Minutes of the Reorganization Meeting of the Haverford Township Planning Commission held on Thursday, January 9, 2020 at 7:00 p.m. in the Commissioners' Meeting Room, 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:
Angelo Capuzzi
E. David Chanin
Maggie Dobbs
Robert Fiordimondo
Jesse Pointon
Chuck Reardon

ALSO PRESENT:
Kelly Kirk, Zoning Officer and Community Development
Marge Buchanan, Scribe

Kelly Kirk called the meeting to order at 7:15 p.m.

Item#1 Reorganization/Appointments

Ms. Kirk called for nominations for the position of Chairman.

Mr. Reardon made a Motion to nominate Angelo Capuzzi for the position of Chairman.
Mr. Chanin seconded the Motion.
MOTION PASSED UNANIMOUSLY.

Mr. Pointon made the Motion to appoint Mr. Reardon as Vice-Chairman.
Mr. Fiordimondo seconded the Motion.
MOTION PASSED UNANIMOUSLY.

Mr. Reardon made a Motion to appoint Jesse Pointon to Secretary.
Mr. Fiordimondo seconded the Motion.
MOTION PASSED UNANIMOUSLY.

Mr. Capuzzi made a Motion to appoint Marge Buchanan as Scribe.
Mr. Pointon seconded the Motion.
MOTION PASSED UNANIMOUSLY.

Mr. Capuzzi made a Motion to approve the 2020 Meeting calendar with a 7:00 pm start time.
Mr. Reardon seconded the Motion.
MOTION PASSED UNANIMOUSLY.

Mr. Capuzzi welcomed new member Maggie Dobbs to the Haverford Township Planning Commission. Ms. Dobbs is a Senior Planner at the Montgomery County Planning Commission.

Mr. Capuzzi publically recognized the retirement of Joe Russo and Paul D'Emilio from the Haverford Township Planning Commission. They collectively served for over 30 years as Chair and Vice-Chair, respectively. Mr. Capuzzi thanked them and wished them well.

Item #2 Havertown PCP Groundwater Treatment Plant-Eagle Road

Josh Barber, project manager from the EPA for Haverford, and Liz Piazza from Tetra Tech (Delaware Office), contractor for the EPA, presented to the Board.

Mr. Barber presented a five-page handout of maps and plans for discussion of the Superfund site on Eagle Road, the former site of National Wood Preservers. Cleanup of the site has been ongoing for three decades with the Cap put in place in the early 1990's by the EPA. Mr. Storage currently sits on a portion of the Cap which shares a property line with the groundwater treatment plant at 900 N. Eagle Road. Lead of cleanup was transferred from EPA to the Pennsylvania DEP after ten years.

At the beginning of 2019, with an increase in the water table, residents on Rittenhouse Circle complained of water pooling and upwelling with surface sheen. Testing proved contaminants from ten properties. EPA funds were authorized to waterproof properties, expand a groundwater collection trench and excavate contaminated soil in yards.

Ms. Piazza stated that the groundwater treatment plant is currently running at capacity and will need to be expanded to the south while maintaining operation of the existing equipment. The design is still conceptual, and design is expected to be completed in June 2020. The request for an approximately 3315 square-foot expansion will need variances for a side yard setback encroachment as well as for building coverage and impervious surface.

Mr. Capuzzi asked that the project come back before the Planning Commission with land development plans if variances are granted. Ms. Piazza confirmed they would.

Mr. Chanin asked if there are emissions from the treatment plant itself. Mr. Chanin also asked if carbon filters are used and, if so, where they are disposed. Mr. Barber explained that there are no emissions from the treatment plant. He said carbon filters are used as well as a long treatment train that is in line with the discharge limits set by the state. The filters of the press system are disposed of in a hazardous waste landfill.

Mr. Capuzzi inquired if the proposed addition anticipated further future expansion. Ms. Piazza stated that this was still being studied.

Mr. Capuzzi stated that the Planning Commission would be looking to have the Eagle Road design standards implemented along the Eagle Road frontage. Mr. Reardon also strongly encouraged this from a safety standpoint to ensure safe sidewalk passage.

Mr. Barber noted that Tetra Tech runs the plant and has done so since it opened. Ms. Piazza stated that no additional staff will be required in the expanded plant.

Ms. Dobbs asked if the addition to the treatment plant would have an impact on the existing detention basin. Ms. Piazza stated that Tetra Tech has already reviewed this with the Township Engineers and is coordinating the design with the basin.

Ms. Kirk stated that there were no meeting minutes to be reviewed. The minutes of the previous meeting will be reviewed at the next meeting.

Mr. Capuzzi made a Motion to adjourn.
Mr. Reardon seconded the Motion.
Meeting adjourned at 8:01 p.m.

PLANNING COMMISSION REORGANIZATION

2020 CALENDAR OF MEETINGS

JANUARY 9TH & 23RD

FEBRUARY 13TH & 27TH

MARCH 12TH & 26TH

APRIL 9TH & 23RD

MAY 14TH & 28TH

JUNE 11TH & 25TH

JULY 23RD

AUGUST 13TH

SEPTEMBER 10TH & 24TH

OCTOBER 8TH & 22ND

NOVEMBER 12TH

DECEMBER 10TH

MEETINGS SHALL CONVENE AT 7:00 P.M..

AGENDA

Haverford Township
Planning Commission Meeting

February 13, 2020|7:00 p.m.
Haverford Township Municipal Services Building
1014 Darby Road, Havertown, PA 19083

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner

Agenda Items
1. Opening of Meeting a. Roll Call b. Pledge of Allegiance
2. School District of Haverford Township- Haverford High School, 200 Mill Road *Review of the preliminary/final land development plan to construct two additions to the existing high school with associated parking and stormwater improvements on the site.*
3. **Review of Minutes**
Adjournment

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, February 13, 2020, at 7:00pm in the Commissioners' Meeting Room, 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development
Marge Buchanan, Scribe

Mr. Capuzzi called the meeting to order at 7:02 P.M.

Mr. Capuzzi led the Pledge of Allegiance.

Mr. Capuzzi introduces and welcomes Mr. Jack Garrett. Mr. Garrett has a background in project and construction management.

Mr. Capuzzi publicly thanks and wishes the best to Chris Gaumann who retired from the Planning Commission in December. Mr. Gaumann served on the Commission for at least ten years. He was instrumental in the development of the design standards for the Eagle Road Corridor. Mr. Gaumann served on the Planning Committee for the new township building and currently serves on the Steering Committee for updates to the Township Comprehensive Plan.

Mr. Capuzzi reviews the Minutes from the January 9, 2020 Reorganization Meeting and regular Meeting.

Mr. Pointon motions to approve the Minutes. Seconded by Mr. Fiordimondo.
Mr. Chanin had comment to update Ms. Dobbs actual title as Senior Planner at the Montgomery County Planning Commission and moves that there are some cosmetic corrections to be made in the minutes.

By roll call, the minutes as corrected were approved unanimously by roll call vote.

Mr. Capuzzi explains to members that the Ethics Form received by all will need to be completed by the beginning of May for 2019 to show no conflict of interest.

ITEM #1 School District of Haverford Township – Haverford High School, 200 Mill Road

Review of the preliminary/final land development plan to construct two additions to the existing high school with associated parking and stormwater improvements on the site.

Mr. Faulkner introduced Township Engineer Pennoni's review letter dated 2-12-2020.

The School District will be withdrawing the following waiver request: §78-37.A(1) requiring the proposed condition's runoff must reduce the 2-year storm rate to the 1-year pre-development storm rate.

Kelly Kirk suggests a recess so the School District can set up its presentation.

Mr. Capuzzi calls for recess.

Mr. Matthews, CB Development, states there will be 400 additional students moving to the high school with a shortage of available space. Land development plans are schematic and are not finalized. School board had approved the plans for expansion in October and the Zoning Hearing Board approved the variances that were sought.

Mr. Reardon asks if the school district would expect the need for further expansion in the future. Dr. Maureen Reusche, School Superintendent, informed yes, there are additional students expected beyond 400.
Mr. Chanin inquires of the current enrollment. Dr. Reusche states there are 1900 currently and 2300 projected based on a 10-year study through 2027.

Ryan Orr, Project Manager for KCBA Architects, describes the artist's rendering of the music room addition which would include orchestra room and band room. These two rooms in the existing building will be used instead as a chorus room and enlarged fitness room.

Mr. Orr explains the three-story classroom wing as 6727 square feet of space per floor, with the first floor being 4 regular size classrooms and a lab. Floors 2 and 3 will each hold two science labs. This will balance space for future student curriculum requirements. Additionally, this will free space for classrooms in the existing building.

Sewer module approval will need to be granted to add 6 water closets, 17 lavatories and 15 drinking fountains. Upgrading to more efficient fixtures by 33% will aid in absorbing the additional counts within the building.

Ron Monkres III, Gilmore and Associates – Civil Engineer, is introduced to speak on the Preliminary-Final Land Development.

Mr. Monkres points out on the site plan current buildings and proposed additions to be added to the school site, and identifies the storm water control facilities as well as green roofs and vegetative roofs included in the design. There will be upgrades to the existing basin (#1-1) behind the music room addition. Under the new parking lot there will be a new basin (#1-2) designed and installed, compliant with the DEP and the Township Storm Water Ordinance. Soil infiltration tests which were taken indicate good flow rates.

The parking lot expansion will include modification to the existing intersection at Golf Road to a more natural 4-way alignment. There will be a removal of a portion of black top to add green

space, sidewalk and pedestrian entry into the new school addition. There is a series of utility lines that run diagonally through the existing parking which limited the extent of the expansion.

Mr. Chanin inquires what the chalk lines or dashes on the site plan represent. Mr. Monkres explains that is the limit of disturbance which is the limit of work associated with the project and where the construction fence would be located.

Landscaping will be added as well lighting to not only enhance the design but also to add to the safety of the area, eliminating dark areas.

Mr. Monkres explains that they are modifying the drainage area to that basin by an impervious swap. There will be building but with green roof area, and overflow will be discharged into that basin.

Mr. Capuzzi asks if there will be any infiltration testing in the area of basin #1-1 to determine the recharge potential, if any, of that basin. Mr. Monkres explains the logistics of the area are not really conducive to a dig as it is a stone fill that would collapse around the test point. He adds the infiltration is incorporated into the design of the new basin #1-2.

Mr. Monkres speaks on the slope of the parking lot. Mr. Capuzzi inquires of the depth of the cut and utility in the area. Mr. Monkres informed that it is 7' to the bottom of the bed and clear of utilities. He added that there was a soft dig to be sure of avoiding the main artery of the main utilities.

Ken Matthews presents the logistics plan.

Phase 1 January – June 2021 Classroom wing and parking lot expansion without school disturbance. Summer work will tie in the parking areas together. Building is complete and opens for school in the fall of 2021.

Phase 2 January 2022 – June 2022 Construct the new music wing. Summer work will finish interior renovations and finish the parking lot. The music wing will open in the fall 2022.

Mr. Fiordimondo asks if there had been consideration of building both additions at the same time. Mr. Mathews notes constructing both additions simultaneously is unachievable due to budgetary constraints.

Mr. Chanin inquired about the parking lot being in the right field area of the baseball field and Mr. Matthews detailed the measurements as 370' feet from home plate.

Mr. Capuzzi asks if the laydown area will accommodate construction trailers. Mr. Matthews describes the area as having some storage trailers and creating roadway for construction vehicles and parking.

Mr. Fiordimondo asks if the interior renovations will be coordinated with the phasing. Mr. Matthews answers yes; for example, the addition can be built without breaking through the wall. Interior renovations will be done in the summer.

Mr. Reardon expresses his concern on taking extra precaution before the breakthrough regarding the floor elevation. Mr. Matthews states he understands and every precaution will be taken.

<u>Review of the Township Engineer's Letter</u>

Mr. Monkres speaks to Item 9: Stormwater Waiver. In coordination with Mr. Faulkner, this waiver request will be withdrawn. Item 18: The school will consider upgrades to sidewalks along Mill Rd. and will add ADA curb cut ramps where required.

Mr. Reardon asks if public improvement will be made along Mill Road. Mr. Monkres explains that the limit of work is essentially the rear of the school.

Mr. Pointon asks if there is any consideration to go beyond the Zoning Hearing Board approved 50% green roof and is the planned green roof a tray system. Mr. Orr explains, due to cost, 50% is all that could be done. The green roof will consist of a tray system over an EPDM; that is planned and would be maintained by the school. The other roof tops will be housing mechanical equipment.

Mr. Garrett mentions the parking lot turning schematics from the plans and the likely possibility of wrecking curbs with the larger vehicles. Mr. Monkres explains that the grading detail sheets call for depressed curb/flush curbing to allow those wheels to go right up on the curb. All vehicles have been considered.

Mr. Matthews explains the larger area with the expansion of the parking lot. A firetruck could get right next to the addition with the loading dock just feet away for ladders.

Ms. Kirk states Steve Poole, Fire Official, and Chief Viola, Fire Chief of Brookline and Police Chief of Haverford Township, have reviewed the plan and gave their approval.

Ms. Dobbs questions landscaping choices, suggesting varieties for visual interest and recommends review by the Shade Tree Commission.

Mr. Chanin requests information on new plantings. Mr. Matthews and Mr. Monkres relay that any trees taken down will be replaced and will be reviewed by the Shade Tree Commission.

Mr. Fiordimondo questions the maintenance of a green roof. Mr. Orr describes the system as a modular tray system; if one tray were to die out, it could easily be replaced. They will be trimmed as needed and can be cut to reseed.

Mr. Fiordimondo asks about the materials to be used in the construction of the additions. Mr. Orr describes the classroom wing to mimic the existing high school which is predominantly brick with strip windows with metal panels. Labs will be decorative concrete.

Mr. Fiordimondo inquires about the dimension from grade to window sill for the rooms on the first floor of the additions, for security purposes. Mr. Orr says, currently it shows three feet.

Mr. Fiordimondo askes Superintendent Dr. Reusche, with school population at 1900 what is the projected capacity. Dr. Reusche and Mr. Orr reply 2300 according to a ten-year study from 2017 through 2027.

Mr. Capuzzi adds open space requirements must be shown on the plan.

Mr. Capuzzi states that the Planning Commission cannot take action tonight and has been requested by the Board of Commissioners to ensure all comments are addressed before recommending approval.

The School District will meet with the Shade Tree Commission at the February 25th meeting.

The School District anticipates returning for the March 12, 2020 Planning Commission meeting.

Mr. Pointon motions to adjourn.

Mr. Capuzzi seconded. The motion was adopted unanimously.

The meeting was adjourned at 8:30 P.M.

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, May 14, 2020, at 7:00pm in the Commissioners' Meeting Room and Via Telecommunication 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development

Mr. Capuzzi called the meeting to order at 7:00 P.M.

Mr. Capuzzi led the Pledge of Allegiance.

ITEM #1 School District of Haverford Township-Haverford High School, 200 Mill Road

Review of the preliminary/final land development plan to construct two additions to the existing high school with associated parking and stormwater improvements to the site.

Ken Matthews, CB Development, explains that the team is back for the second time as representatives of the School District to present the two proposed additions to the high school. The classroom addition, the music wing addition and the associated site improvements that expands the parking lot.

Mr. Matthews introduces the team: Ryan Orr, Project Manager for KCBA Architects, Ron Monkres III and Brian Hensel of Gilmore and Associates – Civil Engineers, Dr. Maureen Reusche, School Superintendent and Dave Schwartz is in attendance while Lawrence Feinberg is watching, both are Haverford Township School Board members.

Mr. Matthews restates the reason for the project being the results of a demographic study done almost two years ago showing the increase of approximately 400 students in the district that are expected to attend high school. This meeting is a follow-up to review revised plans and to clarify some back and forth discussions between the project Civil Engineer and Pennoni, the Township Engineer.

Ron Monkres touches on a couple points of interest explaining displayed site plans. The layout has not changed significantly from January. Showing the music wing of approximately 8500 square feet and the 3 story classroom addition which is approximately 6730 square feet. Site plan regarding the expanded parking lot has remained the same. Some of the updates include a gated access to the athletic fields and additional details for the proposed stormwater management system. The School District met with the Shade Tree Commission regarding the proposed landscaping and their endorsement was secured. Mr. Monkres reviews the specifics of the storm water management upgrades. The "big picture" basically remains unchanged from that which was presented in January.

Mr. Monkres reviewed the May 11th 2020 2nd review letter from Pennoni Associates Inc. and indicated that the District intends to comply with all of the comments therein.

Ryan Orr thanked the Commission for meeting with the project team again and began the brief explanation of the architectural premise. He explained the durable materials and complimentary design.

Mr. Pointon asked what the actual materials are beginning with the classroom wing. Mr. Orr listed brick and storefront windows with white, decorative concrete masonry. The music wing is much the same with a spandrel metal panel. Mr. Pointon referred to the color, inquired that it was in keeping with the current design of the high school building. Mr. Orr concurred. Mr. Pointon asked about the roof edge fascia, mentioning the prior green roof design. Mr. Orr explained the green roof follows the pitch plane at a 1in 12 slope to capture as much rain water as possible. Overflow would drop to the flat roof and then to the site. Approximately 25% to 33% of the classroom addition is planned to have vegetative roof as well.

Ms. Dobbs asked if the windows would be tempered in a way to avoid bird strikes. Mr. Orr explained that typically bird strike is not included in these types of window glazing systems. Mr. Orr said it can be looked into but there are concerns about the cost. There are other methods to decrease bird strikes that add an extensive amount to the project, currently there are no additional features.

Mr. Fiordimondo asked what is behind the metal facade, how thick the panel is and how it will be jointed. Mr. Orr said the plan is for a stud wall. The structure is a metal frame building with steel stud backup, the metal panel is a 8' x 12' corrugated sheet product mounted vertically.

Mr. Garrett asked Mr. Monkres to readdress the curbs on site and the buses mounting them during certain turning movements. Mr. Monkres sites a truck turning template that would be helpful to review. Brian Hansel assists with the template display. Mr. Monkres said essentially the idea is to not have busses need to drive up on the curb. There are areas designed with flush curb and recessed island. The belief is that there is no need for a traditional mountable curb. Mr. Hensel explains that the school bus turning plan shows the bus tires clear the curb and only portions of the bus body overhang.

Mr. Garrett also questioned the light pollution from the parking lot. Mr. Monkres detailed the lights are to be LED as the district requested. The lighting plan shows what's called IES files, the

light distribution pattern and outer rings of that pattern you want to overlap with each other so you don't create a dark spot where an area would not be secure. All was kept in mind while fulfilling the requirements.
Mr. Capuzzi added explanation of the township ordinance requiring light fixtures to be “full cut off fixtures”. The height limit is 20 feet and the lamps within the fixtures are aimed straight down and are not permitted to be tilted out at an angle.

Mr. Chanin asked if the plantings could be considered for filtering light from the neighborhood. Mr. Monkres stated there is a screen at the rear of the parking lot but much like the existing parking lot there are limitations from utilities and curved islands. The site does not allow as much opportunity as preferred in the way of plantings and it is believed the district will have the lights on timers. There have been a few new trees added to the plan and the landscape quantities for the project are above what is required.
Mr. Reardon stated that lighting design is difficult when trying to balance light pollution and security and believes erring on the side of safety for the young people is the right thing.

Mr. Capuzzi acknowledged in appreciation some of the design changes made at the request of the Planning Commission. Upgrading the handicap ramps at Mill Road and Alston Road, added a ductile iron pipe in the storm sewer that runs below the 3 story addition and eliminated the step that was proposed at the junction between the existing parking lot and the new parking lot. With the handicap ramps, Mr. Capuzzi requested that the crosswalk pavement markings at the intersection be refreshed.

Mr. Capuzzi asked Mr. Faulkner if he shared the same confidence expressed by the Civil engineer in regards to the resolution of the outstanding stormwater management comments. Mr. Faulkner said in various conversations with Mr. Monkres and Mr. Hensel that storm water management is a matter of methodology. Mr. Faulkner stated it is not a deal breaker. It is about refining the details and maybe some modifications to the outlet structure but it is not something that cannot be resolved.

No Public Questions Were Submitted for The Meeting

Mr. Capuzzi entertains the motion to recommend approval of the preliminary/final subdivision plans to the Board of Commissioners subject to (1) the applicant complying with the comments contained in the Pennoni review letter dated May 11, 2020; (2) that the pavement markings for the crosswalk at Mill Road and Alston Road be refreshed as part of the upgrade of the handicap ramps at the intersection; (3) that appropriate documentation be presented to the township engineer regarding the condition of the current underground detention basin; and (4) that the location of any depressed or mountable curbs which may be required to accommodate turning movements for busses or fire equipment be coordinated on site plan.

Ms. Dobbs seconds the motion. The motion was adopted unanimously.

Mr. Reardon motions to approve the minutes from February 13, 2020.

Mr. Pointon seconds the motion. The motion was adopted unanimously.

Mr. Reardon voiced his appreciation with this new meeting format and to everyone in the township for all they do and to Kelly Kirk for all her extra work. Mr. Reardon said, though remotely, it was good to see everyone.

Mr. Capuzzi asked Ms. Kirk what was upcoming for the Planning Commission. Ms. Kirk stated there would be an upcoming informal discussion as well as a subdivision that should be ready for review by June 11th. Mr. Capuzzi inquired about 57 South Eagle Road. Ms. Kirk responded that would be the discussion item.

Mr. Reardon motions to adjourn.

Mr. Capuzzi seconds. Motion adopted unanimously.

Meeting adjourned at 7:46 P.M.

AGENDA

Haverford Township
Planning Commission Meeting

May 14, 2020|7:00 p.m.
Haverford Township Municipal Services Building
1014 Darby Road, Havertown, PA 19083

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner

Agenda Items

1. **Opening of Meeting**

    a. Roll Call
    b. Pledge of Allegiance

2. **School District of Haverford Township- Haverford High School, 200 Mill Road**
   Review of the preliminary/final land development plan to construct two additions to the existing high school with associated parking and stormwater improvements on the site.

