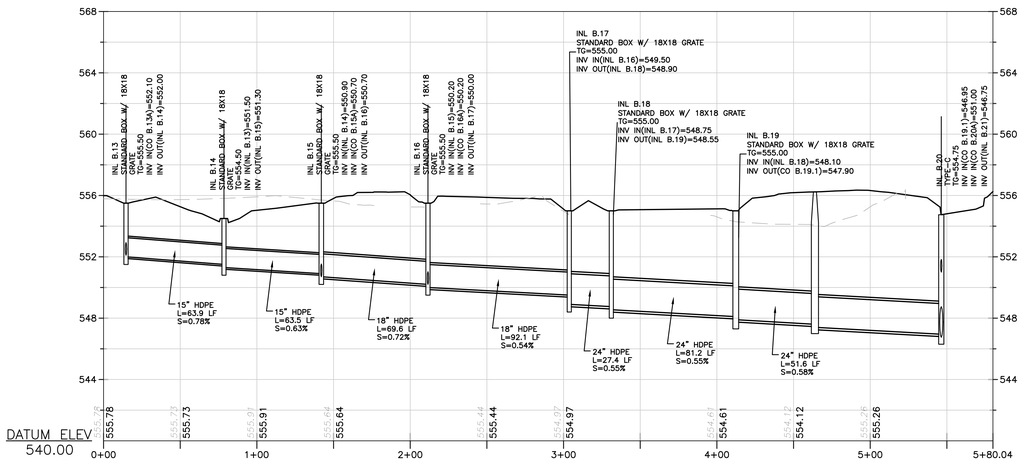
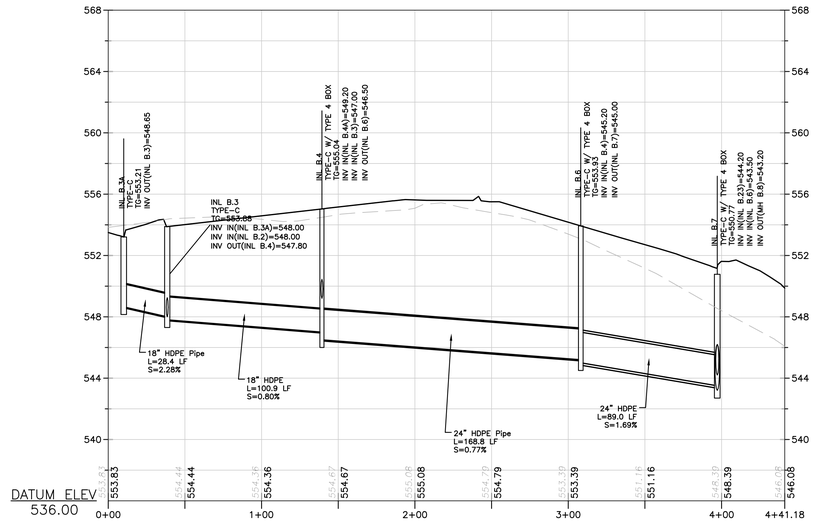
Drawing Title:
STORM SEWER
PROFILES - 4

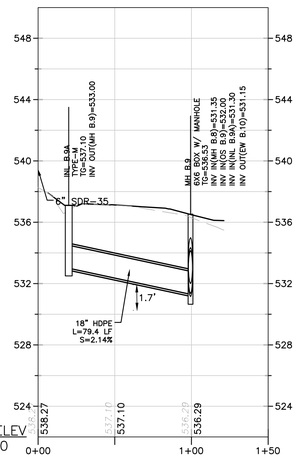
Drawing Number:
039



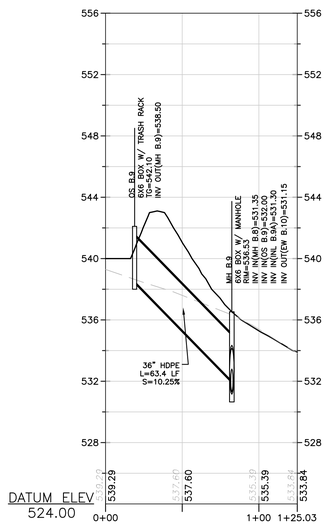
INL B.13 TO INL B.20
STA 0+00 TO 5+80



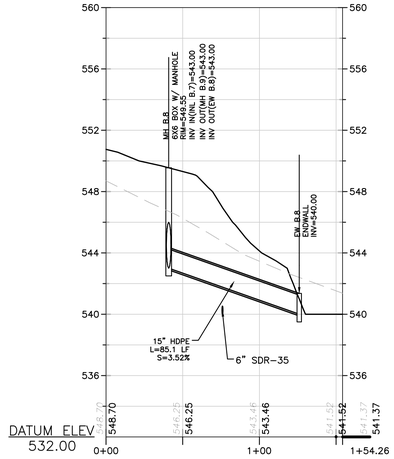
INL B.3A TO INL B.7
STA 0+00 TO 4+41



INL B.9A to MH B.9
STA 0+00 TO 1+50



OS B.9 TO MH B.9
STA 0+00 TO 1+25



MH B.8 TO EW B.8
STA 0+00 TO 1+54

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_PRF.dwg
LAST EDITED BY: DEREK.KNAUB TIME: 24 Sep 2024, 1:28PM
LAST SAVE BY: SEsko

A TENTON ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND HAVE BEEN DETERMINED FROM AVAILABLE INFORMATION. NOTIFY ALL UTILITIES FOR COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES AND SHALL BE GUARANTEED WORKMANSHIP TO REQUIREMENTS OF PENNSYLVANIA ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008. CONTRACTOR SHALL CONTACT THE PA ONE CALL SYSTEM AT 811 FOR ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232512731–000