3. **Review of Minutes**

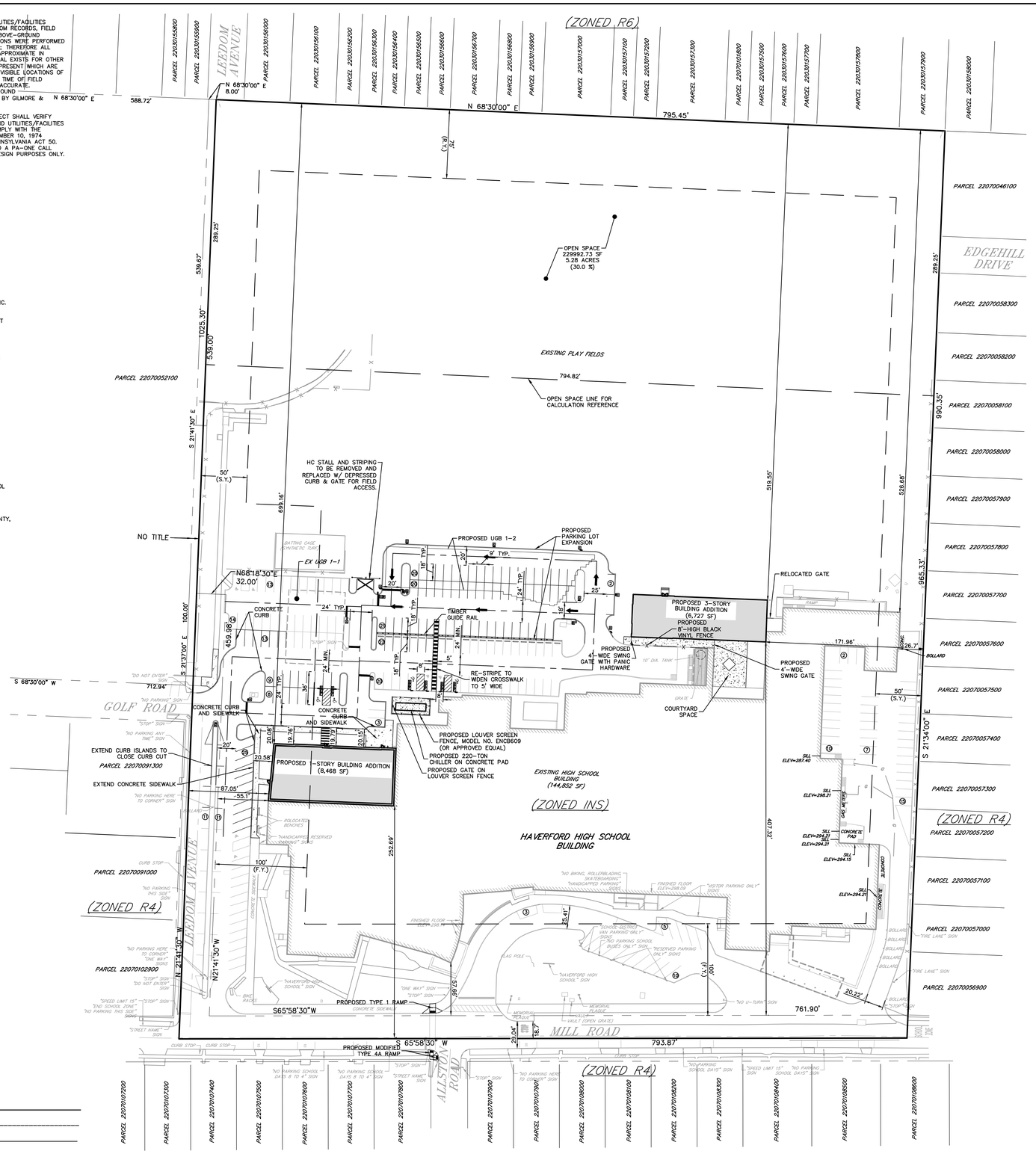
Adjournment

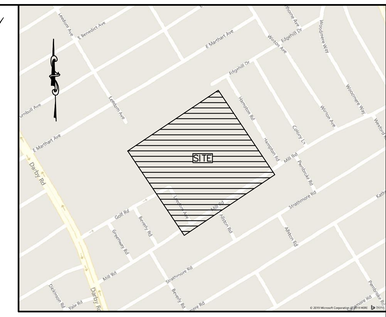
PUBLIC NOTICE
HAVERFORD TOWNSHIP
PLANNING COMMISSION

NOTICE is hereby given that the Historical Commission will hold a **public meeting** on Thursday, May 14, 2020, at 7:00 PM at which time the Planning Commission will consider the following application via an authorized telecommunication device due to the COVID-19 disaster public emergency that has been declared by Governor Wolf and Haverford Township:

School District of Haverford Township- Haverford High School, 200 Mill Road
Continued review of the preliminary/final land development plan to construct two additions to the existing high school with associated parking and stormwater improvements on the site.

All interested parties are invited to view this meeting on the Township's Government Access Channel (Verizon channel 38, Comcast channel 5), or on the Township's YouTube channel at www.youtube.com/haverfordtownship. Public comment related to these cases may be submitted via e-mail to kkirk@havtwp.org. Please include the words "Planning Commission Public Comment" in the subject line.





PENNSYLVANIA ONE CALL SYSTEM, INC.

925 Irwin Run Road
West Mifflin, Pennsylvania
15122 – 1078

BEFORE YOU DIG ANYWHERE IN PENNSYLVANIA! CALL 1–800–242–1776

NON–MEMBERS MUST BE CONTACTED DIRECTLY

PA LAW REQUIRES THREE WORKING DAYS NOTICE TO UTILITIES BEFORE YOU EXCAVATE, DRILL, BLAST OR DEMOLISH

SERIAL NO. 20193241149, 20193241166

LOCATIONS OF EXISTING UNDERGROUND UTILITIES/FACILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM RECORDS, FIELD MARKOUTS BY UTILITY OWNERS, AND/OR ABOVE–GROUND OBSERVATION OF THE SITE. NO EXCAVATIONS WERE PERFORMED IN THE PREPARATION OF THESE DRAWINGS; THEREFORE ALL UTILITIES SHOWN SHOULD BE CONSIDERED APPROXIMATE IN LOCATION, DEPTH, AND SIZE. THE POTENTIAL EXISTS FOR OTHER UNDERGROUND UTILITIES/FACILITIES TO BE PRESENT WHICH ARE NOT SHOWN ON THE DRAWINGS. ONLY THE VISIBLE LOCATIONS OF UNDERGROUND UTILITIES/FACILITIES AT THE TIME OF FIELD SURVEY SHALL BE CONSIDERED TRUE AND ACCURATE. COMPLETENESS OR ACCURACY OF UNDERGROUND UTILITIES/FACILITIES ARE NOT GUARANTEED BY GILMORE & ASSOCIATES INC.

ALL CONTRACTORS WORKING ON THIS PROJECT SHALL VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES/FACILITIES PRIOR TO START OF WORK AND SHALL COMPLY WITH THE REQUIREMENTS OF P.L. 852, NO. 287 DECEMBER 10, 1974 AS LAST AMENDED ON APRIL 28, 2018 PENNSYLVANIA ACT 50. GILMORE & ASSOCIATES INC. HAS OBTAINED A PA–ONE CALL SERIAL NUMBER AS NOTED HEREON FOR DESIGN PURPOSES ONLY.

GENERAL SURVEY NOTES:

1. THIS PLAN IS BASED ON A FIELD SURVEY PERFORMED BY GILMORE & ASSOCIATES, INC. IN OCTOBER AND NOVEMBER OF 2019.
2. THIS PLAN DOES NOT REPRESENT A BOUNDARY SURVEY AND WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. OTHER RIGHTS TO PROPERTY MAY EXIST.
3. SUBJECT TO COVENANTS, RESTRICTIONS AND/OR EASEMENTS EITHER WRITTEN OR IMPLIED.
4. VERTICAL DATUM IS NAVD88 AND WAS ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS) WITH OBSERVATIONS REFERENCED TO THE KEYNET–GPS VIRTUAL REFERENCE STATION SYSTEM. HORIZONTAL DATUM IS BASED ON PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (NAD83) ESTABLISHED BY GLOBAL POSITIONING SYSTEM (GPS), WITH OBSERVATIONS REFERENCED TO THE KEYNET–GPS VIRTUAL REFERENCE STATION SYSTEM.
5. BOUNDARY AND BOUNDARY ANNOTATION SHOWN ON THIS PLAN WAS TAKEN FROM REFERENCE PLAN #1 AS NOTED BELOW.

REFERENCES:

1. A PLAN ENTITLED "ADDITIONS AND MODIFICATIONS, HAVERFORD TOWNSHIP HIGH SCHOOL FOR SCHOOL DISTRICT OF HAVERFORD TOWNSHIP, HAVERFORD TWP. – DELAWARE COUNTY – PENNSYLVANIA" PREPARED BY CHESTER VALLEY ENGINEERS, INC., DATED 04/27/95.
2. A PLAN ENTITLED "HAVERFORD HIGH SCHOOL, HAVERFORD TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA" PREPARED BY MOMENEE, INC. AND DATED
3. UTILITY LOCATION REPORTS PROVIDED BY MASTER LOCATORS, JOB NO. ML–082418–11014 DATED 08/30/18 AND 09/01/18
4. UTILITY LOCATION REPORT PROVIDED BY MASTER LOCATORS, JOB NO. ML–010819–00167 DATED 01/16/2019.

LOCATION MAP

SCALE: 1"=500'

ZONING TABULATION

1. ZONING DISTRICT: INS – INSTITUTIONAL
2. PROPOSED USE: HIGH SCHOOL – CONDITIONAL USE*
3. GROSS SITE AREA: 18.3765 AC (800,479 S.F.)
   RIGHT OF WAY AREA: 0.7941 AC (34,588 S.F.)
   NET SITE AREA: 17.5824 AC (765,891 S.F.)
4. AREA AND DEVELOPMENT REGULATIONS:

CRITERIA	REQUIREMENT	EXISTING	PROPOSED
A. MINIMUM TRACT AREA	2.00 ACRES	17.58 ACRES	17.58 ACRES
B. MINIMUM LOT FRONTAGE	150 FT	761.90 FT	761.90 FT
C. MINIMUM FRONT YARD	100 FT	57.7 FT (MILL) ** 55.1 FT (LEEDOM) **	57.7 FT (MILL) ** 55.1 FT (LEEDOM) ****
D. MINIMUM SIDE YARD	50 FT	26.7 FT **	26.7 FT **
E. MINIMUM REAR YARD	75 FT	526.7 FT	519.6 FT
F. MAXIMUM BUILDING HEIGHT	35 FT (OR 3 STORIES)	41.45 FT** 3 STORIES	41.45 FT**** 3 STORIES
G. MAXIMUM BUILDING COVERAGE	20%	19.1% (146,213 S.F.)	21.1% (161,408 S.F.) ****
MAXIMUM IMPERVIOUS SURFACE	40%	43.3% (331,932 S.F.) ***	48.1% (368,588 S.F.) ****

5. 30' BUFFER PLANTING STRIP IS REQUIRED IN THE FRONT YARD PER SECTION 182–718.B(2)(c).***

* THE PROPOSED HIGH SCHOOL IS A CONTINUATION OF THE EXISTING USE.
** EXISTING NON–CONFORMING CONDITION OF RECORD.
*** VARIANCE OBTAINED WITH PREVIOUS 1996 APPROVAL.
**** VARIANCE GRANTED BY ZHB DECISION ON 9/19/2019.

PARKING TABULATION

PARKING SPACES REQUIRED PER SECTION 182–707:
1 SPACE PER 1000 S.F OF G.F.A. + 1 SPACE PER 2 EMPLOYEES

EXISTING PARKING SPACES* =	214 SPACES
PROPOSED INCREASE IN BUILDING GROSS FLOOR AREA =	28,650 SF
PROPOSED INCREASE IN EMPLOYEES =	20 EMPLOYEES
ADDITIONAL PARKING REQUIRED = 28,650 S.F. X 1 SPACE/1000 S.F. + 20 EMPLOYEES X 1 SPACE/2 EMPLOYEES	39 SPACES
TOTAL REQUIRED PARKING SPACES = 214 + 39	253 SPACES
TOTAL PARKING PROVIDED (INCLUDING HANDICAP SPACES) =	253 SPACES

HANDICAPPED SPACES REQUIRED:
TOTAL HANDICAPPED SPACES REQUIRED: 7 SPACES, INCLUDING 2 VAN ACCESSIBLE SPACES
TOTAL HANDICAPPED SPACES PROVIDED: 10 SPACES, INCLUDING 10 VAN ACCESSIBLE SPACES

* EXISTING PARKING ON OPPOSITE SIDE OF LEEDOM AVENUE MEDIAN FROM THE BUILDING, AND ALL PARKING ON GOLF ROAD AND MILL ROAD IS ON–STREET PARKING AND HAS NOT BEEN COUNTED IN THE PARKING TABULATION. THERE ARE 11 STALLS WITHIN THE LEEDOM AVENUE RIGHT–OF–WAY

PARKING BUFFER REQUIREMENT:
5' PLANTING STRIP REQUIRED ALONG ANY PROPERTY LINES ADJACENT TO RESIDENTIAL DISTRICTS.

Impervious Surface Tabulation

(Area units are in square feet, unless noted otherwise)

Net Site Area (NSA)	17.58	Ac	
	765,891	sf	
Pre-Development			
	(sf)	(ac)	% of NSA
Open Space	41,921	0.96	
Ex. High School Building	144,852	3.33	
Sidewalk, Curb, Walls, Etc.	40,769	0.94	
Pavement Area	104,391	2.40	
Total	331,933	7.62	43.3%
Post-Development			
	(sf)	(ac)	% of NSA
Open Space	41,921	0.96	
Ex. High School Building	144,852	3.33	
Replacement Impervious:			
Sidewalk, Curb, Walls, Etc.	32,869	0.75	
Pavement Area	104,391	2.40	
New Impervious:			
Sidewalk, Curb, Walls, Etc.	522	0.01	
Pavement Area	28,838	0.66	
Prop. 1-Story Building Addition	8,468	0.19	
Prop. 3-Story Building Addition	6,727	0.15	
Total	368,588	8.46	48.1%

LEGEND

PROPERTY LINE
EXISTING ADJOINING PROPERTY LINE
EXISTING RIGHT OF WAY
EXISTING ULTIMATE RIGHT OF WAY
EXISTING EDGE OF PAVEMENT
EXISTING BUILDING
PROPOSED FENCE
PROPOSED GUIDERAIL
PROPOSED SIDEWALK

REVIEWED BY THE HAVERFORD TOWNSHIP ENGINEER ON THE ________ DAY OF ___________________________

RECOMMENDED FOR APPROVAL BY THE HAVERFORD TOWNSHIP PLANNING COMMISSION ON THE ___________ DAY OF _______________,

APPROVED BY RESOLUTION OF THE BOARD OF COMMISSIONERS OF HAVERFORD TOWNSHIP, COUNTY OF DELAWARE, COMMONWEALTH OF PENNSYLVANIA, AT A MEETING HELD ON THE _____ DAY OF _______________, ________

COMMONWEALTH OF PENNSYLVANIA:
COUNTY OF DELAWARE:

ON THE _____ DAY OF _____________________, _____, BEFORE ME THE SUBSCRIBER A NOTARY PUBLIC OF THE COMMONWEALTH OF PENNSYLVANIA, PERSONALLY APPEARED ________________________, WHO ACKNOWLEDGED THIS PLAN TO BE THE OFFICIAL PLAN OF PROPERTY SHOWN HEREON, LOCATED IN HAVERFORD TOWNSHIP, DELAWARE COUNTY, PA. AND DESIRED THE SAME TO BE RECORDED.

NOTARY PUBLIC
MY COMMISSION EXPIRES

TO ALL WHOM THESE PRESENTS MAY COME KNOW YE THAT I/WE ____________________________ HAVE LAID OUT UPON OUR LAND SITUATED IN THE TOWNSHIP OF HAVERFORD, COUNTY OF DELAWARE, COMMONWEALTH OF PENNSYLVANIA, LOTS AND STREETS ACCORDING TO THE ACCOMPANYING PLAN WHICH IS INTENDED TO BE FORTHWITH RECORDED. WITNESS OUR HAND AND SEAL THIS ______ DAY OF _________________, ________

OWNER

I, _______________ (APPLICANT), ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY HAVERFORD TOWNSHIP, AND THAT A REVISED EROSION AND SEDIMENT CONTROL PLAN MUST BE SUBMITTED TO THE CONSERVATION DISTRICT FOR DETERMINATION OF ADEQUACY.

PROFESSIONAL ENGINEER'S CERTIFICATION::

I, RONALD G. MONKRES II, # PE–063164, ON THIS DATE ____________________ , HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE HAVERFORD TOWNSHIP STORMWATER MANAGEMENT CODE.

DELAWARE COUNTY PLANNING DEPARTMENT

DCPD FILE NO.

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

CORPORATE HEADQUARTERS
65 EAST BUTLER AVENUE, SUITE 100, NEW BRITAIN, PA 18901 • (215) 345-4330 • www.gilmore-assoc.com

NOT APPROVED FOR CONSTRUCTION

TAX MAP PARCEL NO.: 22070052100
JOB NO.: 2017–11057–02
MUNICIPAL FILE NO.: XX
SCALE IN FEET: 50 0 50 100
DESIGNED BY: TB/BH
DRAWN BY: TB/BH
CHECKED BY: RGM

OWNER:
THE SCHOOL DISTRICT OF
HAVERFORD TOWNSHIP
50 EAST EAGLE ROAD
HAVERTOWN, PA. 19083
610–853–5900

TOTAL AREA: 17.58 AC.
TOTAL LOTS: 1
DATE: 01/17/20
SCALE: 1"=50'

PRELIMINARY–FINAL LAND DEVELOPMENT PLAN
RECORD PLAN
HAVERFORD HIGH SCHOOL
HAVERFORD TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA

RONALD G. MONKRES II
PE–063164

DATE: 03/26/20

REV.	DESCRIPTION	DATE	BY
1	PER TOWNSHIP CONSULTANT REVIEW COMMENTS	03/26/20	BEH

SHEET NO.:
2 OF 22

AGENDA

Haverford Township
Planning Commission Meeting

June 11, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Sleepy Valley Holdings, LLC**
   Preliminary/Final Minor Subdivision Plan
   Greenbriar Lane- D.C. Folio No. 22-09-01348-00
   Applicant proposes to subdivide an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square foot parcel (Lot 2.) The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

3. **Blue Devil Realty, LLC**
   Land Development Conceptual Plan Discussion
   57 S. Eagle Road- D.C. Folio No. 22-09-01348-00
   Applicant proposes to raze the existing building, and redevelop the 51,800 square foot property with a three (3) story, 27,000 square foot, self-storage facility. An application for relief from the provisions of §182-404.B to allow a self-storage facility in a C-3 District, §182-404.C(3) to allow 52.1% building coverage where a maximum of 25% building coverage is permitted, and §182-707.B to provide 11 off-street parking spaces where 52 are required has been submitted to the Zoning Hearing Board. A hearing date has not been scheduled at this time. The subject property is zoned C-3 (General Commercial), and is located in the 2nd Ward.

4. **Review of Minutes**

Adjournment

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, June 11, 2020, at 7:00pm in the Commissioners' Meeting Room and Via Telecommunication 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development

Kelly Kirk calls roll.

Mr. Capuzzi calls the meeting to order at 7:22 P.M.

Mr. Capuzzi led the Pledge of Allegiance.

Item # 1 Sleepy Valley Holdings, LLC. Greenbriar Lane –DC Folio No. 22-09-01348-00
Review of preliminary/final minor subdivision plan

Applicant proposes to subdivide an existing, undeveloped parcel adjacent to 201 Greenbriar Lane into two lots. Existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1) and a 16,075 square foot parcel (Lot 2.) The subject property is zoned R-5 (Low-Med Residential), and is located in 1st Ward.

To present for Vince Sposato, Developer is Christopher Yohn, Civil Engineer, Yohn Engineering, LLC.

Mr. Yohn begins with a description of the plan with plan sheet 1 showing the existing house and the vacant parcel to be divided into two new lots. They do meet the code requirements for lot area and minimum lot width and will meet the other requirements for setbacks and impervious coverage.

Mr. Yohn introduces the review letter from Pennoni Associates.

Item #1 Applicant will comply to the median setback requirements.

Item #2 Sewage planning exemption is not applicable – complete sewage planning modules are required - will return when the Chapter 94 certifications are in place for final approval.

Item #3 Will request a partial waiver for §160-4.E(5)[e](4)) regarding location of existing storm drainage facilities within 400 feet of the site.

Item #4 After clarification from Ms. Kirk and Mr. Faulkner, plans showing the location of proposed homes and other improvements required by Chapter 78 have been submitted for review by Mr. Faulkner. Will be in compliance.

Item #5 Driveways are shown on the plans now, as required.

Item #6 Will need to request a waiver for minimum right-of-way width of 50-feet and minimum cartway width of 27-feet.

Item #7 Currently working with a surveyor to resolve area of questionable title that will documented prior to final approval.

Item #8 The signature block for Township Engineer will be revised to comply.

Item #9 Review with Mr. Faulkner indicated the need for more information is needed to show which steep slopes are regulated and those which are not.

Item #10 Existing walls will be removed as necessary so as not to cross property lines.

Item #11 There will be compliance on replacing substandard curb and sidewalk.

Mr. Reardon asks if the walls are retaining and addresses the need to review the most recent retaking wall requirements. Water drainage between properties are a concern.

Mr. Garrett, Ms. Dobbs, Mr. Pointon and Mr. Chanin choose to hold comment/question until updated plans have been reviewed.

Mr. Fiordimondo asked where the water at the lower end of the site drains to.

Mr. Faulkner explained down to the west a lower point on Greenbriar Lane there is a swale and an intermittent stream that drains that section eventually to Glendale Road into Darby Creek.

Mr. Capuzzi stated the procedure for requesting waivers is to be done by submitting the reason for the request in writing.

Mr. Capuzzi, regarding the grading, storm water management and erosion control inquired of infiltration testing that may have been done. Mr. Yohn stated there are tests scheduled but as of yet not done. Therefore, there is no final grading design.

Subdivision plans need to be sealed by a registered land surveyor (Momenee, Inc.) and co sealed by Mr. Yohn.

Mr. Capuzzi echoed the sentiment of the rest of the Planning Commission members that review of the updated plans must be completed to confirm that there is adequate capability to install infiltration basins considering the water drains towards other properties.

Mr. Capuzzi suggested no action to be taken with this plan until a comfort level is reached with a storm water system. Mr. Yohn proceeded with a review of the illustrative site plan, vicinity site plan and the grading plan for the two new homes. These plans indicate placement and setbacks of the residences and high point for water runoff. Lot 2 has a swale and lot 1 to drains including rainwater conductors.

Mr. Capuzzi noted the grading plan appears to remove at least 6 large trees to accommodate construction and the Township has requirements to replace trees. The proposed landscaping and tree replacement details are normally reviewed by The Shade Tree Commission. This review is needed before recommendation of final approval for the subdivision plans may be made.

Mr. Yohn spoke on the current plan of total diameter to be removed and that there was an arborist to the site to determine the health of some trees. Mr. Yohn verified there was no official report from the arborist to identify the trees that are in poor condition.

Mr. Capuzzi asked if there is a time frame on the constructing beginning on these lots. Mr. Yohn, believes that would be as soon as there is approval to do so. Mr. Sposato stated it would be determined by the market factors.

Mr. Capuzzi added sewage approval is also needed. It was confirmed two EDUs were applied for.

Mr. Capuzzi also asked for confirmation that the house at 201 Greenbriar Lane was basically to be rebuilt. Mr. Sposato stated that they were extensively renovating the house at 201 Greenbriar Lane.

Mr. Capuzzi offered the opinion of the Planning Commission that the applicant return aftera full review of the grading and stormwater management plans have been completed.

Kelly Kirk reads Public Comments:

Larry Gentile, Greenbriar Lane, next to lot #2 -Full support for development. Mr. Sposato will build fine homes. One concern that needs to be addressed prior to development is the removal of three large and dangerous trees that have fallen and caused damage to my property and a home on Glendale Road.

Sheila Muskant 208 Glendale Road - Our property is directly behind and downhill from 201 Greenbriar Lane. When hard rain falls, the street fills with enough rain to overflow the curb. In recent years these heavy storms occur several times a year. Our concern is two additional homes on the property will add to the issue. We have also had trees on the property fall and damage our garage.

Julie Orlando 708 Howard Avenue, We oppose the the building proposal adjacent to 201 Greenbriar Lane.

Mr. Capuzzi thanks Mr. Yohn and Mr. Sposato for their presentation and proposed to more on to the next item on the agenda.

Item #2 Blue Devil Realty, LLC. Land Development Conceptual Plan Discussion, 57 S. Eagle Road.

Applicant proposes to raze the existing building, and redevelop the 51,80 square foot property with a three story, 27000 square foot, self-storage facility. Application is pending without a schedule date for the Zoning Hearing Board.

In attendance: John McBlain, ESQ., Swartz Campbell, LLC. Greg Lingo, Sean Knapp, Rob Lambert (Civil Engineer from SITE)

Mr. McBlain began the presentation overview by thanking the Commission for meeting with the group electronically and introduced the principals of the project.

Mr. McBlain explained the current use of the property is the long time business of a funeral home, currently it is Logan Funeral Home. Due to the changes in services requested of the funeral homes currently, the need has changed. The Logan family, as part of their business plan, has decided to sell but will operate until such sale would take place and relocation of the funeral home is finalized.

Mr. McBlain presented the proposed 27,000 square foot footprint storage building, indoor climate control with a similar appearance to the new Haverford Township Building.

Mr. McBlain stated the belief is the facility would be complimentary to adjacent businesses even though in a C3 Zoning District it is not a use by right. Believes Self Storage is a growing need with the growing population of baby boomers who are downsizing as well as apartment dwellers.

Mr. Lambert began his presentation by showing the property location, current property occupant, memorial that will be preserved and neighboring strip center (highlighting the vacancies).

Mr. Lambert also pointed out the apartments located to the rear with joining parking lots to the strip center and the apartments across the street. There is storage of trailers behind the building. There is a fire house and Mobile health solutions to the south of the site.

Mr. Lambert displayed the zoning map and had highlighted the property to give an idea of the C-3 district in Haverford Township, commonly located on heavily traveled streets, such as West Chester Pike, Rt. 1 and so on however, this section of C-3 seems to be in a more residential use area.

Mr. Lambert began the explanation of C-3 requirements in regard to the proposed land development. The three story building is proposed to meet the dimensional requirements of

setbacks and height. The proposed impervious coverage of 65% would be less than the allowable 75%.

Mr. Lambert went on with the relief sought. The development would require a use variance for a self-storage in C-3 District. The building coverage would be 52.1% as opposed to the 25% allowed. 11 parking spaces are proposed, not the 52 required (later changed to 81 required spaces), thus less paving.

Ms. Kirk corrected the information and stated the parking required for an 81,000 square foot building is 81 spaces; Mr. Lambert agreed. Ms. Kirk recommended amending the zoning application.

Mr. Lambert stated a traffic analysis had been done, showing total traffic being less than that created by a comparable use by- right in a C-3 District.

Mr. McBlain noted a trip generation report was sent to the Township.

Mr. Reardon asked what is the square footage of the footprint of the building receiving the verification 27,000 square feet and three floors totaling 81,000 square feet. C-3 permits 25% building coverage and this building would be 52.1% and it is understood from the Mr. Storage project that less parking is required.

Ms. Kirk clarifies the actual parking that would be required in the C-3 district for an 81,000 square foot building would be 81 parking spaces that would need relief in the variance. A recommendation to amend the Zoning Hearing Board application was advised.

Mr. Lingo and Mr. Knapp followed with their interest in the project.

Mr. Lingo stated both he and Mr. Knapp are from Delaware County for their whole lives. They are concerned for the neighborhood and would like to conduct a community meeting to discuss the plan and get the information out. The belief being that having the information correct will relieve the fear of the unknown.

Mr. Lingo went on to express how this area is tough for the success of a C-3 use being off of the West Chester Pike thoroughfare and R-6 and R-8 next door. The vacant stores nearby validate this thought. The need for this type of building is there but the benefits are what Mr. Lingo wanted to focus on. He explained this business is low-impact, does not require traffic mitigation, police, fire, rescue support. It does not put a strain on school system or utilities and all the while produces tax revenue. Mr. Storage currently produces $80 thousand a year in tax revenue while Logan Funeral Home is under $20 thousand. The Design of the building will be in cooperation with the community.

Mr. Knapp stated the business would be staffed 9-5:30, Monday thru Friday, Saturday 10-4 and Sunday 10-3. There would be a self-service with key fob entry access Monday thru Friday 7-9, Saturday 7-7 and Sunday 9-5.

Mr. Knapp restated that the parking spaces needed would actually be less than the 11 shown on the plan and, in reality, only need 5 or 6 to be in use. The proposed building would not be old

style of storage and would have a top of the line security system and humidity control therefore the ability to store cigars, wine and other valuable items.

Mr. Chanin asked what the lighting plan would be. Mr. Knapp explained the lighting would be LED and would be on until 9pm with motion detection for the exterior.

Mr. Garrett asked what market research had been done. Mr. Knapp offered the national average of storage space is 7 square feet per person and Havertown is less than 2 square feet. Often there is a waiting list and 100% occupancy which is the reason Mr. Storage is expanding. People are traveling further to store their things but some people may not be comfortable with that.

Mr. Garrett asked how many units would be in the building. Mr. Knapp said the 3rd party provider will be looking at the division of the building into spaces with dimensions of 30'x10', 20'x10', 10'x10', 10'x7' and 5'x7' units in regards to the square footage. Mr. Lingo added that size of these spaces will be able to change as the market demands.

Mr. Garrett asked if the Comprehensive Plan addresses a need there for additional storage facilities in the Haverford Township. Is the Plan re-evaluating the permitted uses in the C-3 zoning district; would storage unit fall into the plan for this area?

Ms. Kirk explained that working on the new Comprehensive Plan was in full swing before COVID. It never got as far as identifying specific changes in zoning areas. It is unlikely that a change would be proposed to include a storage facility within the C-3 zoning district as a use by right and not necessarily wanted by the community as a use by right.

Mr. McBlain went on to describe the difference between the self-storage/outdoor garage that is a use by right in the Light Industrial zoning district and the evolved indoor climate control, aesthetically pleasing storage facility.

Mr. Garrett asked if it was considered to make this a mixed use facility. Mr. Knapp. Could not answer at that time but will consider.

Mr. Garrett mentioned the rendering of the proposed building and the comparison of the overhead utilities and the removal of some trees. Will there be replacement of the trees and installation of undergrounding utilities? Mr. Lingo confirmed tree replacement and that they would be working with PECO to run utilities underground if possible.

Ms. Dobbs agrees the rendering shows a more attractive building than some other storage facilities. Ms. Dobbs expressed wariness of a variance request without hardship. The area just off West Chester Pike seems to serve as a transitional zone between commercial and residential. Ms. Dobbs stated her intent to serve on the Planning Commission is to support building a strong, walkable, vibrant community. Ms. Dobbs agrees there is a need for storage but this is not a destination point for the community. Ms. Dobbs does not support a change in use variance in general without an extreme hardship being shown. However, as feedback, Ms. Dobbs offered the rendering looks nice though boxy as compared to neighboring buildings. Adding facade variation to the building would help with transition. Ms. Dobbs supports mixed use on the building first floor; cafe, retail or office space could be considered. Street trees are necessary for walkable

streetscape and the existing monument could be turned into a parklet feature. Ms. Dobbs supports the parking reduction but expressed concern in the proposed parking lot and the turn around area being designed for passengers and not a U-haul truck. Ms. Dobbs would like to see truck turning templets.

Mr. Lingo responded to the feedback with using the first floor into a coffee shop and the parklet with seating area. The architecture should fit in and it was something that was planned to be transition from commercial to residential that can be tweeted as needed. There will be coordination with Mr. Lambert to make sure there would be adequate maneuvering space for vehicles using the facility.

Ms. Kirk stated there is a 25% dedicated open space requirement, therefore the monument parklet area could be incorporated into that requirement.

Mr. Fiordimondo asked what the height of the proposed building. Mr. Lingo gave 35 feet. Mr. McBlain stated the maximum allowed is 45 feet and this will be less. The choice to be three stories in height was for cost viability and less impact on the land. Mr. Fiordimondo agreed with comments made by Ms. Dobbs in creating a semi commercial storage facility and the truck turn around area.

Mr. Fiordimondo stated his concern with signage and asked what was planned. Mr. Knapp Said it hadn't been considered yet but would be tasteful it was permitted and sensitive to the area. Mr. Fiordimondo added it helps to make it less obtrusive. Mr. Knapp agreed and will do more research on that.

Ms. Kirk added the maximum square footage of signage in C-3 is 35 square feet.

Mr. Lambert explained the area at the end of the lot with the low parking use should provide enough turnaround for a truck. Those templates will be run when the project gets to that point.

Mr. Chanin asked if the interior lighting will remain on beyond the hours or will the building itself be dark. Mr. Chanin agreed with previous comments on mixed use in the building and tree replacement. Mr. Chanin also agreed on the importance of signage.

Mr. Chanin suggested that it may be a great idea to change from C-3 but not the Planning Commission's call to make. Mr. Knapp stated he lives less than a quarter mile from the location and is concerned with what type of retail can be there; it probably wouldn't be Suburban Square type uses.

Mr. McBlain explained how retail uses in a property of this size as a use by right in C-3, would perhaps create a higher impact on the community. Mr. McBlain added they do not want to change the zoning to Light Industrial. They believe this use fits better in the C-3 District.

Mr. Reardon said living in the community for 70 years. We live in the Ward 5 near Haverford Road and we have watched office building after office building be built and fail, then having to give something away so someone else can use it. The concern is changing the rules and then 20 years down the road it could be an issue. Mr. Reardon wants to see the Comprehensive Plan for the future.

Mr. Reardon spoke to the area around the monument. When you change out areas where children play, it must not have any blind spots from police.

Mr. Reardon explained how the Planning Commission works with the Commissioners to get regulations passed.

Mr. Reardon told the presenters he believed this project was interesting but did not want the people of that part of Haverford Township to have the same kind of problems that we see in the 5th Ward where you have every sort of use when it was all residential at one time.

Mr. Reardon stated his appreciation of the applicants coming to the Planning Commission first and advised they work with the community.

Mr. Capuzzi began his comments by stating the rendering in regards to parking is misleading. That parallel parking is not in the plan, but rather perpendicular spaces immediately behind the monuments. The rendering should accurately depict the proposed parking plan.

Mr. Capuzzi asked if there was evaluation on the site plan regarding the required 25% open space. In addition, the zoning code §182-715 stating conformity of setback lines. Mr. Capuzzi asked if they had evaluated the setback requirements. The median setback of adjacent structures may be larger than 20 feet. Before going to the Zoning Hearing Board these studies need to be done with clarity in what is needed in relief.

Mr. McBlain stated they will study the setbacks and make sure they conform to the code. Also stating other buildings closer to West Chester Pike have less a setback while the adjacent building is about the same. Also, if you take away from the building you would add to the parking for other uses allowed there. You would end up with the same impervious coverage.

Mr. Capuzzi responded you cannot trade building coverage for impervious and economics cannot be a reason for hardship as far as building coverage.

Mr. Capuzzi asked Mr. Lambert if the property had been surveyed yet. Mr. Lambert replied no. Mr. Capuzzi asked what all the calculations are based on. Mr. Lambert said they used deed description and aerials to approximate the calculations. Mr. Capuzzi asked if a survey will be done before going to the Zoning Hearing Board with accurate information. Mr. Lambert answered that is was not proposed yet. Mr. Capuzzi stated he would be concerned as a resident, as a member of the Planning Commission, that you would present information to the Zoning Hearing Board that may or may not be accurate. As an engineer, there is a responsibility to make sure the information presented in testimony is true and accurate.

Mr. Capuzzi commented on the community meeting and how in this climate of social distancing it will be difficult but an important step.

Mr. Capuzzi also noted that the results of the Comprehensive Plan survey did not indicate that there was a demand or need for additional for self-storage.

Mr. Capuzzi pointed out the traffic study was done on 27,00 square feet and not the actual 81,000 square feet. Mr. Lambert acknowledged the misunderstanding and that it would be

updated. Mr. Capuzzi asked if this will be updated before the Zoning Hearing Board Meeting and if there was a date scheduled for the meeting. Mr. Lambert said the update would be complete and as of yet no date had been set.

Mr. Pointon also agreed with Ms. Dobbs on the mixed use and walkable destination but to follow up on the size of the building. Has there been any thought in reduction by using a basement? Mr. Lingo answered, the thought was to match the scale of the street with the height of the buildings on the street. To answer the question, no there was no thought to underground storage. Mr. Pointon suggested it is something to consider along with creating a flexibility within the building for future use. Could it be offices or apartments down the road?

Mr. Pointon asked if the rear property appearing to be connected to 83 S. Eagle Road is a parking lot for medical trailers is assumed residential use. Mr. Lambert confirmed is zoned residential. Mr. Capuzzi and Mr. Reardon stated the area has been used as part of the medical facility since the 70's.

Mr. Pointon added that dense vegetation exits in the back by the medical facility property and asked if this will remain since it is a mature growth and buffer. Mr. Lambert said, likely yes.

Public Comments:

Ms. Kirk stated that around 165 comments in opposition were received from the public and 1 that was neutral. A selection of 10 comments was read by Mr. Pointon. All were posted on the Township website.

Mr. Faulkner, Township Engineer brought up the concern of impervious coverage in a documented area of flooding problems. The applicant must be aware of the stormwater management controls for this project.

Mr. Capuzzi stated for public information the Planning Commission does not grant approval, it makes recommendations. The Planning Commission will send a letter to the Zoning Hearing Board who grants approval for variances and use. The Planning Commission will compose a letter for the Zoning Hearing Board from notes, feedback and concerns.

Mr. McBlain thanked the Planning Commission for their attention. He also made it clear Mr. Lingo and Mr. Knapp wanted to be open to the community with their vision. Social media has gained much attention prior to this discussion and ultimately the concerns raised will be part of the planning.

Mr. Reardon added the Manoa School might be available to have a community meeting regarding this project.

Review of Minutes:

Mr. Reardon makes a motion to approve the minutes of May 14th, Seconded by Mr. Fiordimondo.

Approved unanimously.

Next scheduled meeting June 25, 2020, 7:00pm - no agenda items at this time.

Next meeting likely July 9, 2020, 7:00pm

Adjournment:

Mr. Reardon made the motion to adjourn, Mr. Pointon seconded. All in favor.
Meeting adjourned at 9:37pm.

PUBLIC NOTICE
HAVERFORD TOWNSHIP
PLANNING COMMISSION

NOTICE is hereby given that the Planning Commission will hold a **public meeting** on Thursday, June 11, 2020, at 7:00 PM at which time the Planning Commission will consider the following application via an authorized telecommunication device due to the COVID-19 disaster public emergency that has been declared by Governor Wolf and Haverford Township:

Sleepy Valley Holdings, LLC
Preliminary/Final Minor Subdivision Plan,
Greenbriar Lane- DC Folio No. 22-09-01348-00
Applicant proposes to subdivide an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square foot parcel (Lot 2.)
The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

Blue Devil Realty, LLC
Land Development Conceptual Plan Discussion,
57 S. Eagle Road- DC Folio No. 22-09-01348-00
Applicant proposes to raze the existing building, and redevelop the 51,800 square foot property with a three (3) story, 27,000 square foot, self-storage facility. An application is pending before the Zoning Hearing Board for relief from the provisions of §182-404.B to allow a self-storage facility in a C-3 District, §182-404.C(3) to allow 52.1% building coverage where a maximum of 25% building coverage is permitted, and §182-707.B to provide 11 off-street parking spaces where 52 are required. A hearing date has not been scheduled at this time.
The subject property is zoned C-3 (General Commercial), and is located in the 2nd Ward.

All interested parties are invited to view the live broadcast of the meeting on the Township's Government Access Channel (Verizon channel 38, Comcast channel 5.) The meeting will also be available for future viewing on the Township's YouTube channel at www.youtube.com/haverfordtownship. Public participation related to these agenda items may be submitted via by postal mail addressed to Haverford Township, Community Development, 1014 Darby Road, Havertown, PA 19083, or by email to kkirk@havtwp.org. Please include the words "Planning Commission Public Comment" in the subject line. Comments will be accepted until 12:00 p.m. the day of the meeting.

AGENDA

Haverford Township
Planning Commission Meeting

June 11, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Sleepy Valley Holdings, LLC**
   Preliminary/Final Minor Subdivision Plan
   Greenbriar Lane- D.C. Folio No. 22-09-01348-00
   Applicant proposes to subdivide an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square foot parcel (Lot 2.) The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

3. **Blue Devil Realty, LLC**
   Land Development Conceptual Plan Discussion
   57 S. Eagle Road- D.C. Folio No. 22-09-01348-00
   Applicant proposes to raze the existing building, and redevelop the 51,800 square foot property with a three (3) story, 27,000 square foot, self-storage facility. An application for relief from the provisions of §182-404.B to allow a self-storage facility in a C-3 District, §182-404.C(3) to allow 52.1% building coverage where a maximum of 25% building coverage is permitted, and §182-707.B to provide 11 off-street parking spaces where 52 are required has been submitted to the Zoning Hearing Board. A hearing date has not been scheduled at this time. The subject property is zoned C-3 (General Commercial), and is located in the 2nd Ward.

4. **Review of Minutes**

Adjournment

Serial Number:

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE–STOP CALL

Pennsylvania One Call System, Inc.
1–800–242–1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

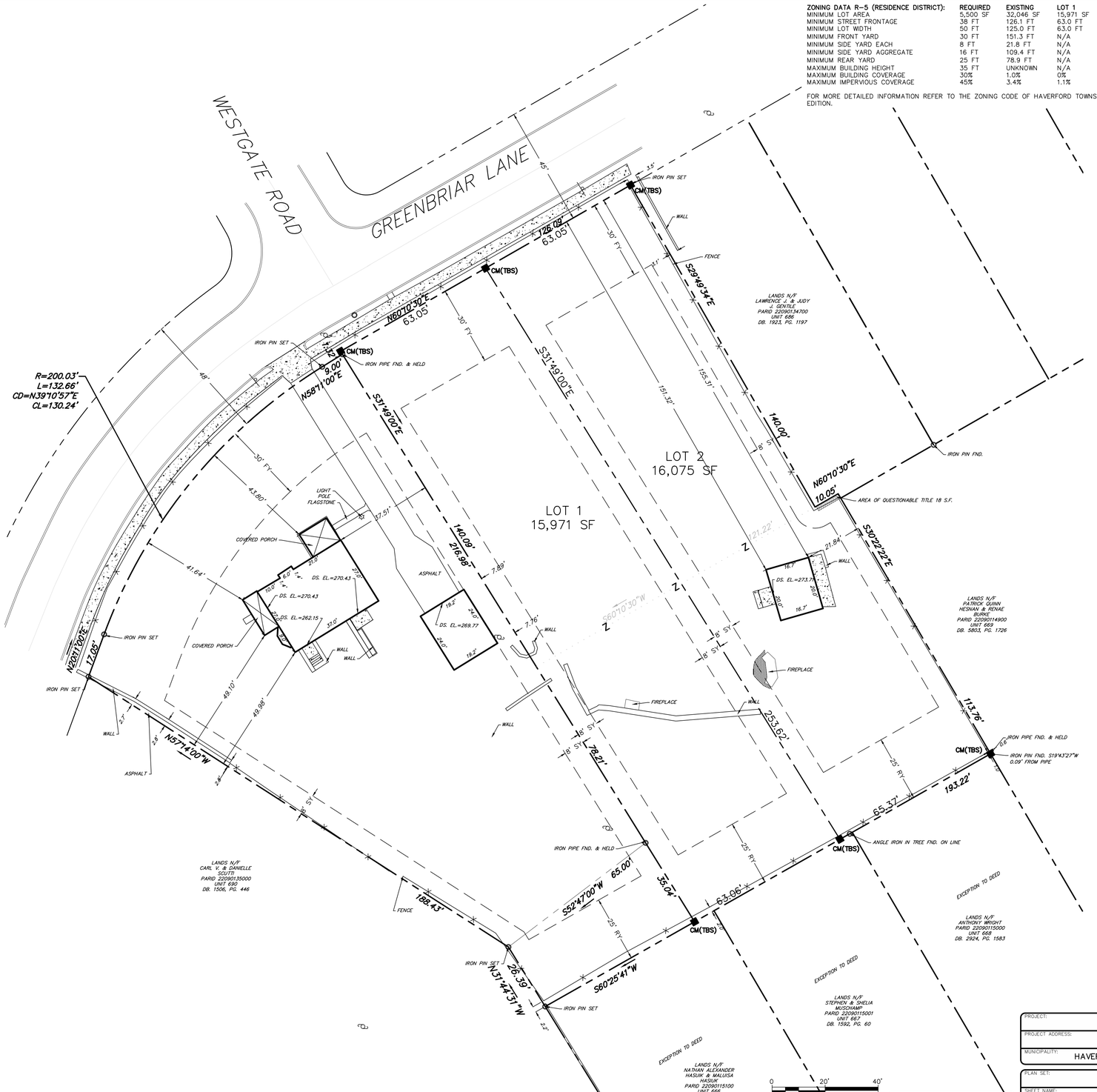
AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1–800–242–1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20–051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

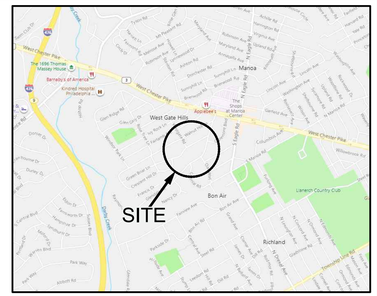
REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.



ZONING DATA R–5 (RESIDENCE DISTRICT):	REQUIRED	EXISTING	LOT 1	LOT 2
MINIMUM LOT AREA	5,500 SF	32,046 SF	15,971 SF	16,075 SF
MINIMUM STREET FRONTAGE	38 FT	126.1 FT	63.0 FT	63.0 FT
MINIMUM LOT WIDTH	50 FT	125.0 FT	63.0 FT	62.0 FT
MINIMUM FRONT YARD	30 FT	151.3 FT	N/A	151.3 FT
MINIMUM SIDE YARD EACH	8 FT	21.8 FT	N/A	21.8 FT
MINIMUM SIDE YARD AGGREGATE	16 FT	109.4 FT	N/A	46.4 FT
MINIMUM REAR YARD	25 FT	78.9 FT	N/A	78.9 FT
MAXIMUM BUILDING HEIGHT	35 FT	UNKNOWN	N/A	UNKNOWN
MAXIMUM BUILDING COVERAGE	30%	1.0%	0%	2.1%
MAXIMUM IMPERVIOUS COVERAGE	45%	3.4%	1.1%	3.3%

FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF HAVERFORD TOWNSHIP, LATEST EDITION.



LOCATION MAP
SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22–09–01348–00
TAXMAP ID:	22–31–687.000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,046 SF (0.7357 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

PROPOSED LOT 1 DATA:

GROSS LOT AREA:	15,971 SF (0.3666 AC)

PROPOSED IMPERVIOUS COVERAGE:

FIREPLACE	17 SF
WALLS	164 SF
TOTAL	181 SF (1.1%)
MAXIMUM ALLOWED	7,187 SF (45.0%)

PROPOSED LOT 2 DATA:

GROSS LOT AREA:	16,075 SF (0.3690 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	332 SF (2.1%)
CONCRETE	146 SF
FIREPLACE	46 SF
WALLS	14 SF
TOTAL	538 SF (3.3%)
MAXIMUM ALLOWED	7,234 SF (45.0%)

GENERAL NOTES:

1. THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE SUBDIVISION OF THE EXISTING LOT INTO TWO NEW LOTS.

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF _____

ON THIS THE __ DAY OF _____, 20__, BEFORE ME, THE UNDERSIGNED PERSONALLY APPEARED VINCE SPOSATO, MEMBER OF SLEEPY VALLEY HOLDINGS, LLC, WHO BEING DULY SWORN ACCORDING TO LAW DEPOSES AND SAYS THAT SLEEPY VALLEY HOLDINGS, LLC IS THE EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE LAND DEVELOPMENT PLAN WAS MADE AT HIS DISCRETION AS SUCH MEMBER AND THAT HE ACKNOWLEDGES THE SAME TO BE THE ACT AND PLAN OF SLEEPY VALLEY HOLDINGS, LLC AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

SLEEPY VALLEY HOLDINGS, LLC

BY: _____
NAME: VINCE SPOSATO
TITLE: MEMBER

WITNESS MY HAND AND SEAL THE DAY AND YEAR AFORESAID.

_____
NOTARY SIGNATURE

_____
MY COMMISSION EXPIRES:

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED AND APPROVED BY THE HAVERFORD TOWNSHIP ENGINEER.