LEGEND
EXISTING GRADE
FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
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2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:
PROJECT
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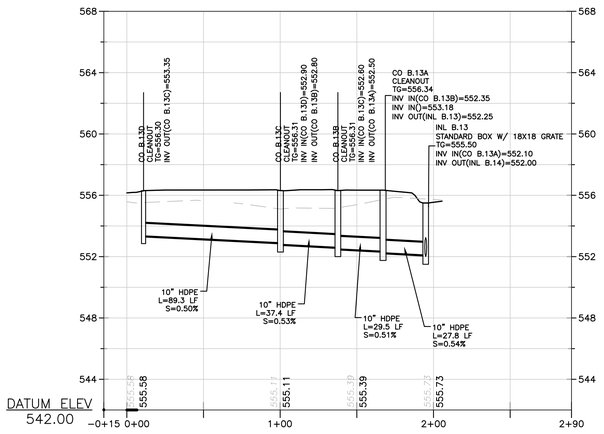
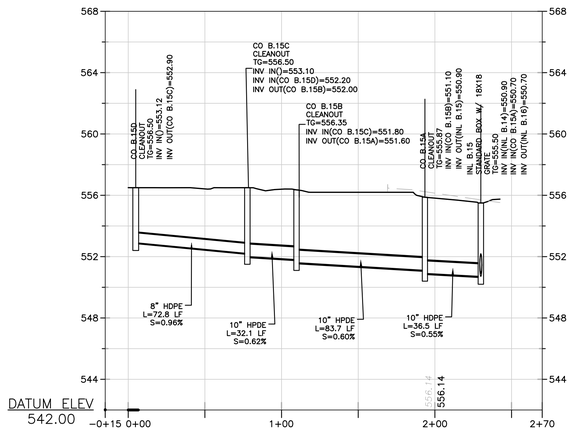
Scale: 1" = 1000'

Drawing Title:
STORM SEWER PROFILES - 5

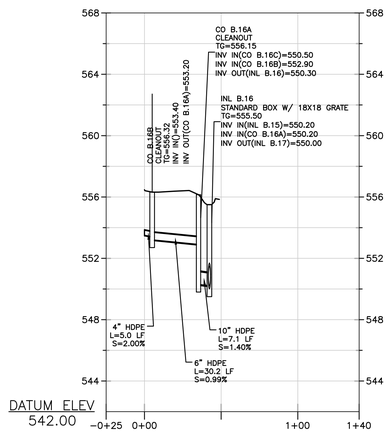
Drawing Number:
040



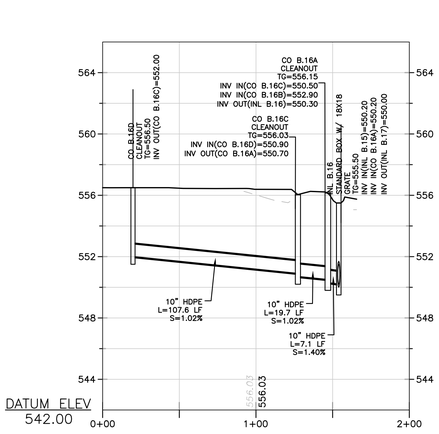
CO B.13D TO INL B.13
STA −0+15 TO 2+90



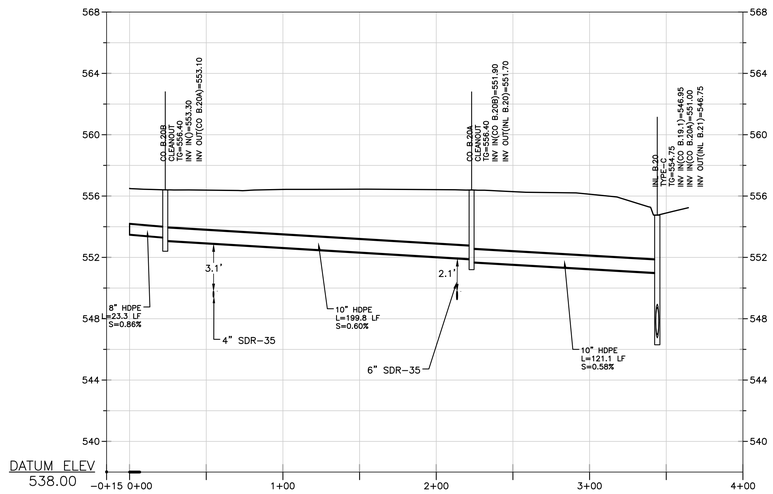
CO B.15D TO INL B.15
STA −0+15 TO 2+70



BUILDING TO B.16
STA −0+25 TO 1+40



CO B.16D TO INL B.16
STA 0+00 TO 2+00



BUILDING TO B.20
STA −0+15 TO 4+00

LEGEND

EXISTING GRADE

FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\J0065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD0065_PRF.dwg
LAST EDITED BY: SEAtes TIME: 24 Sep 2024, 1:28PM
LAST SAVE BY: SEAtes