_____
HAVERFORD TOWNSHIP ENGINEER DATE

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED AND APPROVED BY THE HAVERFORD TOWNSHIP BOARD OF COMMISSIONERS.

_____
PRESIDENT DATE

_____
SECRETARY DATE

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED AND APPROVED BY THE HAVERFORD TOWNSHIP PLANNING COMMISSION.

_____
PLANNING COMMISSION MEMBER DATE

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING FENCE
- PROPOSED PROPERTY LINE
- PROPOSED BUILDING SETBACK

SEAL:

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

SCALE: 1" = 20'

REV	DATE	COMMENTS

PROJECT: MINOR SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP | COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: RECORD PLAN (SHEET 1 OF 1 FOR RECORDING)

PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 20'
ONE CALL NUMBER:	
DRAWN BY:	CCY
PROJECT NUMBER:	20–009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B–205
COLLEGEVILLE, PA 19426
610–489–4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

SHEET: 1 OF 2

Serial Number:

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE–STOP CALL

Pennsylvania One Call System, Inc.
1–800–242–1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1–800–242–1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20–051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.

LOCATION MAP
SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22–09–01348–00
TAXMAP ID:	22–31–687.000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,046 SF (0.7357 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING TELECOMMUNICATION LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- IMPERVIOUS TO BE REMOVED
- 15%–25% SLOPES
- >25% SLOPES

SOILS INFORMATION

SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH WATER	DEPTH TO BEDROCK
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41
MhE	MANOR LOAM AND CHANNERY LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	7.11

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

REV	DATE	COMMENTS

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED
PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

PROJECT: MINOR SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP | COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: EXISTING CONDITIONS PLAN

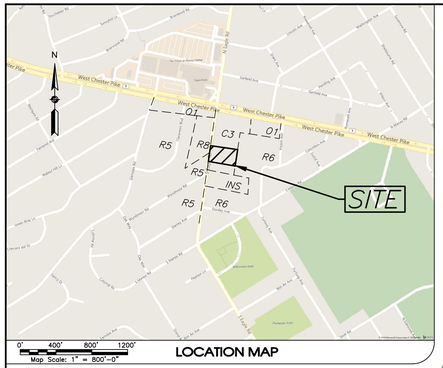
PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 20'
ONE CALL NUMBER:	
DRAWN BY:	CCY
PROJECT NUMBER:	20–009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B–205
COLLEGEVILLE, PA 19426
610–489–4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

SHEET: 2 OF 2



LOCATION MAP

PLAN LEGEND

BOLD LINES: PROPOSED
FADED LINES: EXISTING

- SUPPLEMENTAL CONTOUR (1' INTERVAL)
- INDEX CONTOUR (5' INTERVAL)
- ST — STORM SEWER PIPING
- S — SANITARY SEWER PIPING
- G — GAS MAIN
- W — WATER MAIN / SERVICE
- OHW — OVERHEAD WIRE
- T — UNDERGROUND TELEPHONE
- EDGE OF PAVEMENT
- X — FENCE LINE

- BUILDINGS
- ASPHALT
- WALKWAY
- GREEN AREA
- BUFFER AREA

PARKING SUMMARY

	CODE REQUIREMENT		PROPOSED		REQUIRED	
182-707.B BUILDINGS OR USES OTHER THAN SPECIFIED ABOVE	1.0	PER 1000 SF GFA	38,850	GFA	39	SPACES
182-707.B BUILDINGS OR USES OTHER THAN SPECIFIED ABOVE	1.0	PER 1000 SF LOT AREA	51,800	LOT AREA	52	SPACES
GREATER OF TWO REQUIREMENTS	1.0	PER 1000 SF LOT AREA	51,800	LOT AREA	52	SPACES
TOTAL PARKING REQUIRED					52	SPACES
TOTAL PARKING PROVIDED*					11	SPACES

*INCLUDES 1 ADA ACCESSIBLE PARKING SPACE, RELIEF WILL BE REQUESTED FOR PARKING

ZONING SUMMARY

C-3 GENERAL COMMERCIAL DISTRICT

ORDINANCE ITEM	REQUIREMENT	EXISTING	PROPOSED
MIN. LOT AREA	6,250 SF	51,800 SF	51,800 SF*
MIN. STREET FRONTAGE	50 FT	190 FT	190 FT
MIN. SETBACKS			
FRONT	20 FT	30 FT	20 FT
SIDE	7 FT	5 FT	7 FT
REAR	15 FT	78 FT	17 FT
MAX. BUILDING HEIGHT	45 FT OR 3 STORIES	<45 FT	<45 FT
MAX. BUILDING COVERAGE	25%	13.0%	52.1%
MAX. IMPERVIOUS COVERAGE	75%	50.9%	64.9%

*ASSUMES LOTS ARE CONSOLIDATED, DIMENTIONAL ANAYLSIS ESTIMATED FROM TAX MAPS. A BOUNDARY AND TOPOGRAPHICAL SURVEY IS REQUIRED TO PERFORM ACCURATE DIMENSIONAL ANAYLSIS

IMPERVIOUS SUMMARY (SQ. FT.)

LOT AREA CLEAR OF R/W	51,800				
	EXISTING	TO BE REMOVED	TO BE ADDED	NET	PROPOSED
BUILDINGS	6,750	6,750	27,000	20,250	27,000
WALKS & PATIOS	1,600	1,600	600	-1,000	600
WALLS	0	0	0	0	0
DRIVE	18,000	18,000	6,000	-12,000	6,000
OTHER IMPERVIOUS	0	0	0	0	0
TOTAL BUILDING COVERAGE	6,750	6,750	27,000	20,250	27,000
TOTAL BUILDING PERCENTAGE	13.0%				52.1%
TOTAL IMPERVIOUS COVERAGE	26,350	26,350	33,600	7,250	33,600
TOTAL IMPERVIOUS PERCENTAGE	50.9%				64.9%
REMAINING IMPERVIOUS	12,500				5,250

NOTE:
SELF-STORAGE USE NOT INCLUDED IN C-3 DISTRICT USES SECTION 182-404.B. VARIANCE WILL BE REQUIRED.
VARIANCE WILL BE REQUIRED FOR MAXIMUM ALLOWED BUILDING COVERAGE
VARIANCE WILL BE REQUIRED FOR MINIMUM PARKING REQUIRED

PROJECT NOTES

THIS SKETCH HAS BEEN CREATED FROM PUBLICLY AVAILABLE AERIAL PHOTOGRAPHY/LIDAR SURVEYS, TAX MAPS, AND ZONING MAPS. ALL MEASUREMENTS AND BOUNDARIES ARE APPROXIMATE. TO FURTHER DEVELOP THIS PLAN A BOUNDARY AND TOPOGRAPHY SURVEY MUST BE PERFORMED ON-SITE TO PRECISELY DEFINE THE LIMITS OF THE SUBJECT PROPERTIES AND THE CURRENT STATE OF EXISTING IMPROVEMENTS.

GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

NUM.	DATE	REVISION
-	1/7/20	DRAFT - FOR INTERNAL REVIEW ONLY

PLAN PREPARED BY:
SITE ENGINEERING CONCEPTS, LLC
P.O. BOX 1992
SOUTHEASTERN, PA 19399
P: 610-240-0450 F: 610-240-0451 E:INFO@SITE-ENGINEERS.COM

PLAN PREPARED FOR:
57 S EAGLE ROAD,
HAVERTOWN, PA 19083
HAVERFORD TOWNSHIP DELAWARE COUNTY PENNSYLVANIA

DRAFT

CONCEPTUAL SKETCH

DATE: DEC 30, 2019

SHEET 1 of 1

SCALE: 1" =20'

AGENDA

Haverford Township
Planning Commission Meeting

July, 9 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Sleepy Valley Holdings, LLC**
   Preliminary/Final Minor Subdivision Plan
   Greenbriar Lane- D.C. Folio No. 22-09-01348-00
   Continued review of the proposed subdivision of an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square foot parcel (Lot 2.) The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

3. **DCED H2O Pa - Flood Control Projects Grant Application**
   Review grant application to upgrade the existing storm system through the Chatham Glen neighborhood to permit conveyance of a 100-year storm event and determined if the proposal is consistent with the Comprehensive Plan.

4. **Review of Minutes**

Adjournment

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

June 25, 2020

Kelly Kirk
Zoning Officer & Community Planner
Haverford Township
1014 Darby Road
Havertown, PA 19083

RE: Greenbriar Lane Vacant Lot – 2 Lot Subdivision **File No. 20-009**
Haverford Township, Delaware County

Dear Ms. Kirk,

For your use and review and for review, included are

- Eight (8) copies of revised Final Minor Subdivision Plans and
- One (1) copy of revised Stormwater Management Calculations

for a residential subdivision at the above referenced site to create two new single family dwellings. Please note that the plans have been revised to address the Township Engineer's Review Letter dated June 9, 2020 as follows:

ZONING

1. The plans have been revised to dimension the existing residences within 300 feet of the subdivision as shown on sheet 3. Additionally, the plans have been revised to list the median within the zoning chart as shown on sheet 2.

SUBDIVISION AND LAND DEVELOPMENT

2. The Applicant is still in the process of obtaining capacity certifications from the downstream operators. RHM has approved the additional EDU's and the Applicant is currently awaiting certification from DCJA and DELCORA.
3. The plans have been revised to include sanitary sewers and water mains within 400 feet as shown on sheet 3. Additionally, the plans have been revised to include a partial waiver request as shown on sheet 2.
4. The plans have been revised to include full stormwater management design as shown on sheets 4 & 5. Additionally, stormwater management calculations are included with this submission, which include infiltration test results.

5. The plans have been revised to include proposed building, driveway, walkway, etc. locations as shown on sheet 1.
6. The plans have been revised to show additional right of way and a partial waiver request as shown on sheet 2.
7. The Applicant will work with the surveyor to resolve the area of questionable title prior to recording. In order to be more conservative, the area of questionable title has been removed from the calculations as shown on sheet 2.
8. The plans have been revised to include the required verbiage as shown on sheet 2.

GENERAL

9. The plans have been revised to show steep slopes meeting the township definition and those not meeting the definition as shown on sheet 3; however, we will continue to work with the Township Engineer to confirm compliance.
10. The plans have been revised to show the portions of walls that crossed property lines to be removed as shown on sheet 3.
11. The plans have been revised to include Construction Note #21 as shown on sheet 5.

WAIVER REQUESTS

- §160-4.E(5)[e](4) - A partial waiver request to not show existing storm drainage within 400 feet of the site. The project does not connect or drain to the existing stormwater infrastructure. Since no documentation exists showing the existing infrastructure it would require a large amount of survey work which would ultimately not benefit the project.
- §160-5.B(3)[j](1) - A partial waiver to not provide a minimum cartway width of 27 feet. The Applicant is not proposing to modify the cartway other than narrow pits in order to connect to the existing utility mains. The existing cartway is 25 feet wide and remains that width in either direction well passed the property boundaries. Therefore it would provide no benefit to widen a small section of the road.

In addition to the revisions noted above, the plans have been revised to address comments made during the June 11, 2020 Planning Commission meeting as follows:

- The spreader on Lot 2 was adjusted to be located as far west as possible in order to direct overflow runoff to the existing swale on the southern side of Lot 1 as shown on sheet 4.
- The Applicant discussed hazardous trees with the adjacent property owner and obtained a report from an Arborist indicating which trees are scheduled to be removed. The report was forwarded to the Shade Tree Commission and the tree replacement calculations have been revised and replacement trees are now shown on the plan as shown on sheet 4.

Please call with any questions or concerns or if you require any additional information.

Regards,

Yohn Engineering, LLC

Christopher C. Yohn, P.E., CPESC

20009L03_HT.docx

Serial Number: 2020-153-1932

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL

Pennsylvania One Call System, Inc.

1-800-242-1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

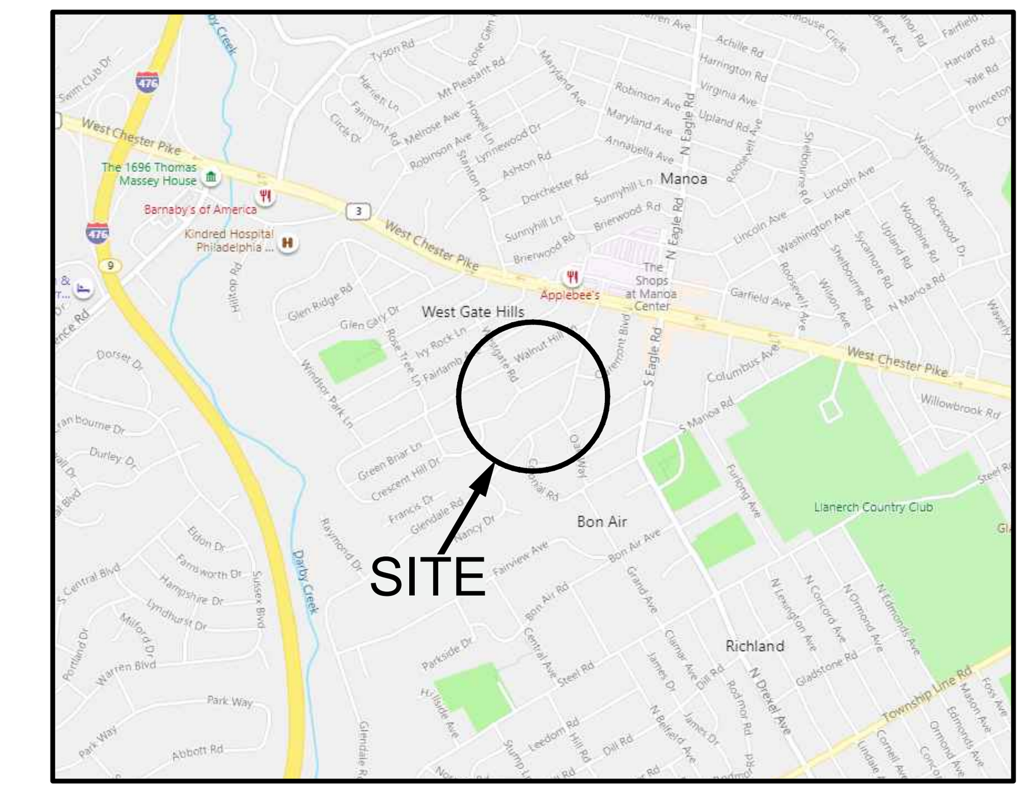
1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20-051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- 379 EXISTING 1' CONTOUR
- 380 EXISTING 5' CONTOUR
- PROPOSED BUILDING
- PROPOSED DRIVEWAY
- PROPOSED IMPERVIOUS WALKS, WALLS, ETC.



LOCATION MAP

SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22-09-01348-00
TAXMAP ID:	22-31-687:000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,027 SF (0.7352 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

PROPOSED LOT 1 DATA:

GROSS LOT AREA:	15,971 SF (0.3666 AC)
NET LOT AREA:	15,814 SF (0.3630 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	1,803 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	209 SF
TOTAL	2,513 SF (15.9%)
MAXIMUM ALLOWED	7,116 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	1,803 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	1,995 SF (12.6%)

PROPOSED LOT 2 DATA:

GROSS LOT AREA:	16,056 SF (0.3686 AC)
NET LOT AREA:	15,899 SF (0.3650 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	2,135 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	263 SF
TOTAL	2,899 SF (18.2%)
MAXIMUM ALLOWED	7,155 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	2,135 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	2,327 SF (14.6%)

GENERAL NOTES:

1. THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE SUBDIVISION OF THE EXISTING LOT AND THE CONSTRUCTION OF TWO NEW SINGLE FAMILY DWELLINGS.
2. THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN DESIGNED FOR THE PROPOSED IMPERVIOUS COVERAGE ON EACH LOT (3,000 SF) WHICH INCLUDES THE PROPOSED IMPERVIOUS (2,381 SF) AS WELL AS IMPERVIOUS WITHIN THE RIGHT OF WAY AND FUTURE IMPERVIOUS.
3. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEMS AND OTHER ASSOCIATED FACILITIES WILL BE THE OBLIGATION OF THE PROPERTY OWNER.
4. THE DEVELOPMENT BE SERVICED BY A NEW INDIVIDUAL PRIVATE, GRAVITY SEWER LATERAL AND WATER LATERAL, WHICH WILL CONNECT TO THE EXISTING TOWNSHIP SEWER MAIN AND AQUA WATER MAIN WITHIN GREENBRIAR LANE.

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL CHRISTOPHER C. YOHN ENGINEER PE073703

PROJECT: GREENBRIAR LANE SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP — COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: ILLUSTRATIVE SITE PLAN

PREPARED FOR: OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 20'
ONE CALL NUMBER:	2020-153-1932
DRAWN BY:	CCY
PROJECT NUMBER:	20-009

PREPARED BY: YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

Serial Number: 2020-153-1932

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL

Pennsylvania One Call System, Inc.
1-800-242-1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

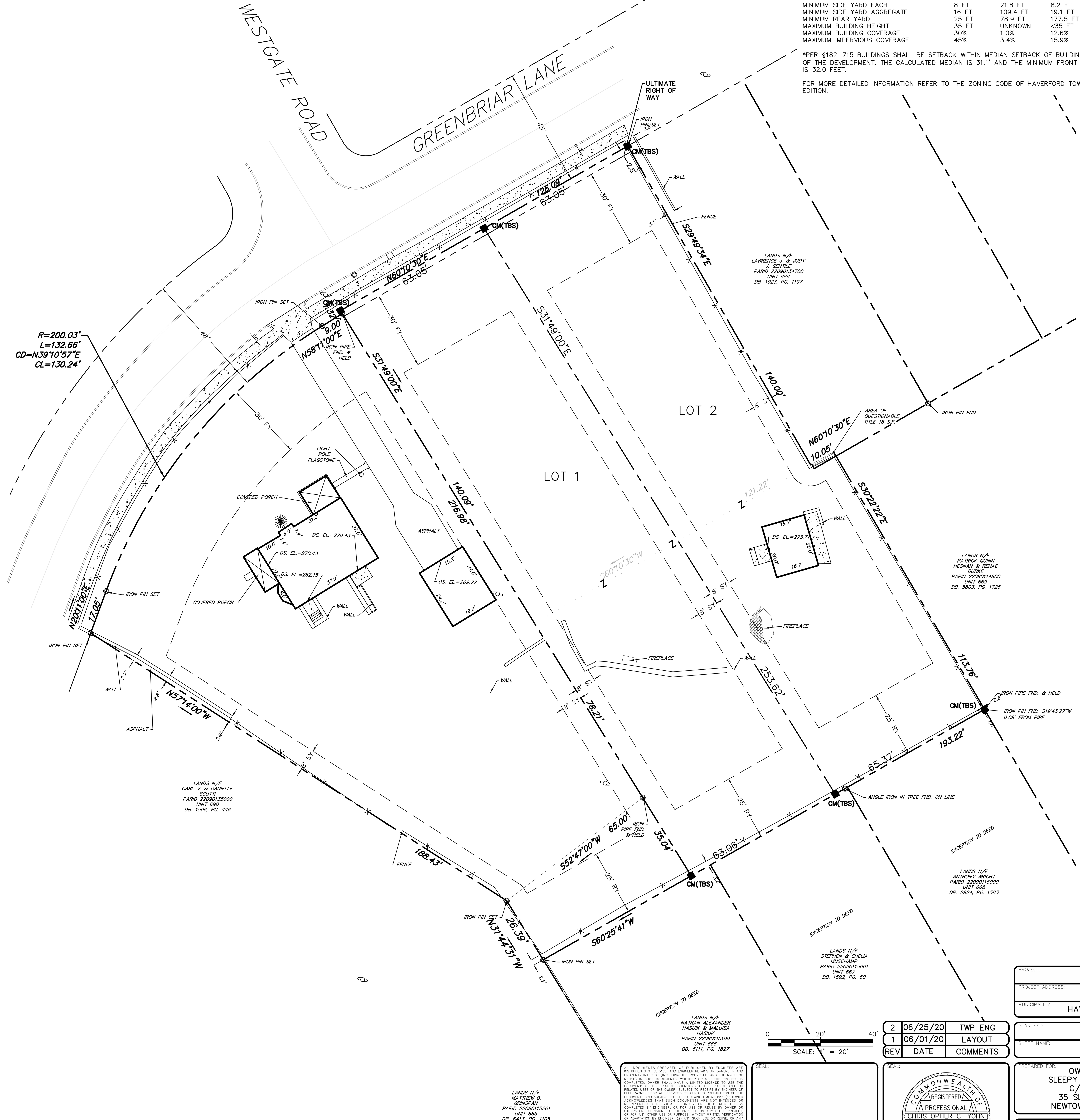
AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20-051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.



ZONING DATA R-5 (RESIDENCE DISTRICT):	REQUIRED	EXISTING	LOT 1	LOT 2
MINIMUM LOT AREA	5,500 SF	32,046 SF	15,814 SF	15,917 SF
MINIMUM STREET FRONTAGE	38 FT	126.1 FT	63.0 FT	63.0 FT
MINIMUM LOT WIDTH	50 FT	125.0 FT	63.0 FT	61.9 FT
MINIMUM FRONT YARD	30 FT	151.3 FT	32.0 FT*	32.0 FT*
MINIMUM SIDE YARD EACH	8 FT	21.8 FT	8.2 FT	8.2 FT
MINIMUM SIDE YARD AGGREGATE	16 FT	109.4 FT	19.1 FT	16.9 FT
MINIMUM REAR YARD	25 FT	78.9 FT	177.5 FT	78.9 FT
MAXIMUM BUILDING HEIGHT	35 FT	UNKNOWN	<35 FT	<35 FT
MAXIMUM BUILDING COVERAGE	30%	1.0%	12.6%	14.6%
MAXIMUM IMPERVIOUS COVERAGE	45%	3.4%	15.9%	18.2%

*PER §182-715 BUILDINGS SHALL BE SETBACK WITHIN MEDIAN SETBACK OF BUILDING WITHIN 300' OF THE DEVELOPMENT. THE CALCULATED MEDIAN IS 31.1' AND THE MINIMUM FRONT YARD SETBACK IS 32.0 FEET.

FOR MORE DETAILED INFORMATION REFER TO THE ZONING CODE OF HAVERFORD TOWNSHIP, LATEST EDITION.

LOCATION MAP
SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22-09-01348-00
TAXMAP ID:	22-31-687:000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,027 SF (0.7352 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

PROPOSED LOT 1 DATA:

GROSS LOT AREA:	15,971 SF (0.3666 AC)
NET LOT AREA:	15,814 SF (0.3630 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	1,803 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	209 SF
TOTAL	2,513 SF (15.9%)
MAXIMUM ALLOWED	7,116 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	1,803 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	1,995 SF (12.6%)

PROPOSED LOT 2 DATA:

GROSS LOT AREA:	16,056 SF (0.3686 AC)
NET LOT AREA:	15,899 SF (0.3650 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	2,135 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	263 SF
TOTAL	2,899 SF (18.2%)
MAXIMUM ALLOWED	7,155 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	2,135 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	2,327 SF (14.6%)

GENERAL NOTES:

1. THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE SUBDIVISION OF THE EXISTING LOT AND THE CONSTRUCTION OF TWO NEW SINGLE FAMILY DWELLINGS.
2. THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN DESIGNED FOR 7,042 SF OF PROPOSED IMPERVIOUS WHICH INCLUDES THE PROPOSED IMPERVIOUS AS WELL AS 2,000 SF FOR FUTURE DEVELOPMENT WHICH MAY GO UNCONTROLLED. THE CALCULATIONS INCLUDE 319 SF WITHIN THE RIGHT OF WAY AND DO NOT INCLUDE 689 SF TO REMAIN UNCHANGED.
3. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEMS AND OTHER ASSOCIATED FACILITIES WILL BE THE OBLIGATION OF THE PROPERTY OWNER.
4. THE DEVELOPMENT BE SERVICED BY A NEW INDIVIDUAL PRIVATE, GRAVITY SEWER LATERAL AND WATER LATERAL, WHICH WILL CONNECT TO THE EXISTING TOWNSHIP SEWER MAIN AND AQUA WATER MAIN WITHIN GREENBRIAR LANE.