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20232512731–000

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Professional Seal:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:
N
PROJECT
Scale: 1" = 1000'
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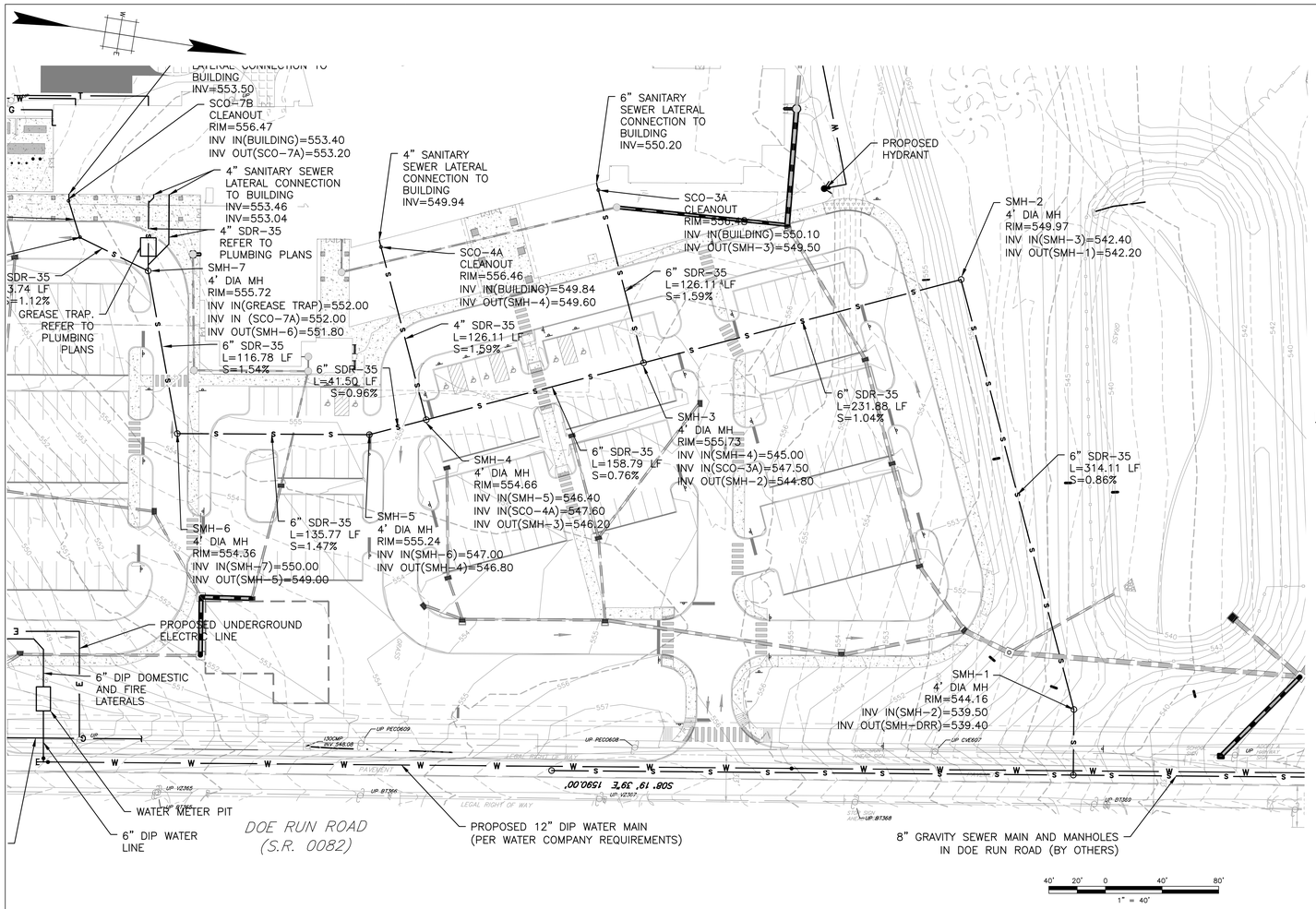
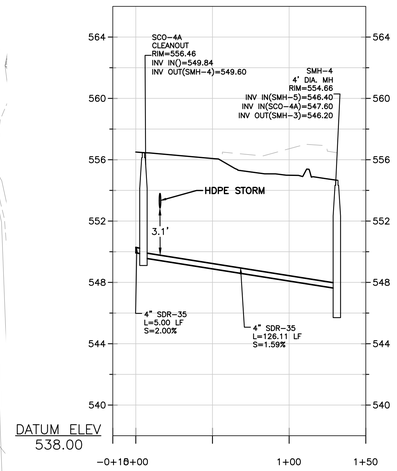
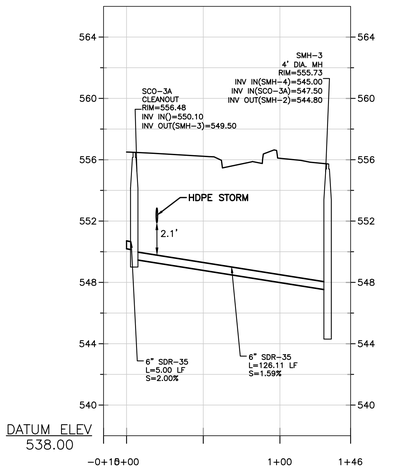
Drawing Title:
STORM SEWER PROFILES - 6