WAIVER REQUESTS:

- §160-4.E(5)[e](4) – A PARTIAL WAIVER REQUEST TO NOT SHOW EXISTING STORM DRAINAGE WITHIN 400 FEET OF THE SITE.
- §160-5.B(3)[j](1) – A PARTIAL WAIVER TO NOT PROVIDE A MINIMUM CARTWAY WIDTH OF 27 FEET.

COMMONWEALTH OF PENNSYLVANIA

COUNTY OF ____________________

ON THIS THE ___ DAY OF ____________________, 20__, BEFORE ME, THE UNDERSIGNED PERSONALLY APPEARED VINCE SPOSATO, MEMBER OF SLEEPY VALLEY HOLDINGS, LLC, WHO BEING DULY SWORN ACCORDING TO LAW DEPOSES AND SAYS THAT SLEEPY VALLEY HOLDINGS, LLC IS THE EQUITABLE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE LAND DEVELOPMENT PLAN WAS MADE AT HIS DISCRETION AS SUCH MEMBER AND THAT HE ACKNOWLEDGES THE SAME TO BE THE ACT AND PLAN OF SLEEPY VALLEY HOLDINGS, LLC AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

SLEEPY VALLEY HOLDINGS, LLC

BY: ____________________
NAME: VINCE SPOSATO
TITLE: MEMBER

WITNESS MY HAND AND SEAL THE DAY AND YEAR AFORESAID.

____
NOTARY SIGNATURE

____
MY COMMISSION EXPIRES:

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED BY THE HAVERFORD TOWNSHIP ENGINEER.

____
HAVERFORD TOWNSHIP ENGINEER DATE

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED AND APPROVED BY THE HAVERFORD TOWNSHIP BOARD OF COMMISSIONERS.

____
PRESIDENT DATE

____
SECRETARY DATE

I HEREBY CERTIFY THAT THE PLANS SHOWN HERETO WERE REVIEWED AND APPROVED BY THE HAVERFORD TOWNSHIP PLANNING COMMISSION.

____
PLANNING COMMISSION MEMBER DATE

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING FENCE
- PROPOSED PROPERTY LINE
- PROPOSED BUILDING SETBACK

SEAL:

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

PROJECT: GREENBRIAR LANE SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP | COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: RECORD PLAN (SHEET 1 OF 1 FOR RECORDING)

PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 20'
ONE CALL NUMBER:	2020-153-1932
DRAWN BY:	CCY
PROJECT NUMBER:	20-009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

Serial Number: 2020-153-1932

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL

Pennsylvania One Call System, Inc.
1-800-242-1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

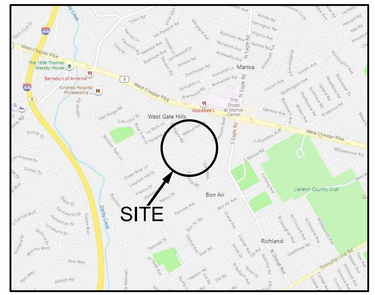
AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20-051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.



LOCATION MAP
SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22-09-01348-00
TAXMAP ID:	22-31-687.000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,027 SF (0.7352 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

NON-VIABLE TREES TO BE REMOVED:
(AS DETERMINED BY A TREE EVALUATION BY MG TREE, BROOMALL, PA ON JUNE 18, 2020)

14" ASH	20" OAK	24" MAPLE	24" OAK	36" OAK
16" LOCUST	22" LOCUST	24" MAPLE	27" ASH	
16" MAPLE	24" LOCUST	24" OAK	33" ASH	

VIABLE TREES TO BE REMOVED:
13" TWIN
16" SPRUCE
18" MAPLE

NON-VIABLE DIAMETER TO BE REMOVED	304 INCHES
VIABLE DIAMETER TO BE REMOVED	47 INCHES
TOTAL DIAMETER TO BE REMOVED	351 INCHES
REQUIRED REPLACEMENT DIAMETER	1 INCH PER 4 INCHES REMOVED
TOTAL DIAMETER REQUIRED	47 / 4 = 12 INCHES
TOTAL 2.5" TREES REQUIRED	5 TREES

APPLICANT AND TOWNSHIP TO DETERMINE SPECIES, SIZE AND LOCATION OF REPLACEMENT TREES.

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING TELECOMMUNICATION LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- IMPERVIOUS TO BE REMOVED
- 15%-25% SLOPES (UNREGULATED)
- >25% SLOPES (UNREGULATED)
- 15%-25% SLOPES (REGULATED)
- >25% SLOPES (REGULATED)
- VIABLE TREE TO BE REMOVED
- NON-VIABLE TREE TO BE IMPACTED

SOILS INFORMATION

SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH WATER	DEPTH TO BEDROCK
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41
MhE	MANOR LOAM AND CHANNERY LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	7.11

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

0 40' 80'
SCALE: 1" = 40'

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

PROJECT: GREENBRIAR LANE SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP | COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: EXISTING CONDITIONS PLAN

PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 40'
ONE CALL NUMBER:	2020-153-1932
DRAWN BY:	CCY
PROJECT NUMBER:	20-009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

SHEET: 3 OF 7

Serial Number: 2020-153-1932

CALL BEFORE YOU DIG!
PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL
Pennsylvania One Call System, Inc.
1-800-242-1776

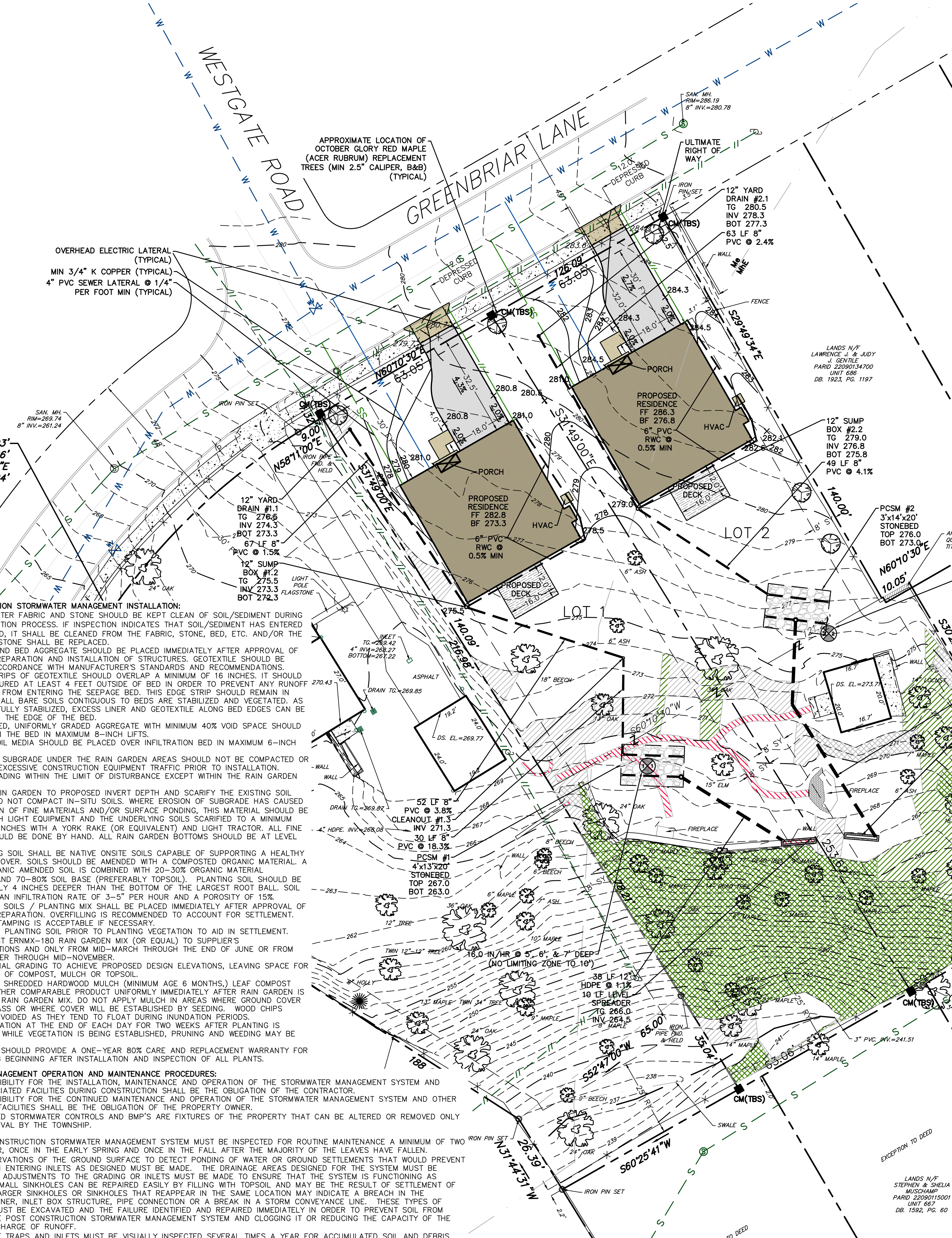
ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:
1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20-051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:
1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.



POST CONSTRUCTION STORMWATER MANAGEMENT INSTALLATION:
1. STONEBED FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/SEDIMENT HAS ENTERED THE STONEBED, IT SHALL BE CLEANED FROM THE FABRIC, STONE, BED, ETC. AND/OR THE FABRIC AND STONE SHALL BE REPLACED.
2. GEOTEXTILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES. GEOTEXTILE SHOULD BE PLACED IN ACCORDANCE WITH MANUFACTURER'S STANDARDS AND RECOMMENDATIONS. ADJACENT STRIPS OF GEOTEXTILE SHOULD OVERLAP A MINIMUM OF 16 INCHES. IT SHOULD ALSO BE SECURED AT LEAST 4 FEET OUTSIDE OF BED IN ORDER TO PREVENT ANY RUNOFF OR SEDIMENT FROM ENTERING THE SEEPAGE BED. THIS EDGE STRIP SHOULD REMAIN IN PLACE UNTIL ALL BARE SOILS CONTIGUOUS TO BEDS ARE STABILIZED AND VEGETATED. AS THE SITE IS FULLY STABILIZED, EXCESS LINER AND GEOTEXTILE ALONG BED EDGES CAN BE CUT BACK TO THE EDGE OF THE BED.
3. CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE WITH MINIMUM 40% VOID SPACE SHOULD BE PLACED IN THE BED IN MAXIMUM 8-INCH LIFTS.
4. APPROVED SOIL MEDIA SHOULD BE PLACED OVER INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.
5. THE EXISTING SUBGRADE UNDER THE RAIN GARDEN AREAS SHOULD NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO INSTALLATION.
6. STABILIZE GRADING WITHIN THE LIMIT OF DISTURBANCE EXCEPT WITHIN THE RAIN GARDEN AREA.
7. EXCAVATE RAIN GARDEN TO PROPOSED INVERT DEPTH AND SCARIFY THE EXISTING SOIL SURFACES. DO NOT COMPACT IN-SITU SOILS. WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS MATERIAL SHOULD BE REMOVED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE (OR EQUIVALENT) AND LIGHT TRACTOR. ALL FINE GRADING SHOULD BE DONE BY HAND. ALL RAIN GARDEN BOTTOMS SHOULD BE AT LEVEL GRADE.
8. SITE PLANTING SOIL SHALL BE NATIVE ONSITE SOILS CAPABLE OF SUPPORTING A HEALTHY VEGETATIVE COVER. SOILS SHOULD BE AMENDED WITH A COMPOSTED ORGANIC MATERIAL. A TYPICAL ORGANIC AMENDED SOIL IS COMBINED WITH 20-30% ORGANIC MATERIAL (COMPOST), AND 70-80% SOIL BASE (PREFERABLY TOPSOIL). PLANTING SOIL SHOULD BE APPROXIMATELY 4 INCHES DEEPER THAN THE BOTTOM OF THE LARGEST ROOT BALL. SOIL SHALL HAVE AN INFILTRATION RATE OF 3-5" PER HOUR AND A POROSITY OF 15%.
9. THE MODIFIED SOILS / PLANTING MIX SHALL BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION. OVERFILLING IS RECOMMENDED TO ACCOUNT FOR SETTLEMENT. LIGHT HAND TAMPING IS ACCEPTABLE IF NECESSARY.
10. PRESOAK THE PLANTING SOIL PRIOR TO PLANTING VEGETATION TO AID IN SETTLEMENT.
9. SPREAD ERNST ERNMX-180 RAIN GARDEN MIX (OR EQUAL) TO SUPPLIER'S RECOMMENDATIONS AND ONLY FROM MID-MARCH THROUGH THE END OF JUNE OR FROM MID-SEPTEMBER THROUGH MID-NOVEMBER.
10. COMPLETE FINAL GRADING TO ACHIEVE PROPOSED DESIGN ELEVATIONS, LEAVING SPACE FOR UPPER LAYER OF COMPOST, MULCH OR TOPSOIL.
11. INSTALL 2-3" SHREDDED HARDWOOD MULCH (MINIMUM AGE 6 MONTHS,) LEAF COMPOST MULCH OR OTHER COMPARABLE PRODUCT UNIFORMLY IMMEDIATELY AFTER RAIN GARDEN IS SEEDED WITH RAIN GARDEN MIX. DO NOT APPLY MULCH IN AREAS WHERE GROUND COVER IS TO BE GRASS OR WHERE COVER WILL BE ESTABLISHED BY SEEDING. WOOD CHIPS SHOULD BE AVOIDED AS THEY TEND TO FLOAT DURING INUNDATION PERIODS.
12. WATER VEGETATION AT THE END OF EACH DAY FOR TWO WEEKS AFTER PLANTING IS COMPLETED. WHILE VEGETATION IS BEING ESTABLISHED, PRUNING AND WEEDING MAY BE REQUIRED.
13. CONTRACTOR SHOULD PROVIDE A ONE-YEAR 80% CARE AND REPLACEMENT WARRANTY FOR ALL PLANTING BEGINNING AFTER INSTALLATION AND INSPECTION OF ALL PLANTS.

STORMWATER MANAGEMENT OPERATION AND MAINTENANCE PROCEDURES:
A. THE RESPONSIBILITY FOR THE INSTALLATION, MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEM AND OTHER ASSOCIATED FACILITIES DURING CONSTRUCTION SHALL BE THE OBLIGATION OF THE CONTRACTOR.
B. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEM AND OTHER ASSOCIATED FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.
C. THE PERMITTED STORMWATER CONTROLS AND BMP'S ARE FIXTURES OF THE PROPERTY THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL BY THE TOWNSHIP.

1. THE POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM MUST BE INSPECTED FOR ROUTINE MAINTENANCE A MINIMUM OF TWO TIMES A YEAR, ONCE IN THE EARLY SPRING AND ONCE IN THE FALL AFTER THE MAJORITY OF THE LEAVES HAVE FALLEN.
2. VISUAL OBSERVATIONS OF THE GROUND SURFACE TO DETECT PONDING OF WATER OR GROUND SETTLEMENTS THAT WOULD PREVENT RUNOFF FROM ENTERING INLETS AS DESIGNED MUST BE MADE. THE DRAINAGE AREAS DESIGNED FOR THE SYSTEM MUST BE MAINTAINED. ADJUSTMENTS TO THE GRADING OR INLETS MUST BE MADE TO ENSURE THAT THE SYSTEM IS FUNCTIONING AS DESIGNED. SMALL SINKHOLES CAN BE REPAIRED EASILY BY FILLING WITH TOPSOIL AND MAY BE THE RESULT OF SETTLEMENT OF THE SOIL. LARGER SINKHOLES OR SINKHOLES THAT REAPPEAR IN THE SAME LOCATION MAY INDICATE A BREACH IN THE GEOTEXTILE LINER, INLET BOX STRUCTURE, PIPE CONNECTION OR A BREAK IN A STORM CONVEYANCE LINE. THESE TYPES OF SINKHOLES MUST BE EXCAVATED AND THE FAILURE IDENTIFIED AND REPAIRED IMMEDIATELY IN ORDER TO PREVENT SOIL FROM ENTERING THE POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM AND CLOGGING IT OR REDUCING THE CAPACITY OF THE BMP FOR RECHARGE OF RUNOFF.
3. ALL SEDIMENT TRAPS AND INLETS MUST BE VISUALLY INSPECTED SEVERAL TIMES A YEAR FOR ACCUMULATED SOIL AND DEBRIS. INLET GRATES MUST BE KEPT FREE OF LEAVES, STICKS, MULCH, AND OTHER LAWN DEBRIS OR TRASH THAT WOULD PREVENT INFLOW OF RUNOFF. SUMPS IN SEDIMENT TRAPS OR INLET BOTTOMS MUST HAVE ACCUMULATED SEDIMENT REMOVED TO ENSURE DESIGN CAPACITY SUFFICIENT TO TRAP SEDIMENT AND DEBRIS FROM ENTERING ANY SEEPAGE BED. ANY WEEP HOLES IN THE BOTTOM OF THE INLETS OR SEDIMENT TRAP SHOULD BE CLEARED TO ALLOW WATER TO SEEP OUT.
4. ONCE A YEAR, THE POST CONSTRUCTION STORMWATER MANAGEMENT SYSTEM MUST BE INSPECTED TO DETERMINE OF IT IS DRAINING WITHIN THE REQUIRED TIME PERIOD (USUALLY TWENTY -FOUR HOURS.) THE INSPECTION PORT SHALL BE OPENED AT LEAST TWENTY-FOUR HOURS FOLLOWING A STORM AND THE LEVEL OF WATER IN THE BED NOTED. VENTED CLEAN-OUTS MUST BE CHECKED TO ENSURE OPENINGS ARE CLEAR. ADJUSTMENTS TO THE CLEAN-OUTS MUST BE MADE IF SOIL OR OTHER LAWN DEBRIS IS OBSERVED TO BE ENTERING THE SYSTEM.
5. ANY CLEAN-OUT, INLET OR LEVEL SPREADER THAT HAS BEEN DAMAGED BY LAWN EQUIPMENT MUST BE REPAIRED OR REPLACED. CLEAN-OUTS THAT BECOME BURIED SHOULD BE RAISED TO GRADE. THE CONFIGURATION MUST NOT ALLOW SOIL OR OTHER DEBRIS TO CLOG THE COLLECTION PIPE. ALL COLLECTION PIPES MUST BE CHECKED ANNUALLY TO ENSURE THEY ARE FLOWING FREELY. IF THE COLLECTION PIPES BECOME CLOGGED, JET CLEANING MUST BE PERFORMED AT THE CLEANOUT-OUTS. ADDITIONAL PROTECTION MUST BE MADE AT THE SEDIMENT TRAP DURING JET CLEANING TO ENSURE THAT DEBRIS IS NOT TRANSMITTED TO THE SEEPAGE BED.
6. SMALL TREES THAT BEGIN TO GROW IN THE VICINITY OF SEEPAGE BEDS OR STRUCTURES MUST BE REMOVED TO ENSURE THAT THE ROOTS DO NOT PUNCTURE THE FILTER FABRIC OF THE SEEPAGE BED OR DAMAGE ANY STORMWATER COLLECTION/CONVEYANCE STRUCTURE.
7. ROOF GUTTER SYSTEMS THAT ARE INTEGRAL WITH THE SEEPAGE BED MUST BE FUNCTIONAL. REPAIRS TO GUTTERS THAT BECOME SEPARATED, SAG OR OTHERWISE DO NOT FUNCTION AS DESIGNED MUST BE MADE.
8. PREVENTATIVE MAINTENANCE WOULD INCLUDE REMOVAL OF LEAVES FROM GUTTER SYSTEMS AND LAWN AREAS AS SOON AS POSSIBLE TO AVOID CONTAMINATION OF CLOGGING OF THE SYSTEM. LOCATING LANDSCAPE-MULCHED AREAS AWAY FROM CONCENTRATED RUNOFF AREAS OR SWALES THAT COULD WASH MULCH INTO INLET OR LEVEL SPREADER IS RECOMMENDED.

LINETYPE LEGEND
EXISTING PROPERTY LINE
EXISTING RIGHT OF WAY
EXISTING BUILDING SETBACK
EXISTING FENCE
EXISTING 1' CONTOUR
EXISTING 5' CONTOUR
EXISTING OVERHEAD ELECTRIC
EXISTING ELECTRIC LINE
EXISTING GAS LINE
EXISTING TELECOMMUNICATION LINE
EXISTING WATER LINE
EXISTING SANITARY LINE
EXISTING STORM PIPES
15%-25% SLOPES (UNREGULATED)
>25% SLOPES (UNREGULATED)
15%-25% SLOPES (REGULATED)
>25% SLOPES (REGULATED)
PROPOSED OVERHEAD ELECTRIC
PROPOSED ELECTRIC LINE
PROPOSED GAS LINE
PROPOSED TELECOMMUNICATION LINE
PROPOSED WATER LINE
PROPOSED SANITARY LINE
PROPOSED STORM PIPES
PROPOSED BUILDING
PROPOSED DRIVEWAY
PROPOSED IMPERVIOUS WALKS, ETC.