Drawing Number:
041

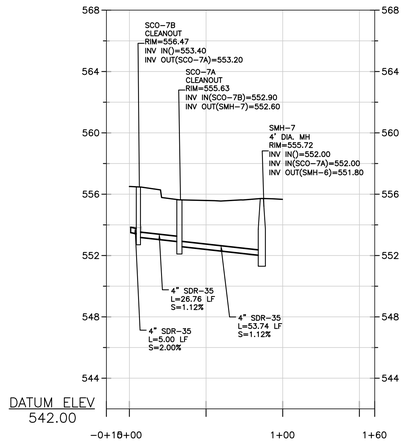




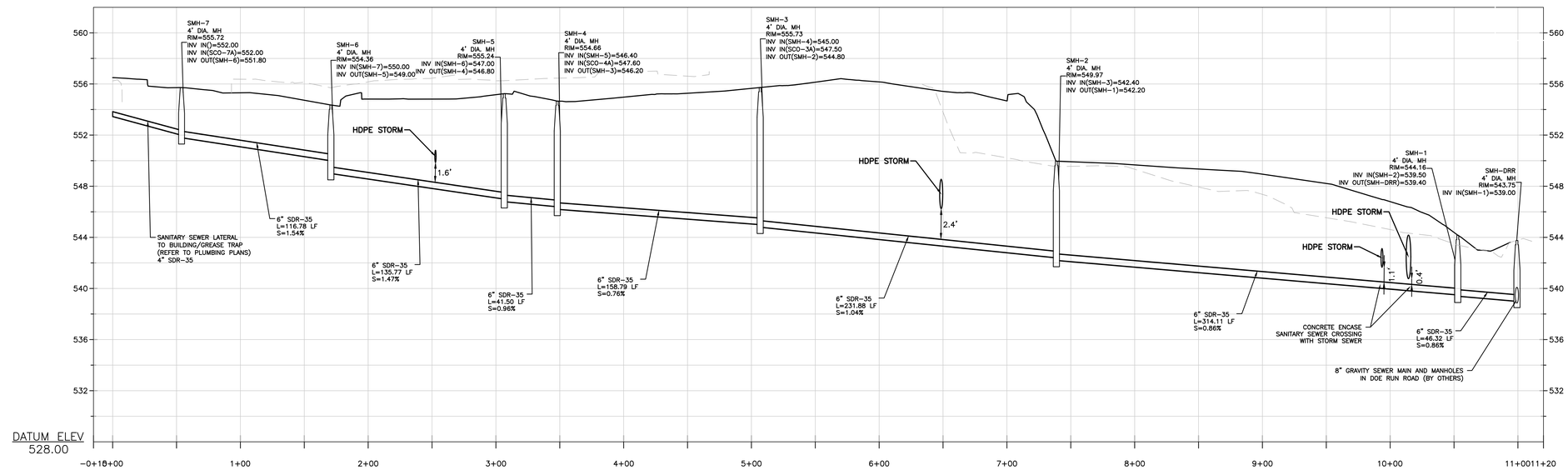
BUILDING TO SMH-4
STA -0+15 TO 1+50



BUILDING TO SMH-3
STA -0+15 TO 1+46



SCO-6A to SCO-6C
STA -0+15 TO 1+60



BUILDING TO SMH-1
STA -0+15 TO 11+20

LEGEND
EXISTING GRADE
FINISHED GRADE

HORIZONTAL GRAPHIC SCALE
40' 20' 0 40' 80'
1" = 40'

VERTICAL GRAPHIC SCALE
4' 2' 0 4' 8'
(IN FEET)
1" = 4'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SCA\L\00065\Calculations & Reports\CASD - South Brandywine ES\Plans\
FILE NAME: CASD00001_PRF.dwg
LAST SAVED: Tuesday, September 24, 2024 1:28PM
LAST SAVE BY: SEales

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SERIAL NUMBER
20232512731-000

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CHRISTOPHER W. JENSEN, P.E.
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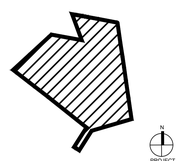
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

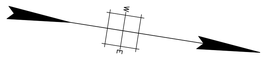
DATE: 03/01/2024

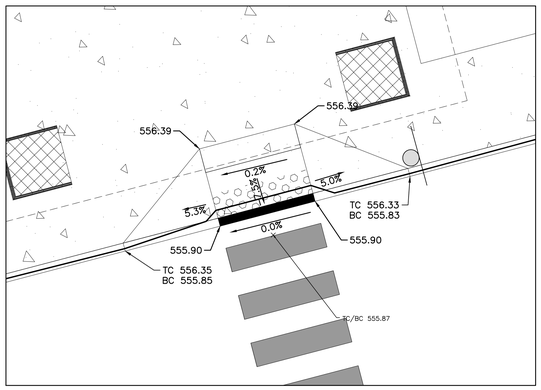
SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
SANITARY SEWER PROFILES - 1

Drawing Number:
042





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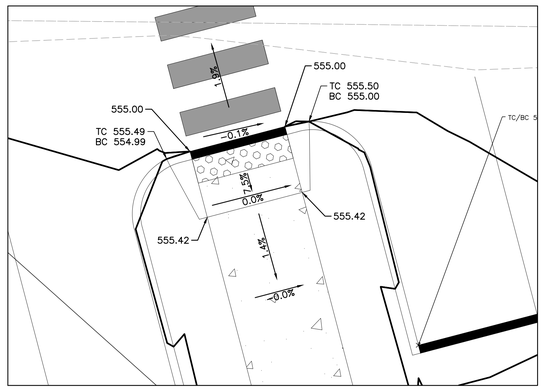

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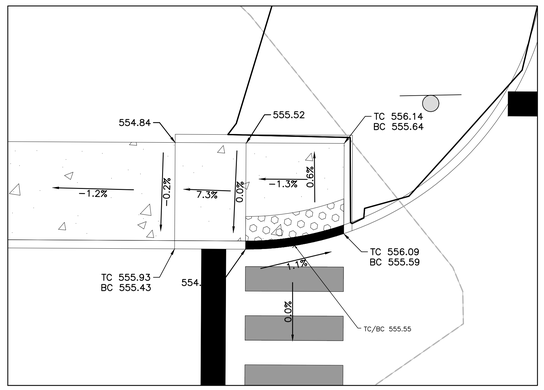