SOILS INFORMATION

SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH WATER	DEPTH TO BEDROCK
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41
MhE	MANOR LOAM AND CHANNERY LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	7.11

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

CONSTRUCTION NOTES:
1. THE CONTRACTOR SHALL VERIFY ALL DEPTHS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION. ANY DISCREPANCIES WITH THE PLANS FOUND IN THE FIELD SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE OWNER AND ENGINEER.
2. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL APPLY FOR AND SECURE ALL PROPER PERMITS FROM THE APPROPRIATE AUTHORITIES.
3. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE HAVERFORD TOWNSHIP STANDARDS.
4. ALL EXCAVATIONS AND PEOPLE ENTERING EXCAVATIONS OR OTHER BELOW GRADE STRUCTURES SHALL COMPLY WITH OSHA REQUIREMENTS.
5. THE OWNER AND ENGINEER ARE NOT RESPONSIBLE FOR THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION.
6. ANY EXISTING UTILITIES, PAVEMENT, CURBS, SIDEWALKS, STRUCTURES, TREES, ETC., NOT PLANNED FOR REPAIR OR REMOVAL THAT ARE DAMAGED OR REMOVED SHALL BE REPAIRED OR REPLACED AT CONTRACTOR'S EXPENSE.
7. ALL PVC STORMWATER PIPES SHALL BE SDR 35 OR GREATER.
8. ALL HDPE STORMWATER PIPES SHALL BE SMOOTHLINE INTERIOR.
9. ALL STORMWATER FITTINGS SHALL BE WATERTIGHT.
10. GEOTEXTILE FABRIC (PERMEABLE FILTER FABRIC) SHALL BE CLASS 1 NON-WOVEN AND SHALL COMPLY WITH PENNDOT SPECIFICATIONS.
11. STONE WITHIN STORMWATER MANAGEMENT FACILITIES SHALL BE CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE WITH MINIMUM 40% VOID SPACE.
12. BASEMENT WALLS WITHIN 20' OF SWALES SHALL BE WATERPROOFED.
13. ALL YARD DRAINS SHALL BE GRADED IN A 6" MINIMUM SUMP CONDITION.
14. ALL YARD DRAINS AND SUMP BOXES SHALL INCLUDE A 12" MINIMUM SUMP BELOW THE LOWEST INVERT ELEVATION.
15. CLEANOUTS ARE REQUIRED AT ALL CHANGES IN SLOPE OR DIRECTION.
16. PIPE PERFORATIONS SHALL BE NOT LESS THAN 5/16 INCH IN DIAMETER AND PROVIDE AN OPENING AREA NOT LESS THAN 3.31 SQUARE INCHES PER SQUARE FOOT OF PIPE SURFACE.
17. IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE SECTION 1804.3 SITE GRADING, THE GROUND IMMEDIATELY ADJACENT TO THE FOUNDATION SHALL BE SLOPED AWAY FROM THE BUILDING AT A SLOPE OF NOT LESS THAN FIVE (5%) PERCENT FOR A MINIMUM DISTANCE OF 10 FEET MEASURED PERPENDICULAR TO THE FACE OF THE WALL. IF PHYSICAL OBSTRUCTIONS OR LOT LINES PROHIBIT 10 FEET OF HORIZONTAL DISTANCE, A FIVE (5%) PERCENT SLOPE SHALL BE PROVIDED TO AN APPROVED ALTERNATIVE METHOD OF DIVERTING WATER AWAY FROM THE FOUNDATION. SWALES USED FOR THIS PURPOSE SHALL BE SLOPED A MINIMUM OF TWO (2%) PERCENT WHERE LOCATED WITHIN 10 FEET OF THE BUILDING FOUNDATION. IMPERVIOUS SURFACES WITHIN 10 FEET OF THE BUILDING FOUNDATION SHALL BE SLOPED A MINIMUM OF TWO (2%) PERCENT AWAY FROM THE BUILDING.
18. THE EXCAVATION OUTSIDE THE FOUNDATION SHALL BE BACKFILLED WITH SOIL THAT IS FREE OF ORGANIC MATERIAL, CONSTRUCTION DEBRIS, COBBLES AND BOULDERS OR WITH A CONTROLLED LOW-STRENGTH MATERIAL (CLSM). THE BACKFILL SHALL BE PLACED IN LIFTS AND COMPACTED IN A MANNER THAT DOES NOT DAMAGE THE FOUNDATION OR THE WATERPROOFING OR DAMPPROOFING MATERIAL.
19. THE PROCEDURE USED TO ESTABLISH THE FINAL GROUND LEVEL ADJACENT TO THE FOUNDATION SHALL ACCOUNT FOR ADDITIONAL SETTLEMENT OF THE BACKFILL.
20. STAIRS AND RAILINGS (IF REQUIRED) SHALL BE IN ACCORDANCE WITH THE HAVERFORD TOWNSHIP STANDARDS.
21. ANY SUBSTANDARD CURB AND SIDEWALK SHALL BE REPLACED.

LOCATION MAP
SCALE: 1" = 2,000'

EXISTING LOT DATA:

RECORD OWNER:	DEBORAH A. RICKETTS 1015 CHELSEA AVENUE SANTA MONICA, CA 90403
PARCEL ID:	22-09-01348-00
TAXMAP ID:	22-31-687:000
DEED BOOK & PAGE NO:	5181 & 681
GROSS LOT AREA:	32,027 SF (0.7352 AC)

EXISTING IMPERVIOUS COVERAGE:

BUILDING	332 SF (1.0%)
CONCRETE	146 SF
BRICK	368 SF
FIREPLACE	63 SF
WALLS	180 SF
TOTAL	1,088 SF (3.4%)

PROPOSED LOT 1 DATA:

GROSS LOT AREA:	15,971 SF (0.3666 AC)
NET LOT AREA:	15,814 SF (0.3630 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	1,803 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	209 SF
TOTAL	2,513 SF (15.9%)
MAXIMUM ALLOWED	7,116 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	1,803 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	1,995 SF (12.6%)

PROPOSED LOT 2 DATA:

GROSS LOT AREA:	16,056 SF (0.3686 AC)
NET LOT AREA:	15,899 SF (0.3650 AC)

PROPOSED IMPERVIOUS COVERAGE:

BUILDING	2,135 SF
DRIVEWAY	501 SF
WALLS, WALKS, ETC.	263 SF
TOTAL	2,899 SF (18.2%)
MAXIMUM ALLOWED	7,155 SF (45.0%)

BUILDING COVERAGE CALCULATION:

BUILDING	2,135 SF
DECK	192 SF
TOTAL BUILDING COVERAGE	2,327 SF (14.6%)

GENERAL NOTES:
1. THE INTENT OF THIS PLAN IS TO ILLUSTRATE THE SUBDIVISION OF THE EXISTING LOT AND THE CONSTRUCTION OF TWO NEW SINGLE FAMILY DWELLINGS.
2. THE STORMWATER MANAGEMENT FACILITIES HAVE BEEN DESIGNED FOR THE PROPOSED IMPERVIOUS COVERAGE ON EACH LOT (3,000 SF) WHICH INCLUDES THE PROPOSED IMPERVIOUS (2,381 SF) AS WELL AS IMPERVIOUS WITHIN THE RIGHT OF WAY AND FUTURE IMPERVIOUS.
3. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE STORMWATER MANAGEMENT SYSTEMS AND OTHER ASSOCIATED FACILITIES WILL BE THE OBLIGATION OF THE PROPERTY OWNER.
4. THE DEVELOPMENT BE SERVICED BY A NEW INDIVIDUAL PRIVATE, GRAVITY SEWER LATERAL AND WATER LATERAL, WHICH WILL CONNECT TO THE EXISTING TOWNSHIP SEWER MAIN AND AQUA WATER MAIN WITHIN GREENBRIAR LANE.

THE LANDOWNER ACKNOWLEDGES THAT THE STORMWATER CONTROLS AND BMPS ARE FIXTURES THAT CAN BE ALTERED OR REMOVED ONLY AFTER APPROVAL BY HAVERFORD TOWNSHIP. ANY REVISION TO THE APPROVED DRAINAGE PLAN SHALL BE SUBMITTED TO AND APPROVED BY THE MUNICIPALITY, AND 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 THE REVISED FEATURES.

VINCE SPOSATO, MEMBER OF SLEEPY VALLEY HOLDINGS, LLC

I CHRISTOPHER C. YOHN, P.E., CPESC, ON THIS DATE 06/25/20, HEREBY CERTIFY THAT THE SWM SITE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE HAVERFORD TOWNSHIP STORMWATER MANAGEMENT CODE.

CHRISTOPHER C. YOHN, P.E., CPESC

0 20' 40'
SCALE: 1" = 20'

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

SEAL:
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

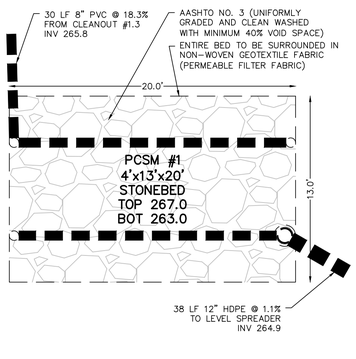
PROJECT: GREENBRIAR LANE SUBDIVISION
PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083
MUNICIPALITY: HAVERFORD TOWNSHIP
COUNTY: DELAWARE COUNTY
PLAN SET: FINAL MINOR SUBDIVISION PLANS
SHEET NAME: POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

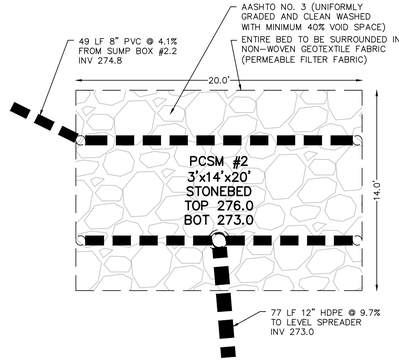
PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	1" = 20'
ONE CALL NUMBER:	2020-153-1932
DRAWN BY:	CCY
PROJECT NUMBER:	20-009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

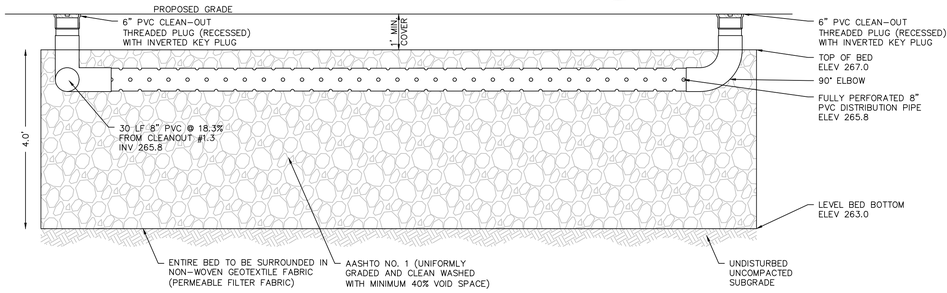
YOHN Engineering, LLC

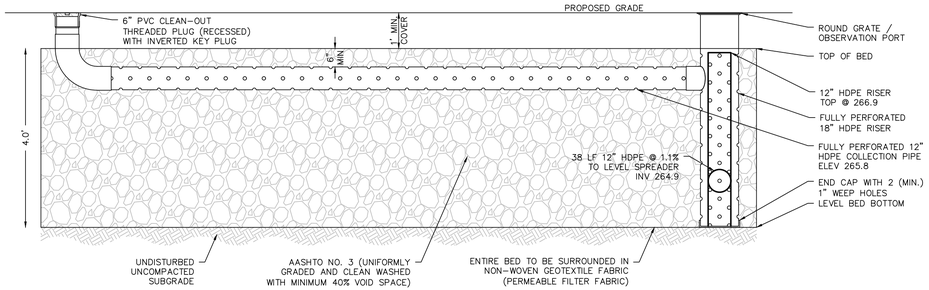




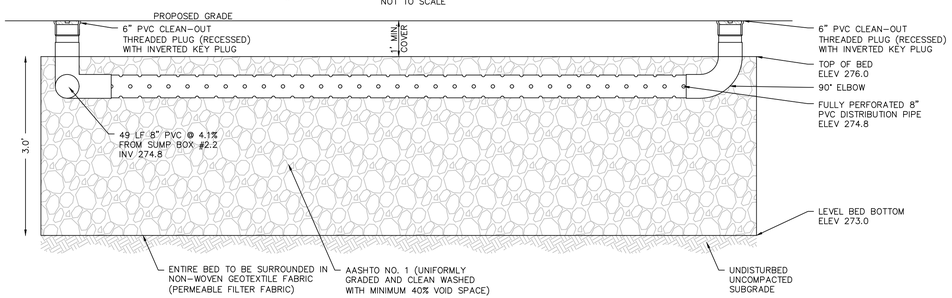
PIPE PERFORATION SPECIFICATIONS		
PIPE SIZE	HOLES PER LINEAR FOOT (⅜" HOLES)	HOLES PER LINEAR FOOT (½" HOLES)
6"	68	12
8"	90	16
10"	113	20
12"	136	24
15"	169	30
18"	203	36
24"	271	48
30"	339	60
36"	407	72
48"	542	96
60"	678	120
72"	813	144

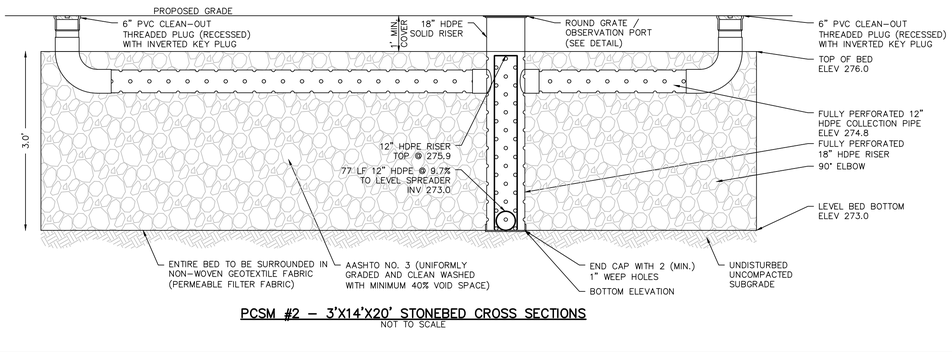
NOTE: PIPE PERFORATIONS SHALL BE NOT LESS THAN 5/16 INCH IN DIAMETER AND PROVIDE AN OPENING AREA NOT LESS THAN 3.31 SQUARE INCHES PER SQUARE FOOT OF PIPE SURFACE.



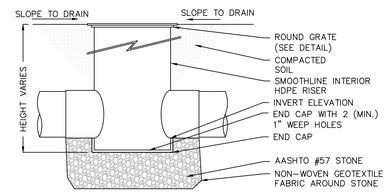


PCSM #1 – 4'X13'X20' STONEBED CROSS SECTIONS
NOT TO SCALE

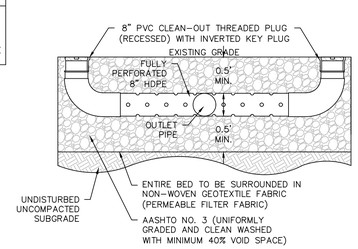




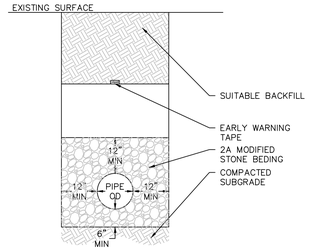
PCSM #2 – 3'X14'X20' STONEBED CROSS SECTIONS
NOT TO SCALE



YARD DRAIN/SUMP BOX DETAIL (OR APPROVED EQUAL)
NOT TO SCALE

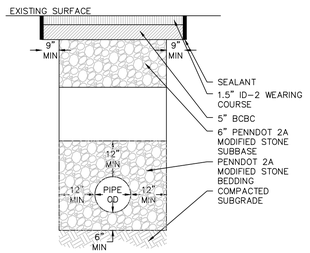


SPREADER CROSS SECTION
NOT TO SCALE



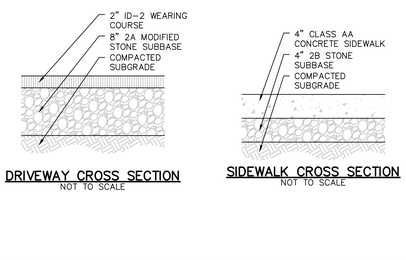
NOTES:
1. MODIFIED STONE MAY BE REQUIRED FOR THE FULL HEIGHT OF THE TRENCH.
2. ADDITIONAL PREPARATIONS MAY BE REQUIRED BY SITE AND SOIL CONDITIONS.
3. BACKFILL MUST BE COMPACTED IN 12" MAX LIFTS. THE TOWNSHIP ENGINEER MAY REQUIRE SUBMITTAL OF COMPACTION TEST RESULTS.

TRENCH RESTORATION DETAIL
NOT TO SCALE



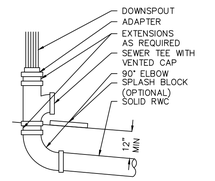
NOTES:
1. MODIFIED STONE MAY BE REQUIRED FOR THE FULL HEIGHT OF THE TRENCH.
2. ADDITIONAL PREPARATIONS MAY BE REQUIRED BY SITE AND SOIL CONDITIONS.
3. BACKFILL MUST BE COMPACTED IN 12" MAX LIFTS. THE TOWNSHIP ENGINEER MAY REQUIRE SUBMITTAL OF COMPACTION TEST RESULTS.

TRENCH AND ROADWAY RESTORATION DETAIL
NOT TO SCALE

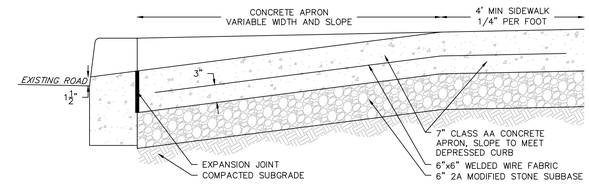


DRIVEWAY CROSS SECTION
NOT TO SCALE

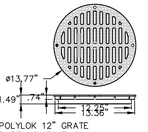
SIDEWALK CROSS SECTION
NOT TO SCALE



DOWNSPOUT CONNECTION DETAIL
NOT TO SCALE

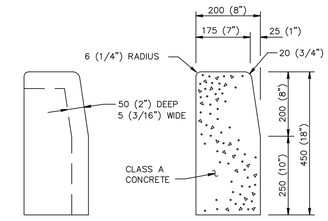


CONCRETE APRON CROSS SECTION
NOT TO SCALE



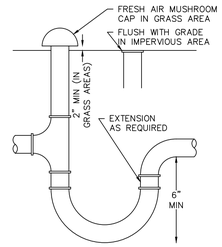
POLYLOK 12" GRATE
PART NO. 3017-G
MATERIAL – POLYPROPYLENE
COLOR – BLACK & GREEN
OPEN AREA – 35 SQ. IN.
FLOW RATE – 45.85 GPM

12" GRATE DETAIL (OR EQUAL)
NOT TO SCALE



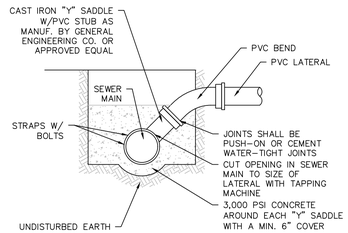
NOTES:
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 630 FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB, SECTION 640 FOR PLAIN CEMENT CONCRETE GUTTER AND SECTION 641 FOR PLAIN CEMENT CONCRETE CURB GUTTER.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
3. PLACE 20 (3/4") THICK PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
4. SEE RC-50M FOR PLAIN CEMENT CONCRETE CURB SLOPED TOP TREATMENT AT END OF STRUCTURES.
5. WHERE CURBS ARE INSTALLED ADJACENT TO PARKING LANES A 150 (6") HIGH CURB CAN BE UTILIZED WITH APPROVAL FROM THE LOCAL MUNICIPALITY.
6. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. CUSTOMARY UNITS IN ( ) PARENTHESES.

PLAIN CEMENT CONCRETE CURB
NOT TO SCALE

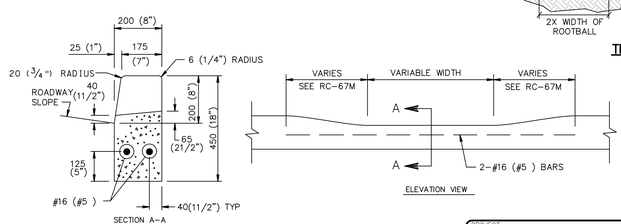


NOTES:
1. NO REDUCTION IN SIZE FROM HOUSE TO SEWER.
2. NO STORM SEWER OR SURFACE WATER OF ANY NATURE SHALL BE PERMITTED TO ENTER THE SANITARY SYSTEM.
3. CONCRETE ENCASEMENT MAY BE REQUIRED AT THE DIRECTION OF THE TOWNSHIP.

SEWER VENT AND TRAP DETAIL
NOT TO SCALE

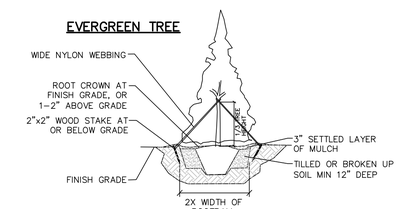


LATERAL CONNECTION DETAIL
NOT TO SCALE

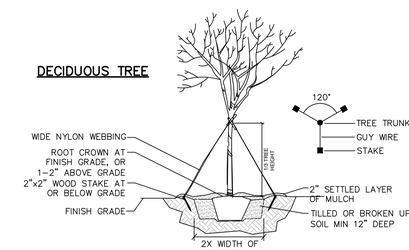


DEPRESSED CURB FOR DRIVEWAYS
NOT TO SCALE

EVERGREEN TREE



DECIDUOUS TREE

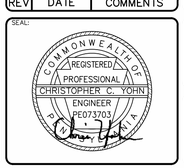


TREE PLANTING DETAIL
NOT TO SCALE

TREE PLANTING NOTES:
1. ALL PLANT MATERIALS AND INSTALLATION SHALL BE IN ACCORDANCE WITH THE AMERICAN STANDARDS FOR NURSERY STOCK, LATEST EDITION.
2. DIG THE PLANTING HOLE A MINIMUM OF 2x WIDTH OF ROOTBALL FOR AT LEAST THE FIRST 12 INCHES OF DEPTH. BELOW 12 INCHES, DIG HOLE WIDE ENOUGH TO PERMIT ADJUSTING. DO NOT DIG THE HOLE DEEPER THAN ROOT BALL DEPTH.
3. SCARIFY THE SUBGRADE AND SIDES OF THE PLANTING HOLE WHEN PLANTING IN CLAY SOILS (MORE THAN 15% CLAY).
4. LIFT AND SET THE TREE BY ROOT BALL ONLY. DO NOT LIFT USING THE TREE TRUNK AND DO NOT USE TREE TRUNK AS A LEVER.
5. SET THE TOP OF THE ROOT BALL LEVEL WITH THE SOIL SURFACE OR SLIGHTLY HIGHER IF THE SOIL IS PRONE TO SETTLING.
6. AFTER THE TREE IS SET IN PLACE, REMOVE BURLAP, WIRE AND STRAPS FROM AT LEAST THE UPPER 1/3 OF THE ROOTBALL.
7. BACKFILL WITH EXISTING SOIL THAT HAS BEEN WELL-TILLED OR BROKEN UP. DO NOT ADD AMENDMENTS TO THE BACKFILL SOIL. AMEND THE SURFACE WITH MULCH.
8. USE THREE 2" X 2" WOOD STAKES DRIVEN INTO UNDISTURBED SOIL A MINIMUM OF 16 INCHES. SPACE STAKES EQUALLY AROUND THE TREE.
9. ATTACH 3/4" NYLON WEBBING TO CONNECT THE TREE TO STAKES. ATTACH WEBBING AT 1/3 THE TREE HEIGHT.
10. APPLY A 3" (SETTLED) DEPTH OF BARK MULCH TO THE PLANTING SURFACE, LEAVE A 2" SPACE AROUND THE TRUNK FOR AIR CIRCULATION.
11. PRUNING SHALL BE LIMITED TO DEAD, DISEASED, OR BROKEN LIMBS ONLY AND SHALL BE IN ACCORDANCE WITH ANSI A300 SPECIFICATIONS.
12. REMOVE ANY TRUNK WRAP REMAINING AT TIME OF PLANTING. NO WRAPS SHALL BE PLACED ON TRUNK.

REPLACEMENT TREE NOTES:
1. THE FINAL LOCATION OF THE REPLACEMENT TREES SHALL BE CONFIRMED BY THE OWNER AND APPROVED BY THE TOWNSHIP ARBORIST.

SEAL:



REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

PROJECT: GREENBRIAR LANE SUBDIVISION

PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY: HAVERFORD TOWNSHIP | COUNTY: DELAWARE COUNTY

PLAN SET: FINAL MINOR SUBDIVISION PLANS

SHEET NAME: POST CONSTRUCTION STORMWATER MANAGEMENT NOTES & DETAILS

PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	NO SCALE
ONE CALL NUMBER:	2020-153-1932
DRAWN BY:	CCY
PROJECT NUMBER:	20-009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

SHEET: 5 OF 7

Serial Number: 2020-153-1932

CALL BEFORE YOU DIG!

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE-STOP CALL

Pennsylvania One Call System, Inc.
1-800-242-1776

ALL LOCATIONS OF EXISTING UTILITIES, SHOWN ON THIS PLAN, HAVE BEEN DEVELOPED FROM FIELD LOCATIONS OF VISIBLE ABOVE GROUND UTILITY STRUCTURES AND INFORMATION FURNISHED BY THE UTILITY COMPANIES.

ALL LOCATIONS SHOULD BE CONSIDERED APPROXIMATE. COMPLETENESS OR ACCURACY OF THE LOCATIONS AND DEPTH OF ALL STRUCTURES CANNOT BE GUARANTEED. CONTRACTORS MUST VERIFY ALL LOCATIONS AND DEPTHS OF ALL UNDERGROUND UTILITIES AND FACILITIES BEFORE THE START OF ANY WORK.

AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO THE START OF ANY CONSTRUCTION.

REFERENCE PLANS:

1. BOUNDARY AND TOPOGRAPHIC SURVEY PLAN PREPARED FOR VINCE SPOSATO BY MOMENEE, INC., BRYN MAWR, PA. DATED FEBRUARY 13, 2020. FILE NO. 20-051.
2. LIDAR TOPOGRAPHY AND OTHER GIS INFORMATION OBTAINED ELECTRONICALLY FROM SHAPE FILES DISTRIBUTED BY DELAWARE VALLEY REGIONAL PLANNING COMMISSION. FILES WERE OBTAINED VIA WWW.PASDA.PSU.EDU.
3. AERIAL PHOTOGRAPH OBTAINED FROM THE MICROSOFT CORPORATION BING MAPS.
4. SOILS INFORMATION VIA THE NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY (WEBSOILSURVEY.SC.EGOV.USDA.GOV.)

REFERENCE PLAN #1 NOTES:

1. THIS PLAN REPRESENTS AN ACTUAL FIELD SURVEY PERFORMED ON THE PREMISES ON FEBRUARY 6, 2020 AND DEPICTS CONDITIONS ON THAT DATE.
2. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
3. THE VERTICAL DATUM SHOWN ON THIS PLAN IS PER NAVD1988, OBTAINED VIA GPS OBSERVATIONS.
4. IN ACCORDANCE WITH FEMA PANEL NUMBER 42045C0102F EFFECTIVE DATE NOVEMBER 18, 2009, PREMISES IS LOCATED IN ZONE X, AREA OF MINIMAL FLOOD HAZARD.

LOCATION MAP
SCALE: 1" = 2,000'

CONSTRUCTION TIMING AND SEQUENCE NOTES:

1. ANTICIPATED START OF CONSTRUCTION: SEPTEMBER 2020.
2. INSTALL THE TREE PROTECTION FENCING AND NOTIFY TOWNSHIP FOR APPROVAL AND 48 HOURS PRIOR TO THE START OF EARTHMOVING ACTIVITIES.
3. INSTALL THE STABILIZED CONSTRUCTION ENTRANCE. ALL CONSTRUCTION VEHICLES SHALL UTILIZE THIS ENTRANCE TO EXIT THE SITE.
4. INSTALL SILT FENCE, STRIP TOPSOIL AND STOCKPILE FOR FUTURE USE. SURROUND STOCKPILE WITH SILT FENCE AND IMMEDIATELY STABILIZE.
5. CLEAR AND GRUB THE SITE WITHIN THE LIMITS OF DISTURBANCE.
6. DEMOLISH PORTIONS OF EXISTING IMPERVIOUS AS NOTED ON THE PLAN.
7. EXCAVATE FOR THE PROPOSED FOUNDATIONS, CONSTRUCT AND BACKFILL AND ROUGH GRADE THE SITE.
8. INSTALL THE STONE BASE FOR THE DRIVEWAYS.
9. CONCURRENT WITH DRIVEWAY STONE, BEGIN BUILDING CONSTRUCTION.
10. FINAL GRADE THE SITE AND INSTALL THE WALKWAYS, PATIOS AND FINAL PAVING.
11. SPREAD TOPSOIL, SEED AND IMMEDIATELY STABILIZE.
12. NOTIFY THE TOWNSHIP ENGINEER 48 HOURS PRIOR TO THE INSTALLATION OF THE STORMWATER MANAGEMENT SYSTEM AND ASSOCIATED FACILITIES. UPON SITE STABILIZATION, INSTALL THE PERMANENT STORMWATER MANAGEMENT SYSTEM. THE STORMWATER MANAGEMENT SYSTEM SHALL NOT RECEIVE RUNOFF WITHOUT THE PRIOR APPROVAL FROM THE TOWNSHIP ENGINEER AND UNTIL THE ENTIRE DRAINAGE AREA CONTRIBUTORY HAS ACHIEVED FINAL STABILIZATION.
13. REMOVE THE EROSION AND SEDIMENTATION CONTROLS AND IMMEDIATELY STABILIZE DENUDED AREAS.
14. ANTICIPATED END OF CONSTRUCTION: SEPTEMBER 2021.

DISTURBED AREA: 19,500± SF (0.45 AC)
UNDISTURBED AREA: 12,500± SF (0.29 AC)

LINETYPE LEGEND

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING 1' CONTOUR
- EXISTING 5' CONTOUR
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING TELECOMMUNICATION LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- 15%-25% SLOPES (UNREGULATED)
- >25% SLOPES (UNREGULATED)
- 15%-25% SLOPES (REGULATED)
- >25% SLOPES (REGULATED)
- PROPOSED OVERHEAD ELECTRIC
- PROPOSED ELECTRIC LINE
- PROPOSED GAS LINE
- PROPOSED TELECOMMUNICATION LINE
- PROPOSED WATER LINE
- PROPOSED SANITARY LINE
- PROPOSED STORM PIPES
- PROPOSED BUILDING
- PROPOSED DRIVEWAY
- PROPOSED IMPERVIOUS WALKS, WALLS, ETC.
- PROPOSED SILT SOCK
- PROPOSED TREE PROTECTION FENCING
- PROPOSED LIMITS OF DISTURBANCE
- PROPOSED EROSION CONTROL BLANKET

SOILS INFORMATION					
SYMBOL	NAME	%SLOPE	HYDROLOGIC GROUP	DEPTH TO SH WATER	DEPTH TO BEDROCK
GnB	GLENVILLE SILT LOAM	3 TO 8 PERCENT SLOPES	C	1.73	1.57
Me	MADE LAND SCHIST AND GNEISS MATERIALS	NOT RATED	B	4.98	5.41
MhE	MANOR LOAM AND CHANNERY LOAM	25 TO 35 PERCENT SLOPES	B	6.6+	7.11

NOTES: IF THE PROPOSED EROSION AND SEDIMENTATION CONTROL MEASURES ARE INSTALLED AND MAINTAINED PROPERLY, NO UNFORESEEN SOIL LIMITATIONS OR PROBLEMS ARE LIKELY. NEVERTHELESS, IF A PROBLEM DOES DEVELOP, THE DEVELOPER MUST TEMPORARILY SEED AND MULCH THE DISTURBED AREA. SUITABLE TOPSOIL SHALL BE IMPORTED TO SITE IF INADEQUATE QUANTITIES OF SUITABLE TOPSOIL EXIST ON SITE. ADEQUACY OF SOIL TO BE DETERMINED BY SITE GEOTECHNICAL ENGINEER IN CONJUNCTION WITH THE LANDSCAPE ARCHITECT. SOIL AMENDMENTS SHALL BE ADDED AS REQUIRED. ALL UNSUITABLE MATERIAL SHALL BE DISPOSED OF PROPERLY. SITE GEOTECHNICAL ENGINEER SHALL ALSO BE CONSULTED DURING WINTER GRADING OPERATIONS.

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

SEAL:

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
CHRISTOPHER C. YOHN
ENGINEER
PE073703

PROJECT: GREENBRIAR LANE SUBDIVISION
PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083
MUNICIPALITY: HAVERFORD TOWNSHIP
COUNTY: DELAWARE COUNTY
PLAN SET: FINAL MINOR SUBDIVISION PLANS
SHEET NAME: EROSION AND SEDIMENTATION CONTROL PLAN

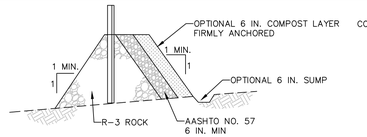
PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

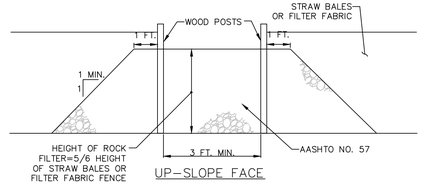
DATE: APRIL 3, 2020
SCALE: 1" = 20'
ONE CALL NUMBER: 2020-153-1932
DRAWN BY: CCY
PROJECT NUMBER: 20-009

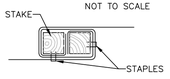
PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

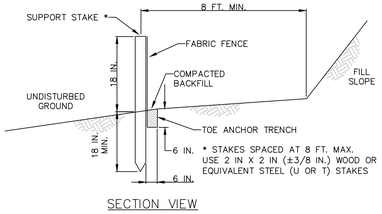
YOHN Engineering, LLC

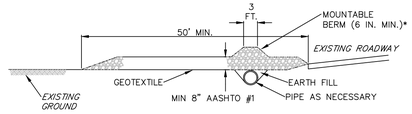
SHEET: 6 OF 7

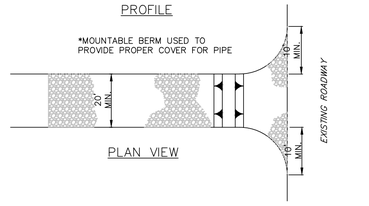












STANDARD E&S PLAN NOTES:

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. 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 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1–800–242–1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE MUNICIPALITY PRIOR TO IMPLEMENTATION.
4. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
5. 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.
6. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
7. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAPS(S) IN THE AMOUNT NECESSARY TO COMPLETE 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 15 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
8. 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 MUNICIPALITY.
9. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
10. 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.
11. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP–001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
12. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS.
13. 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. ALL PREVENTATIVE AND REMEDIAL 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.
14. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE 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.
15. ALL SEDIMENT REMOVED FROM BMPS SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
16. 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 6 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING.
17. 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.
18. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
19. 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.
20. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
21. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
22. SEEPS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
23. 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.
24. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON–GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN. AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
25. 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.
26. E&S 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 MUNICIPALITY.
27. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE MUNICIPALITY FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPS.
28. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMPS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPS. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPS SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
29. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE MUNICIPALITY TO SCHEDULE A FINAL INSPECTION.
30. FAILURE TO CORRECTLY INSTALL E&S BMPS, FAILURE TO PREVENT SEDIMENT–LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPS MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. 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.
31. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
32. SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
33. SEDIMENT BASINS AND/OR TRAPS SHALL BE PROTECTED FROM UNAUTHORIZED ACTS BY THIRD PARTIES.
34. ANY DAMAGE THAT OCCURS IN WHOLE OR IN PART AS A RESULT OF BASIN OR TRAP DISCHARGE SHALL BE IMMEDIATELY REPAIRED BY THE PERMITTEE IN A PERMANENT MANNER SATISFACTORY TO THE MUNICIPALITY, LOCAL CONSERVATION DISTRICT, AND THE OWNER OF THE DAMAGED PROPERTY.
35. SOD OR EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 4H:1V OR STEEPER, WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
36. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE. HAY AND STRAW MULCH SHOULD BE ANCHORED OR TACKIFIED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN. A TRACTOR DRAWN IMPLEMENT MAY BE USED TO CRIMP THE HAY OR STRAW INTO THE SOIL (ABOUT 3").
37. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
38. GRADING AND EARTHMOVING OPERATIONS SHALL BE MINIMIZED DURING THE PERIOD FROM NOVEMBER 15 TO APRIL 1 WHEN RE–VEGETATION OF EXPOSED GROUND SURFACE IS DIFFICULT. MULCH, STRAW, STONE AND/OR SOD SHALL BE USED TO STABILIZE ALL AREAS DENUDED DURING THIS TIME PERIOD.
39. THE RUNOFF CROSSING TO THE ADJACENT PROPERTIES DURING THE CONSTRUCTION PHASE OF THE PROJECT SHALL BE MANAGED SO THAT THE WATER QUALITY / QUANTITY IMPACT IS MINIMIZED TO THE ADJACENT PROPERTIES. ADDITIONAL DIVERSION BERMS, STONED CONSTRUCTION STAGING AREAS, AND INLETS/PIPING SHALL BE PROVIDED AS NECESSARY / DIRECTED IN ORDER TO ENSURE ACCEPTABLE CONDITIONS DURING THE CONSTRUCTION PHASE.
40. ALL TOPSOIL SHALL REMAIN ONSITE UNLESS OTHERWISE DIRECTED BY THE OWNER.
41. THE NPDES BOUNDARY IS EQUAL TO THE LIMITS OF DISTURBANCE FOR THE SITE, AND ANY OFF–SITE AREAS WITHIN THE LIMITS OF DISTURBANCE THAT ARE THE RESPONSIBILITY OF THE DEVELOPER TO INSTALL. OFF–SITE FACILITIES SUCH AS: UTILITIES AND ROADWAY IMPROVEMENTS.
42. FILL MATERIAL AND TOPSOIL STOCKPILES AND ACCESS TO THEM SHALL NOT BE LOCATED WITHIN THE DRIPLINE OF EXISTING TREES.

CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE NOTES:

1. IF THE SITE WILL HAVE EXCESS FILL THAT WILL NEED TO BE EXPORTED TO AN OFF SITE LOCATION, THE RESPONSIBILITY OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT. IF ALL CUT AND FILL MATERIALS WILL BE USED ON THE SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE OPERATOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF REGULATED SUBSTANCE OCCURRED ON SITE.
2. APPLICANTS AND/OR OPERATORS MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT THE FILL MATERIAL ASSOCIATED WITH THE PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL," DOCUMENT NUMBER 258–2182–773 A COPY OF THIS POLICY IS AVAILABLE ONLINE AS WWW. DEPWEB.STATE.PA.US
3. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON–WATER SOLUBLE, NON–DECOMPOSABLE, 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 SEPARATE FROM OTHER 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).
4. 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 THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".
5. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE 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–OD1 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP–001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.
6. 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 SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS. 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 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 THE DEPARTMENT'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 DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT. WHICHEVER IS APPLICABLE.

TOPSOIL APPLICATION, TURFGRASS ESTABLISHMENT AND SEEDING NOTES:

1. CONTRACTOR TO CONFIRM ADDITIONAL AND AREA SPECIFIC REQUIREMENTS WITH THE OWNER AND OWNER REPRESENTATIVE PRIOR TO INSTALLATION.

TOPSOIL APPLICATION:

1. GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SURFACE AREAS AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT TOPSOIL FROM SLIDING DOWN SLOPE.
2. TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM – 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.
3. TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET, OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION. COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTOUR WHEREVER POSSIBLE PRIOR TO SEEDING.

TURFGRASS ESTABLISHMENT:

SOIL TESTING
1. A SOIL TEST TO DETERMINE LIME AND FERILIZER REQUIREMENTS PROVIDES THE BEST GUIDE FOR PROPER TURFGRASS ESTABLISHMENT.

ROUGH–GRADING
1. REMOVE ALL DEBRIS, INCLUDING LARGE STONES.
2. TILL SOIL AND BRING AREA TO ROUGH–GRADE PRIOR TO LIMING OR FERTILIZATION.
3. WHERE TOPSOIL IS TO BE REPLACED OR BROUGHT IN, FIRST ROUGH–GRADE THE AREA TO THE CONTOUR OF THE FINISHED GRADE TO FACILITATE UNIFORM DISTRIBUTION OF TOPSOIL.

LIMING
1. WHERE A TEST HAS BEEN MADE, BROADCAST AND WORK INTO A 4 TO 6–INCH SOIL DEPTH TO MEET THE REQUIREMENT SHOWN BY THE TEST.
2. WHERE LIME REQUIREMENT EXCEEDS 200 LBS. PER 1,000 SF, APPLY ONE HALF THE TOTAL REQUIREMENT, TILL, APPLY THE REMAINING ONE HALF, AND RETILL.
3. WHERE A TEST IS NOT AVAILABLE, BROADCAST AND WORK INTO A 4 TO 6–INCH SOIL DEPTH A MINIMUM OF 100 LBS. PER 1,000 SF.

BASIC FERTILIZATION
1. WHERE A TEST HAS BEEN MADE, BROADCAST THE RECOMMENDED FERTILIZER AND WORK INTO THE SOIL TO A 4 TO 6–INCH DEPTH.
2. WHERE A TEST HAS NOT BEEN MADE, BROADCAST AND WORK INTO THE SOIL TO A 4 TO 6–INCH DEPTH 25 TO 35 LBS. OF 0–46–0 FERTILIZER OR EQUIVALENT PER 1,000 SF.

SOIL AMENDMENTS
1. WHERE A TEST INDICATES THE SOIL HAS A LOW ORGANIC MATTER CONTENT, WORK THE RECOMMENDED ORGANIC MATTER INTO THE SOIL TO A 2 TO 4–INCH DEPTH BEFORE APPLYING THE STARTER FERTILIZER.
2. REED SEDGE PEAT, MOSS PEAT, OR A COMBINATION OF THE TWO MATERIALS IS RECOMMENDED AS A SOURCE OF ORGANIC MATTER.

TILLAGE
1. TILL SEEDBED TO A 4 TO 6–INCH DEPTH MAKING SURE THE LIMESTONE (IF REQUIRED), AMENDMENTS (IF REQUIRED) AND THE BASIC FERTILIZER ARE UNIFORMLY MIXED THROUGHOUT THE SOIL PROFILE. POCKETS OF LIMESTONE, AMENDMENTS OR FERTILIZER MUST BE AVOIDED.

FINISH–GRADING
1. RAKE AREA TO FINISH–GRADE PRIOR TO SEEDING. LIGHT ROLLING WILL INDICATE ANY LOW SPOTS OR OTHER IRREGULARITIES OF THE AREA.

STARTER FERTILIZATION
1. IMMEDIATELY PRIOR TO SEEDING, BROADCAST AND WORK INTO THE TOP INCH OF SOIL 40 LBS. OF A 10–5–5, 10–6–4 OR 25 LBS. OF A 16–8–8 FERTILIZER OR THE EQUIVALENT PER 1,000 SF. THE FERTILIZER MUST BE TURF GRADE, HAVING AN APPROXIMATE 2–1–1 RATIO AND CONTAINING 35 PERCENT OR MORE OF THE TOTAL NITROGEN AS WATER INSOLUBLE OR CONTROLLED RELEASE NITROGEN.

SEEDING
1. LATE SUMMER TO EARLY FALL IS THE BEST TIME FOR SEEDING PERMANENT TURFGRASS.
2. SOW RECOMMENDED SEED MIXTURE ADAPTED TO USE AND CLIMATIC CONDITIONS OF THE AREA.
3. DIVIDE TOTAL SEED QUANTITY INTO TWO EQUAL LOTS, SOWING ONE LOT IN ONE DIRECTION AND THE SECOND LOT AT RIGHT ANGLES TO THE FIRST WITH A MECHANICAL SEEDER OR SPREADER.

COVER SEED
1. RAKE LIGHTLY OR DRAG AREA TO COVER SEED NO DEEPER THAN ¼ IN.

SEED–SOIL CONTACT
1. ROLL LIGHTLY TO FIRM SOIL AROUND SEED.

MULCHING
1. MULCH SEEDED AREA WITH CLEAN STRAW OR MARSH HAY AT 3.0 TONS PER ACRE. LIGHT MULCHES (SOME SOIL SHOWING THROUGH MULCH) MAY BE LEFT ON THE AREA TO DECOMPOSE. HEAVY MULCHES (COMPLETE SOIL COVERAGE) SHOULD BE REMOVED FROM THE AREA WITHIN A FEW DAYS AFTER SEED GERMINATION.

PERMANENT SEED MIXTURES		
SPECIES	% OF MIXTURE	SEED RATE
SUNNY AREAS AND WELL–DRAINED SOILS		
KENTUCKY BLUEGRASS	100%	2–3 LB/1,000 SF
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	80–90% 10–20%	3–4 LB/1,000 SF
KENTUCKY BLUEGRASS FINE FESCUES PERENNIAL RYEGRASS	40–60% 30–40% 10–20%	3–4 LB/1,000 SF
TURF–TYPE TALL FESCUE	100%	6–8 LB/1,000 SF
TURF–TYPE PERENNIAL RYEGRASS	100%	4–5 LB/1,000 SF
PARTIALLY SHADED AREAS		
FINE FESCUES KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	40–50% 40–50% 10–20%	4 LB/1,000 SF
FINE FESCUES	100%	4–5 LB/1,000 SF
TURF–TYPE TALL FESCUE	100%	6–8 LB/1,000 SF
HEAVY SHADE, WELL–DRAINED SOILS		
FINE FESCUES	100%	4–5 LB/1,000 SF
HEAVY SHADE, POORLY–DRAINED SOILS		
ROUGH BLUEGRASS	100%	2–3 LB/1,000 SF

TEMPORARY SEED MIXTURE		
SPECIES	% OF MIXTURE	SEED RATE
ANNUAL OR ITALIAN RYEGRASS	100%	4–5 LB/1,000 SF

SEED MIXTURE NOTES:

1. SEEDING AND TURFGRASS INFORMATION TAKEN FROM THE PENN STATE COLLEGE OF AGRICULTURAL SCIENCES. FOR ADDITIONAL INFORMATION REFER TO HTTP://PLANTSCIENCE.PSU.EDU/RESEARCH/CENTERS/TURF.
2. THE PERCENTAGE OF WEED SEEDS SHOULD NOT EXCEED 1.0% BY WEIGHT IN THE CONTAINER. GOOD QUALITY GRASS SEED USUALLY CONTAINS NO MORE THAN 0.5% WEED SEEDS.
3. SEEDS OR SEED MIXTURES CONTAINING TIMOTHY, MEADOW FESCUE, ORCHARDGRASS, TALL OATGRASS, ANNUAL RYEGRASS OR CLOVER ARE GENERALLY NOT SUGGESTED FOR TURFGRASS USE.
4. ALL SEEDING RATES IN THIS PUBLICATION ARE IN POUNDS PER 1000 SQUARE FEET. IF CONVERTING TO AN ACRE BASIS, MULTIPLY BY 43.
5. IT IS SUGGESTED THAT 3–5 VARIETIES OF KENTUCKY BLUEGRASS BE USED IN THE BLEND OR MIXTURE.
6. WHEREVER SEED AND MULCH IS APPLIED BY HYDROSEEDING METHODS, THE SEED AND MULCH SHOULD BE APPLIED IN SEPARATE APPLICATIONS WITH THE SEED BEING APPLIED FIRST AND THE MULCH SPRAYED ON TOP OF THE SEED.
7. IN CRITICAL AREAS (E.G. ADJACENT TO OR WITHIN 50 FEET OF STREAMS, PONDS, OR WETLANDS) A PROTECTIVE BLANKET SHOULD BE PROVIDED FOR ALL SEEDED AREAS.

NOTES:
1. A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.
2. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

STANDARD CONSTRUCTION DETAIL #4–6
ROCK FILTER OUTLET

NOT TO SCALE

* STAKES SPACED AT 8 FT. MAX.
USE 2 IN X 2 IN (±3/8 IN.) WOOD OR EQUIVALENT STEEL (U OR T) STAKES

NOTES:
1. FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.
2. FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
3. SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
5. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL # 4–6).
6. FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD CONSTRUCTION DETAIL #4–7
STANDARD SILT FENCE (18" HIGH)

NOT TO SCALE

#	LENGTH	SLOPE	SIZE
TOPSOIL STOCKPILES	NA	NA	18

NOTES:
1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. 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.
4. 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

NOTES:
1. 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.
2. 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.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
4. 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.
5. 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.
6. 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.
7. 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.

STANDARD CONSTRUCTION DETAIL #4–1
COMPOST FILTER SOCK

NOT TO SCALE

NOTES:
1. 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

2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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

NOT TO SCALE

NOTES:
1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
2. PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
4. 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.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. 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

ALL TREES AND VEGETATION TO BE RETAINED WITHIN 25 FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY SNOW FENCING OR OTHER EFFECTIVE BARRIER PLACED AT THE DRIPLINES. THE FINAL LOCATION MUST BE APPROVED BY THE TOWNSHIP ARBORIST PRIOR TO THE ISSUANCE OF PERMITS. THE LOCATION OF THE DRIPLINES AND FENCING SHALL BE FIELD ADJUSTED IN ORDER TO MINIMIZE IMPACT TO EXISTING TREES.