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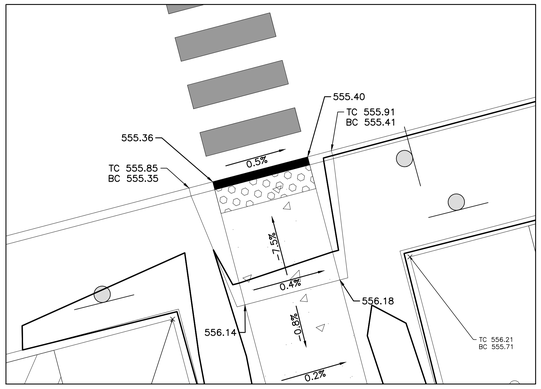

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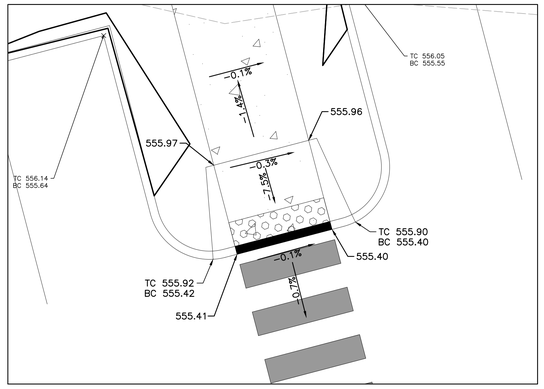
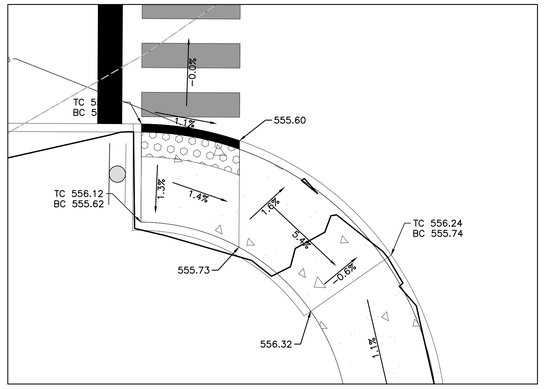
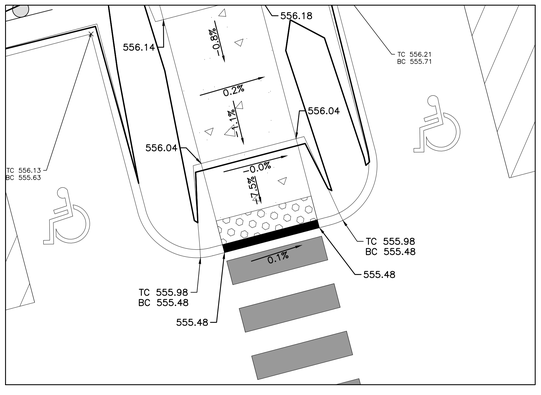


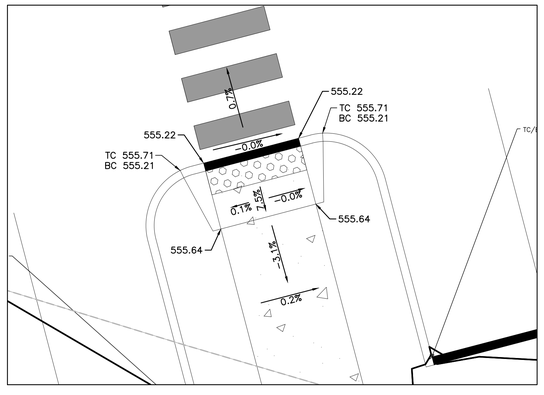
RAMP #5 - TYPE 4A



RAMP #8 - TYPE 2 PARTIAL



RAMP #3 - TYPE 4A



RAMP #6 - TYPE 4A

NOTE:

REFERENCE ASSOCIATED PARKING NUMBER TO THE GENERAL SITE PLAN ON SHEET 9.

LEGEND

DIRECTION OF SLOPE

SPOT ELEVATION XX.XX

5' 2.5' 0 5' 10'

1" = 5'

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PROJECT INFORMATION:
FILE PATH: G:\Projects\SCAL\000651_ADA.dwg
FILE NAME: CA000001_ADA.dwg
LAST SAVED: Tuesday, 09 Jul 2024, 12:08PM
LAST SAVE BY: SEales

ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND ARE BASED ON UTILITY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND UTILITIES SHOWN ON THESE PLANS IS NOT GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTOR SHALL CONTACT PA ONE CALL AT 811 FOR ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232512731-000

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REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464
CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
COATESVILLE AREA SCHOOL DISTRICT
3030 C G ZINN ROAD
PHONE: 610 466-2400

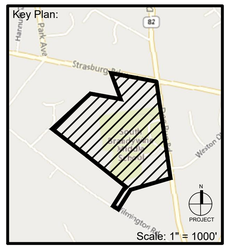
PRELIMINARY/FINAL LAND DEVELOPMENT PLAN
COATESVILLE AREA SCHOOL DISTRICT
SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL
600 Doe Run Road
East Fallowfield Township
Chester County, PA

ISSUED FOR:

NO.	DESCRIPTION	DATE
1	NPDES SUBMISSION	3/22/2024
2	NPDES RESUBMISSION	4/29/2024
3	TOWNSHIP RESUBMISSION	5/17/2024
4	TOWNSHIP RESUBMISSION	7/3/2024
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

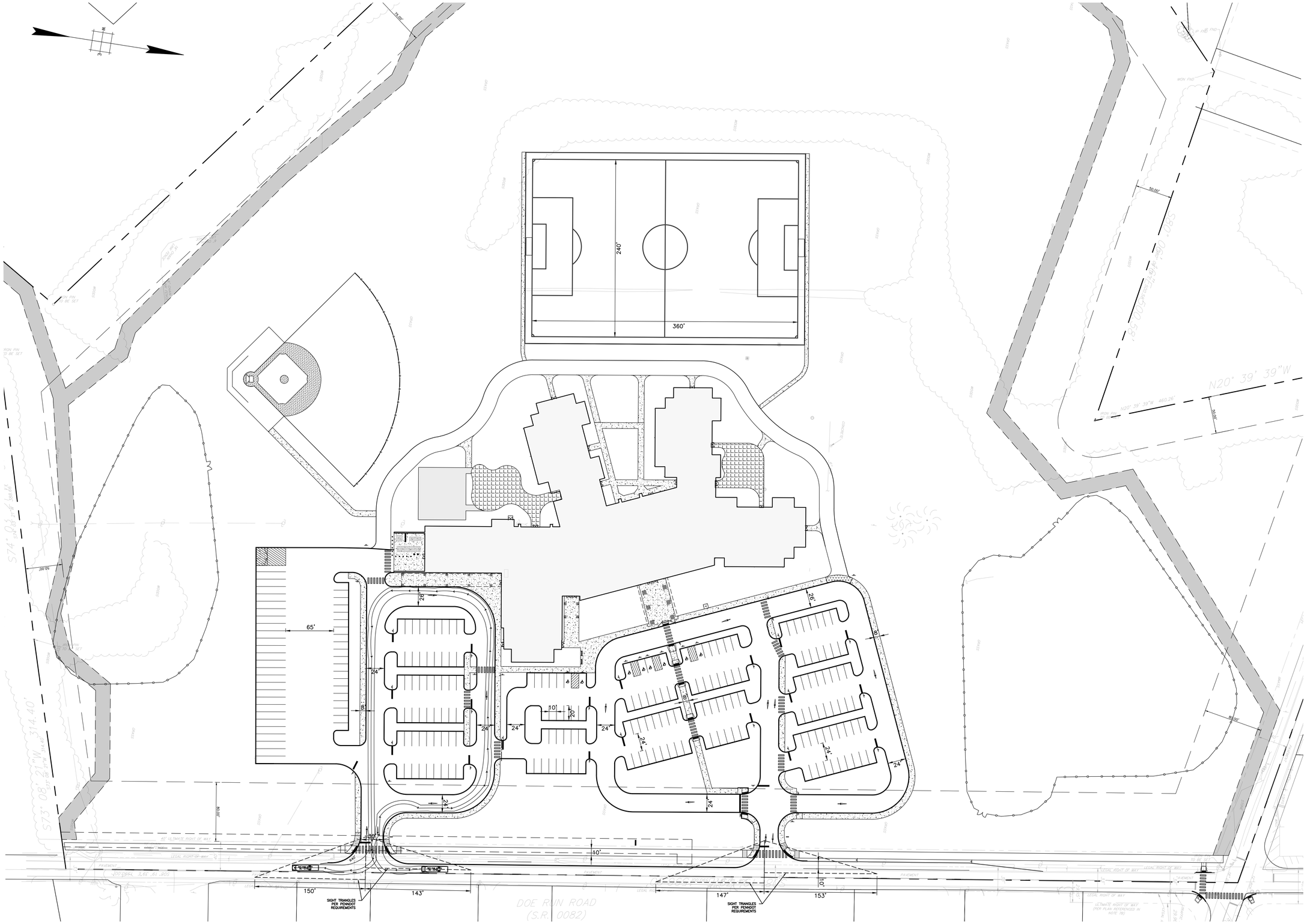
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
ADA RAMPS - 1

Drawing Number:
043



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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\20065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD20001_ATD.dwg
LAST EDITED BY: GDonnie TIME: 04 Oct 2024, 5:01PM
LAST SAVE BY: GDonnie

PA ONE CALL SYSTEM, INC.
ATTENTION: ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR SHALL CONTACT ALL UTILITIES FOR FIELD VERIFICATION. LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 AMENDED BY ACT 121 OF DECEMBER 10, 2008, AS A GOAL CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232012731-000

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CHRISTOPHER W. JENSEN, P.E.
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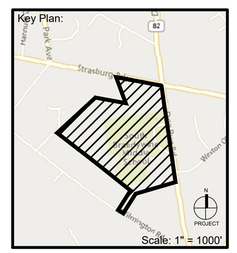
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

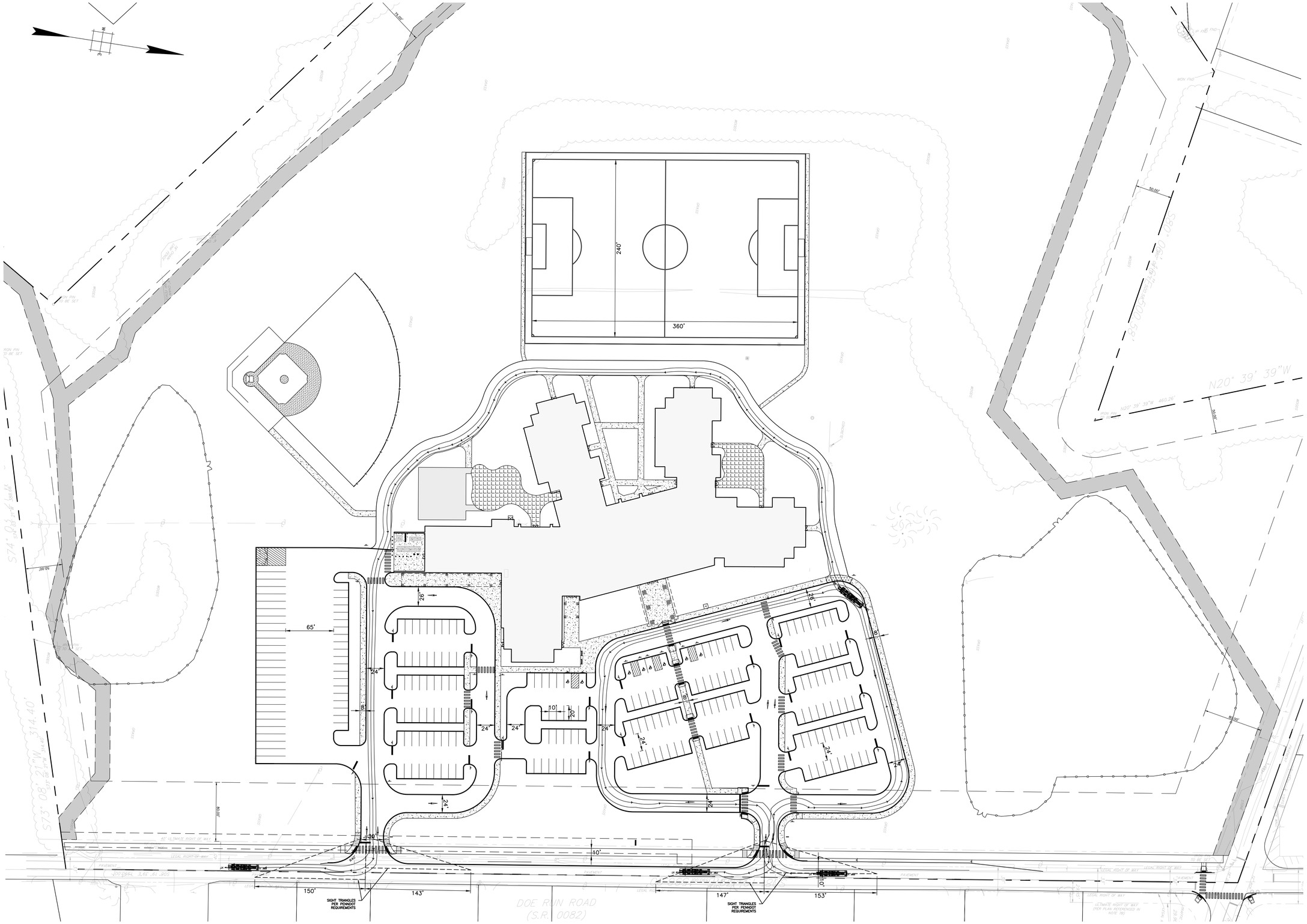
DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
TRUCK TURN - BUS

Drawing Number:
044



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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGA\20065\Calculations & Reports\CAD - South Brandywine ES\Plans\
FILE NAME: CAS20065001_ATD.dwg
LAST EDITED: Thursday, October 24, 2024, 5:01PM
LAST SAVE BY: GDonnie

PA ONE CALL SYSTEM, INC.
ATTENTION: ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTOR IS RESPONSIBLE FOR CONTACTING ALL UTILITIES FOR FIELD LOCATION OF UNDERGROUND FACILITIES. OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 187 AMENDING ACT 287 OF 1974 AS AMENDED BY ACT 38 OF 2000, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232012731-000

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CHRISTOPHER W. JENSEN, P.E.
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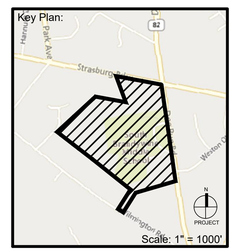
5	NPDES RESUBMISSION	8/1/2024
6	TOWNSHIP RESUBMISSION	10/4/2024

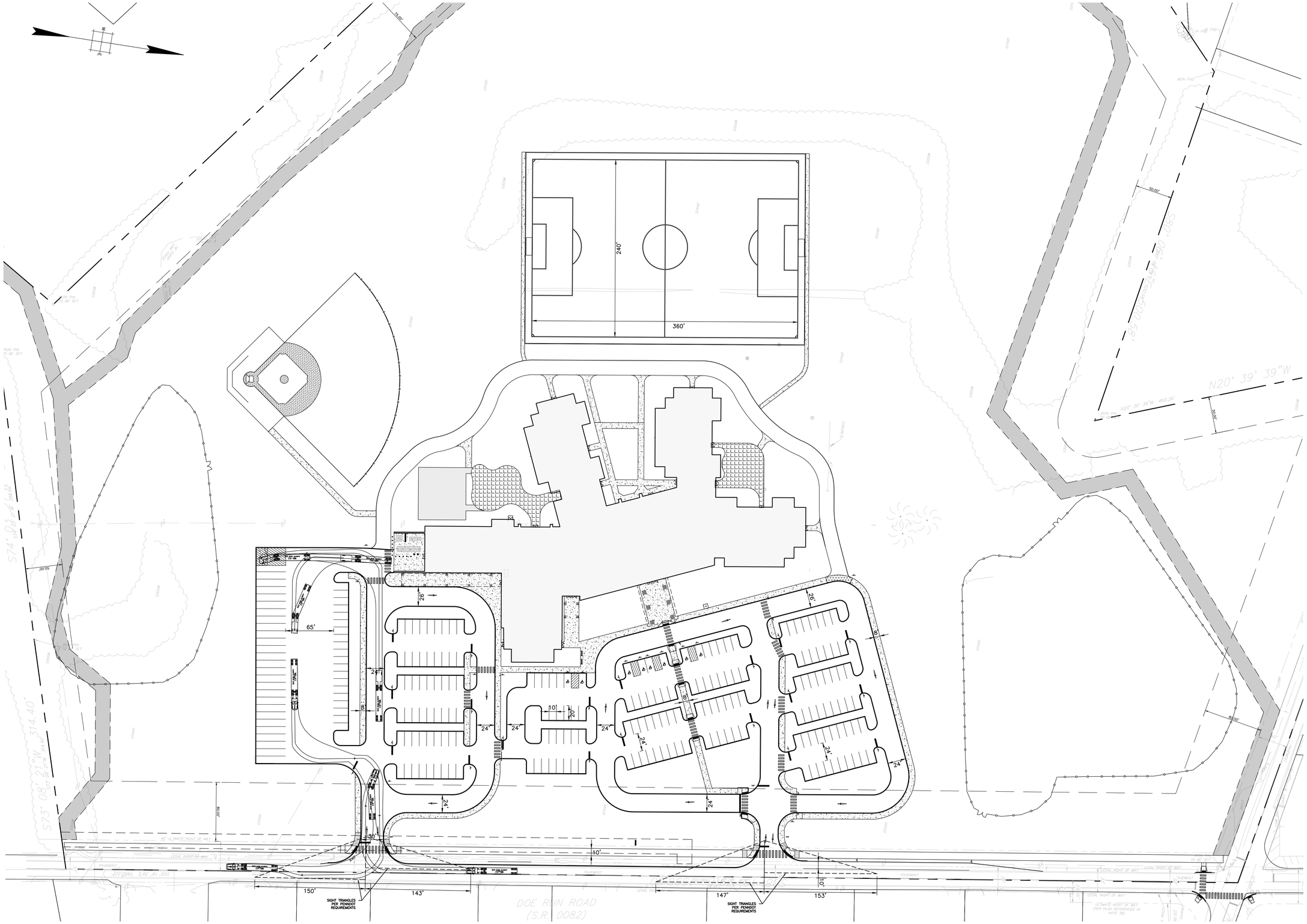
DATE: 03/01/2024

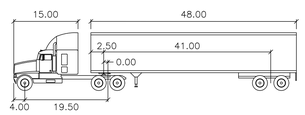
SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
TRUCK TURN - FIRE TRUCK

Drawing Number:
045

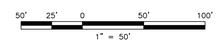




WB–62

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 70.0
Trailer Track	: 8.50		



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PROJECT INFORMATION:
FILE PATH: G:\Projects\SGAL\00065\Calculations & Reports\CASD – South Brandywine ES\Plans\
FILE NAME: CASD00001_ATD.dwg
LAST EDITED: Thursday, October 24, 2024, 5:01PM
LAST SAVE BY: GDonnie

ATTENTION: ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. CONTRACTORS ARE REMINDED THAT THE COMPLETENESS AND ACCURACY OF LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT 287 AMENDED BY ACT 121 OF DECEMBER 10, 2008, IT IS THE GOAL CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
20232012731–000

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REGISTERED PROFESSIONAL
CHRISTOPHER W. JENSEN
ENGINEER
NO. PE-076464

CHRISTOPHER W. JENSEN, P.E.
PROFESSIONAL ENGINEER
PA. LIC. No. 076464

Owner:
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PHONE: 610 466-2400

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SOUTH BRANDYWINE
NEW ELEMENTARY SCHOOL

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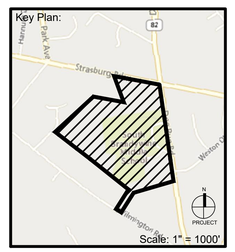
6	TOWNSHIP RESUBMISSION	10/4/2024

DATE: 03/01/2024

SG PROJECT NUMBER: 23-033

Key Plan:


Drawing Title:
TRUCK TURN - WB-62

Drawing Number:
046

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, Gerald A. DeBalko, P.E., hereby state that the facts above set forth in the attached Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Gerald DeBalko

Gerald A. DeBalko, P.E., Engineering Manager - Southeast
Pennsylvania American Water Company

Dated: 5/15/2026

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, James P. Kelly hereby state that the facts above set forth in the above Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

James Kelly

James P. Kelly, Manager of Operations – Coatesville
Pennsylvania-American Water Company

Dated: 5/15/26

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, Aldaine Alphonse, hereby state that the facts above set forth in the attached Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Aldaine Alphonse

Aldaine Alphonse, Senior Regulatory Analyst
Pennsylvania-American Water Company

Dated: 5/18/2026

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, Gerald A. DeBalko, P.E., hereby state that the facts above set forth in the attached Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Gerald DeBalko

Gerald A. DeBalko, P.E., Engineering Manager - Southeast
Pennsylvania American Water Company

Dated: 5/15/2026

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, Kelly Jacunski, hereby state that the facts above set forth in the attached Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Kelly Jacunski

Kelly Jacunski, EIT
Senior, Engineering Project Manager
Pennsylvania-American Water Company

Dated: 5/15/26

Application Of Pennsylvania-American Water Company – Wastewater Division for Approval to Offer, Render, Furnish or Supply Wastewater Service to The Public in an Additional Portion of East Fallowfield Township, Chester County, Pennsylvania

Docket No. A-2026-3061164

VERIFICATION

I, Jana Hurst, hereby state that the facts above set forth above in the attached Data Responses are true and correct to the best of my knowledge, information and belief, and that I expect to be able to prove the same at a hearing held in this matter. I understand that the statements made herein are made subject to the penalties of 18 Pa. Cons. Stat. §4904 relating to unsworn falsification to authorities.

Jana Hurst

_____

Jana Hurst, Senior Paralegal
Pennsylvania American Water Company

Dated: May 18, 2026