TREE PROTECTION FENCING

NOT TO SCALE

NOTES:
1. SILT FENCE MUST COMPLETELY ENCIRCLE STOCKPILES
2. TOPSOIL SHALL NOT BE REMOVED FROM THE DEVELOPMENT SITE OR USED AS FILL.
3. TOPSOIL SHALL BE REMOVED FROM THE AREAS OF CONSTRUCTION AND STORED SEPARATELY.
4. TOPSOIL SHALL BE STABILIZED TO MINIMIZE EROSION DURING STORAGE.
5. UPON COMPLETION OF CONSTRUCTION, THE TOPSOIL SHALL BE UNIFORMLY REDISTRIBUTED ON THE SITE.

TYPICAL SOIL STOCKPILE CROSS SECTION

NOT TO SCALE

PROJECT: GREENBRIAR LANE SUBDIVISION
PROJECT ADDRESS: GREENBRIAR LANE, HAVERTOWN, PA 19083
MUNICIPALITY: HAVERFORD TOWNSHIP
COUNTY: DELAWARE COUNTY

REV	DATE	COMMENTS
2	06/25/20	TWP ENG
1	06/01/20	LAYOUT

PLAN SET: FINAL MINOR SUBDIVISION PLANS
SHEET NAME: EROSION AND SEDIMENTATION CONTROL NOTES & DETAILS

SEAL:
CHRISTOPHER C. YOHN
PE073703

PREPARED FOR:
OWNER / APPLICANT
SLEEPY VALLEY HOLDINGS, LLC
C/O VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:	APRIL 3, 2020
SCALE:	NO SCALE
ONE CALL NUMBER:	2020–153–1932
DRAWN BY:	CCY
PROJECT NUMBER:	20–009

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B–205
COLLEGEVILLE, PA 19426
610–489–4580
WWW.YOHNENGINEERING.COM

YOHN Engineering, LLC

SHEET: 7 OF 7

STORMWATER MANAGEMENT CALCULATIONS

GREENBRIAR LANE

HAVERFORD TOWNSHIP, DELAWARE COUNTY

JUNE 25, 2020

File #20-009

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

STORMWATER MANAGEMENT NARRATIVE

A two lot subdivision is proposed on the vacant parcel 22-31-687 on Greenbriar Lane in Havertown, PA 19083. Each new lot will be 0.40 acres located within Haverford Township, Delaware County. The applicant proposes to construct a new single family dwelling with associated driveway, walks, etc. on each lot In accordance with Township code, the following are stormwater management calculations for the proposed development.

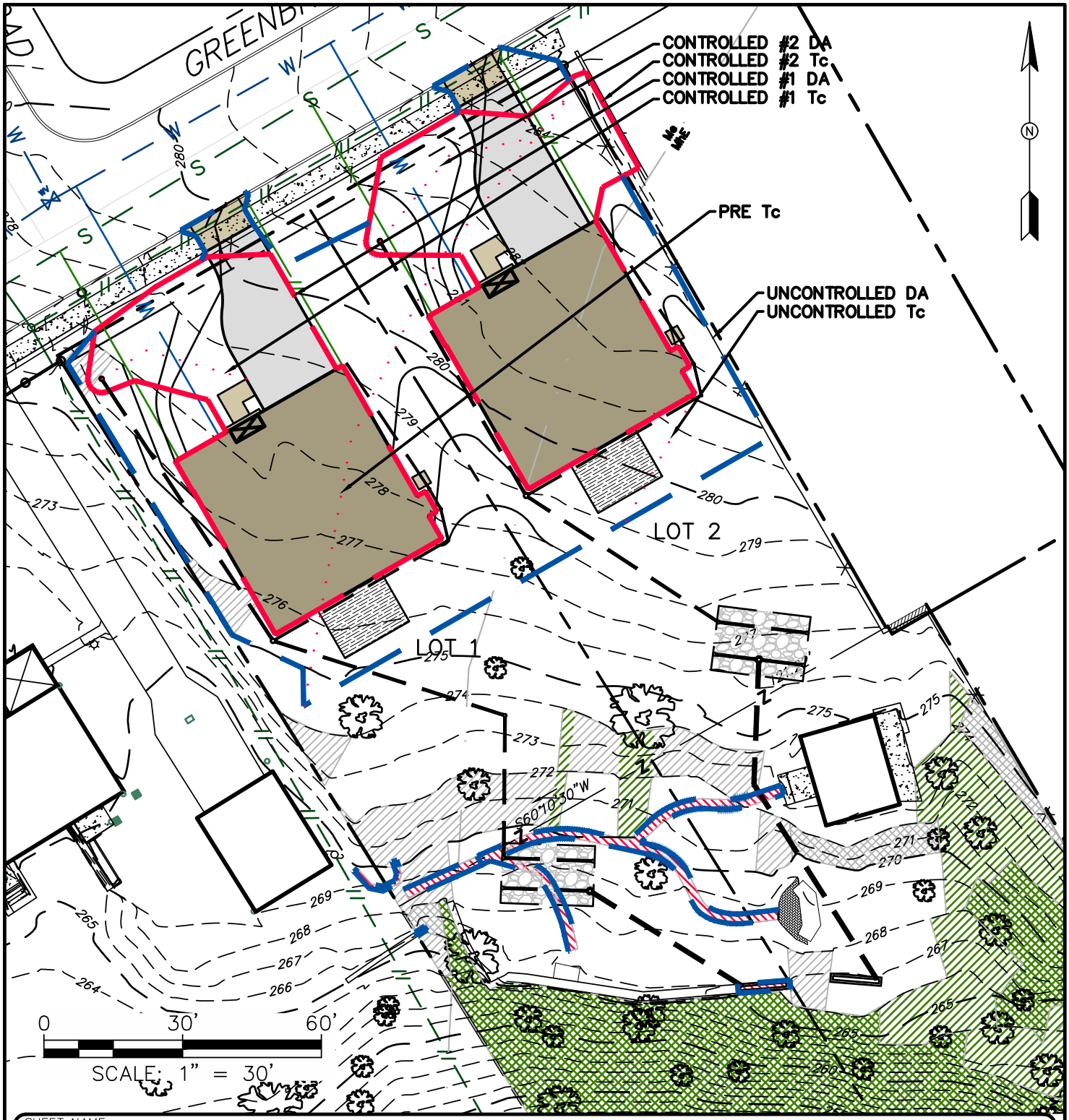
The site is located in the Darby - Cobbs Watershed District B2-49. As a result, several stormwater requirements need to be met:

- Provide Groundwater Recharge Volume in accordance with Section 78-34.
    - The first one inch of runoff over all proposed impervious surfaces shall be recharged into the ground.
- Provide Water Quality Volume in accordance with Section 78-35.
    - The first one inch of runoff from all disturbed areas must be captured and treated prior to release.
- Provide Stream Bank Erosion Requirements in accordance with Section 78-36.
    - The 2 year post development runoff rate shall be reduced to the 1 year pre development rate utilizing the SCS Method.
    - The 1 year post development runoff shall take a minimum of 24 hours to drain.
- Provide Peak Rate Control in accordance with Section 78-37.
    - The 2 year post development runoff rate shall be reduced to the 1 year pre development runoff rate utilizing the Rational Method.
    - The 5 year post development runoff rate shall be reduced to the 2 year pre development runoff rate utilizing the Rational Method.
    - The 25 year post development runoff rate shall be reduced to the 5 year pre development runoff rate utilizing the Rational Method.
    - The 50 year post development runoff rate shall be reduced to the 10 year pre development runoff rate utilizing the Rational Method.
    - The 100 year post development runoff rate shall be reduced to the 100 year pre development runoff rate utilizing the Rational Method.

The required rate and volume controls will be provided for the lots through the use of underground stonebeds located in the rear yards. Overflow from the PCSM is via a level spreader located in the rear yards. Due to the provided rate and volume controls and the location of the discharge, we do not believe the proposed development will adversely affect adjacent properties or existing Township stormwater facilities.

Infiltration tests will be performed by Delaware Valley Septics in order to verify the characteristics of the existing soils and limiting zones.

The following calculations demonstrate compliance with the requirements noted above.



SHEET NAME:
POST CONSTRUCTION DRAINAGE AREA MAP

PROJECT ADDRESS:
GREENBRIAR LANE, HAVERTOWN, PA 19083

MUNICIPALITY:	COUNTY:
HAVERFORD TOWNSHIP	DELAWARE COUNTY

PREPARED BY:
YOHN ENGINEERING, LLC
555 SECOND AVENUE, SUITE B-205
COLLEGEVILLE, PA 19426
610-489-4580
WWW.YOHNENGINEERING.COM

PREPARED FOR:
VINCE SPOSATO
35 SLEEPY HOLLOW DRIVE
NEWTOWN SQUARE, PA 19073

DATE:
JUNE 25, 2020

PROJECT NUMBER:
20-009

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

Date:	June 25, 2020		
Project:	Greenbriar Lane	File No.:	20-009
Municipality:	Haverford Township	County:	Delaware

RUNOFF RATE CONTROL SUMMARY

Watershed:	Darby - Cobbs Creek
Watershed District:	B-2 49
Runoff Calculation Method:	Rational Method

PRE-DEVELOPMENT RUNOFF RATES

	1-Year	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Entire Watershed (CFS):	**0.294**	**0.339**	**0.390**	**0.442**	**0.493**	**0.552**	**0.618**

PEAK ALLOWABLE RUNOFF RATES

	1-Year	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Event or Percent Reduction:	N/A	1-Year	2-Year	N/A	5-Year	10-Year	100-Year
Entire Watershed (CFS):	**-**	**0.294**	**0.339**	**-**	**0.390**	**0.442**	**0.618**

POST-DEVELOPMENT RUNOFF RATES

	1-Year	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Controlled Area #1:	-	0.000	0.000	-	0.000	0.000	0.000
Controlled Area #2:	-	0.000	0.000	-	0.000	0.152	0.249
Uncontrolled Areas:	-	0.168	0.193	-	0.245	0.274	0.307
Entire Watershed (CFS):	**-**	**0.168**	**0.193**	**-**	**0.245**	**0.426**	**0.556**
NET DECREASE (CFS):	N/A	0.171	0.197	N/A	0.248	0.126	0.062
PERCENT REDUCTION:	N/A	50%	51%	N/A	50%	23%	10%

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

Date:	June 25, 2020		
Project:	Greenbriar Lane	File No.:	20-009
Municipality:	Haverford Township	County:	Delaware

DRAINAGE AREA AND WEIGHTED C CALCULATIONS

Development Condition: PRE — Through Subarea: ENTIRE WATERSHED

Cover	Type	C	Area (SF)	Area (AC)	
Open Space - Good Condition	B	0.25	11545	0.265	97%
Impervious	-	0.99	363	0.008	3%
TOTAL:		**0.27**	**11908**	**0.273**	**100%**

Development Condition: POST — Through Subarea: CONTROLLED #1

Cover	Type	C	Area (SF)	Area (AC)	
Open Space - Good Condition	B	0.25	670	0.015	22%
Impervious	-	0.99	2372	0.054	78%
TOTAL:		**0.83**	**3042**	**0.070**	**100%**

Development Condition: POST — Through Subarea: CONTROLLED #2

Cover	Type	C	Area (SF)	Area (AC)	
Open Space - Good Condition	B	0.25	1007	0.023	30%
Impervious	-	0.99	2362	0.054	70%
TOTAL:		**0.77**	**3369**	**0.077**	**100%**

Development Condition: POST — Through Subarea: UNCONTROLLED

Cover	Type	C	Area (SF)	Area (AC)	
Open Space - Good Condition	B	0.25	3189	0.073	58%
Impervious	-	0.99	308	0.007	6%
Future Impervious	-	0.99	2000	0.046	36%
TOTAL:		**0.56**	**5497**	**0.126**	**100%**

Development Condition: POST — Through Subarea: ENTIRE WATERSHED

Cover	Type	C	Area (SF)	Area (AC)	
Open Space - Good Condition	B	0.25	4866	0.112	41%
Impervious	-	0.99	5042	0.116	42%
Future Impervious	-	0.99	2000	0.046	17%
TOTAL:		**0.69**	**11908**	**0.273**	**100%**

*Does not include 689 SF to remain undisturbed. Includes 319 SF within the ROW

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

Date:	June 25, 2020		
Project:	Greenbriar Lane	File No.:	20-009
Municipality:	Haverford Township	County:	Delaware

TIME OF CONCENTRATION / TRAVEL TIME CALCULATIONS

Development Condition:	PRE						
Through Subarea:	ENTIRE WATERSHED						
Surface Description:	Pasture						
Flow Length (FT):	150						150
Watercourse Slope (%):	8%						
Average Velocity (FPS):	2.2						
Travel Time (MIN):	1.1	0.0	0.0	0.0	0.0	0.0	1.1

Development Condition:	POST		
Through Subarea:	CONTROLLED #1		
Surface Description:	Pasture		
Flow Length (FT):	34		
Watercourse Slope (%):	14%		
Average Velocity (FPS):	2.6		
Travel Time (MIN):	0.2	0.0	0.0

POST		
CONTROLLED #2		
Pasture	Pavement	Pasture
17	14	30
8%	2%	10%
2.2	5.0	2.2
0.1	0.0	0.2

Development Condition:	POST						
Through Subarea:	UNCONTROLLED						
Surface Description:	Pasture						
Flow Length (FT):	31						31
Watercourse Slope (%):	8%						
Average Velocity (FPS):	2.2						
Travel Time (MIN):	0.2	0.0	0.0	0.0	0.0	0.0	0.2

TABLE 10.2.2 RECOMMENDED AVERAGE VELOCITIES OF OVERLAND FLOW FOR DETERMINING TIME OF CONCENTRATION (FROM PENNDOT DESIGN MANUAL PART 2 - PUBLICATION 13M - AUGUST 2009 EDITION

DESCRIPTION	SLOPE (%)						
	0-3	4-7	8-10	11-15	16-20	21-25	26-30
	VELOCITIES (ft/s)						
Woodland	0.5	1.0	1.5	1.7	2.0	2.7	3.5
Pasture	0.8	1.5	2.2	2.6	3.0	4.1	4.5
Pavement	5.0	12.0	15.5	18.0	-	-	-

*To be conservative, use minimum time of concentration = 5 min.

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

Date:	June 25, 2020		
Project:	Greenbriar Lane	File No.:	20-009
Municipality:	Haverford Township	County:	Delaware

WATER QUALITY VOLUME CALCULATIONS

Water Quality Formula: P * Rv * A / 12

P is design Rainfall amount:	1	(IN)
A is Drainage Area:	11908	(SF)
	0.273	(AC)
Impervious in Drainage Area	7042	(SF)
Rv is 0.05 + 0.009 * I:	0.582	
I is percent Impervious:	59.14	(%)
WQ:	**578**	(CF)

REV VOLUME CALCULATIONS

Rev Formula: I * Impervious Area / 12

I is design Infiltration amount:	1	(IN)
Impervious Increase:	7042	(SF)
Rev:	**587**	(CF)

VOLUME PROVIDED:

PCSM	1	2	Total
Stage Storage	406	325	**731**

YOHN ENGINEERING, LLC
555 Second Avenue, Suite B-205
Collegeville, PA 19426-3674
610-489-4580
www.yohnengineering.com

Date:	June 25, 2020		
Project:	Greenbriar Lane	File No.:	20-009
Municipality:	Haverford Township	County:	Delaware

PCSM DRAINTIME CALCULATIONS

Hole #	Time (MIN)	Final Reading (IN)	Measured Rate (IN/HR)	Safety Factor	Design Rate (IN/HR)
1	10	2	12.000	2.4	5.000
2	10	3	18.000	3.6	5.000
3	10	3	18.000	3.6	5.000
AVERAGE:			16.000		5.000
GEOMETRIC MEAN:			15.724		5.000

PCSM 1 **DESIGN RECHARGE HEIGHT (FT):** 1.6 (assumes 40% voids within stone)
DRAIN TIME BASED ON GEOMETRIC MEAN (HRS): **3.84**

Hole #	Time (MIN)	Final Reading (IN)	Measured Rate (IN/HR)	Safety Factor	Design Rate (IN/HR)
1	10	1.75	10.500	2.1	5.000
2	10	3	18.000	3.6	5.000
AVERAGE:			14.250		5.000
GEOMETRIC MEAN:			13.748		5.000

PCSM 2 **DESIGN RECHARGE HEIGHT (FT):** 1.2 (assumes 40% voids within stone)
DRAIN TIME BASED ON GEOMETRIC MEAN (HRS): **2.88**

NOAA Atlas 14, Volume 2, Version 3
Location name: Havertown, Pennsylvania, USA*
Latitude: 39.9712°, Longitude: -75.3241°
Elevation: 292.3 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M.Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.348** (0.321-0.379)	**0.415** (0.382-0.451)	**0.487** (0.447-0.529)	**0.537** (0.492-0.584)	**0.598** (0.544-0.650)	**0.638** (0.578-0.695)	**0.679** (0.612-0.741)	**0.713** (0.639-0.781)	**0.754** (0.669-0.830)	**0.783** (0.690-0.867)
10-min	**0.556** (0.513-0.606)	**0.663** (0.611-0.722)	**0.779** (0.715-0.847)	**0.859** (0.787-0.934)	**0.952** (0.868-1.03)	**1.02** (0.921-1.11)	**1.08** (0.973-1.18)	**1.13** (1.01-1.24)	**1.19** (1.06-1.31)	**1.23** (1.09-1.37)
15-min	**0.696** (0.641-0.757)	**0.834** (0.768-0.907)	**0.986** (0.905-1.07)	**1.09** (0.995-1.18)	**1.21** (1.10-1.31)	**1.29** (1.17-1.40)	**1.36** (1.23-1.49)	**1.43** (1.28-1.56)	**1.50** (1.33-1.65)	**1.55** (1.36-1.71)
30-min	**0.954** (0.879-1.04)	**1.15** (1.06-1.25)	**1.40** (1.29-1.52)	**1.57** (1.44-1.71)	**1.79** (1.63-1.94)	**1.94** (1.76-2.11)	**2.09** (1.88-2.28)	**2.22** (1.99-2.43)	**2.39** (2.12-2.63)	**2.51** (2.21-2.78)
60-min	**1.19** (1.10-1.29)	**1.45** (1.33-1.57)	**1.80** (1.65-1.95)	**2.05** (1.88-2.23)	**2.38** (2.17-2.59)	**2.63** (2.38-2.86)	**2.88** (2.59-3.14)	**3.12** (2.79-3.41)	**3.43** (3.04-3.77)	**3.66** (3.22-4.05)
2-hr	**1.43** (1.30-1.56)	**1.73** (1.59-1.90)	**2.16** (1.98-2.37)	**2.49** (2.27-2.72)	**2.92** (2.64-3.19)	**3.26** (2.93-3.56)	**3.59** (3.21-3.94)	**3.93** (3.48-4.32)	**4.38** (3.84-4.84)	**4.72** (4.09-5.24)
3-hr	**1.56** (1.43-1.71)	**1.89** (1.73-2.07)	**2.37** (2.16-2.59)	**2.73** (2.49-2.98)	**3.21** (2.91-3.51)	**3.60** (3.23-3.93)	**3.99** (3.56-4.37)	**4.38** (3.87-4.81)	**4.91** (4.28-5.42)	**5.32** (4.58-5.90)
6-hr	**1.94** (1.78-2.13)	**2.34** (2.15-2.57)	**2.92** (2.67-3.20)	**3.38** (3.08-3.71)	**4.03** (3.64-4.42)	**4.56** (4.08-5.00)	**5.11** (4.53-5.61)	**5.69** (4.99-6.26)	**6.50** (5.60-7.21)	**7.15** (6.06-7.97)
12-hr	**2.35** (2.16-2.60)	**2.84** (2.60-3.14)	**3.56** (3.25-3.93)	**4.16** (3.78-4.58)	**5.04** (4.52-5.53)	**5.77** (5.13-6.34)	**6.57** (5.77-7.24)	**7.43** (6.43-8.22)	**8.68** (7.34-9.65)	**9.73** (8.08-10.9)
24-hr	**2.71** (2.49-2.95)	**3.26** (3.00-3.56)	**4.11** (3.78-4.48)	**4.81** (4.41-5.24)	**5.84** (5.33-6.34)	**6.71** (6.08-7.27)	**7.64** (6.90-8.28)	**8.66** (7.76-9.37)	**10.2** (8.99-11.0)	**11.4** (9.99-12.3)
2-day	**3.12** (2.86-3.40)	**3.77** (3.46-4.10)	**4.75** (4.35-5.17)	**5.55** (5.08-6.04)	**6.70** (6.10-7.28)	**7.66** (6.95-8.31)	**8.68** (7.83-9.42)	**9.77** (8.76-10.6)	**11.3** (10.1-12.3)	**12.6** (11.1-13.7)
3-day	**3.29** (3.02-3.59)	**3.97** (3.65-4.33)	**4.99** (4.58-5.44)	**5.82** (5.33-6.34)	**7.01** (6.40-7.62)	**8.00** (7.27-8.69)	**9.05** (8.18-9.82)	**10.2** (9.14-11.0)	**11.8** (10.5-12.8)	**13.1** (11.6-14.3)
4-day	**3.46** (3.19-3.78)	**4.17** (3.85-4.56)	**5.23** (4.81-5.71)	**6.09** (5.59-6.63)	**7.32** (6.69-7.96)	**8.34** (7.59-9.06)	**9.42** (8.54-10.2)	**10.6** (9.52-11.5)	**12.2** (10.9-13.3)	**13.6** (12.0-14.8)
7-day	**4.02** (3.73-4.37)	**4.83** (4.47-5.24)	**5.98** (5.54-6.50)	**6.93** (6.41-7.52)	**8.29** (7.63-8.99)	**9.42** (8.63-10.2)	**10.6** (9.67-11.5)	**11.9** (10.8-12.9)	**13.7** (12.3-14.9)	**15.2** (13.5-16.5)
10-day	**4.56** (4.24-4.91)	**5.45** (5.07-5.87)	**6.65** (6.19-7.17)	**7.63** (7.08-8.22)	**8.98** (8.31-9.67)	**10.1** (9.30-10.9)	**11.2** (10.3-12.1)	**12.4** (11.3-13.4)	**14.1** (12.8-15.2)	**15.5** (13.9-16.7)
20-day	**6.15** (5.78-6.56)	**7.30** (6.86-7.79)	**8.72** (8.19-9.30)	**9.84** (9.23-10.5)	**11.4** (10.6-12.1)	**12.5** (11.7-13.4)	**13.7** (12.8-14.6)	**15.0** (13.9-15.9)	**16.6** (15.3-17.7)	**17.9** (16.4-19.1)
30-day	**7.67** (7.25-8.10)	**9.03** (8.54-9.55)	**10.6** (9.97-11.2)	**11.7** (11.1-12.4)	**13.3** (12.5-14.0)	**14.5** (13.6-15.3)	**15.6** (14.7-16.5)	**16.8** (15.7-17.8)	**18.3** (17.0-19.4)	**19.4** (18.0-20.6)
45-day	**9.73** (9.23-10.3)	**11.4** (10.8-12.0)	**13.2** (12.5-13.9)	**14.5** (13.7-15.2)	**16.1** (15.3-17.0)	**17.4** (16.4-18.3)	**18.5** (17.5-19.5)	**19.6** (18.5-20.7)	**21.0** (19.7-22.2)	**22.0** (20.6-23.2)
60-day	**11.6** (11.1-12.2)	**13.6** (13.0-14.3)	**15.6** (14.8-16.4)	**17.0** (16.2-17.9)	**18.8** (17.9-19.8)	**20.1** (19.1-21.2)	**21.4** (20.2-22.5)	**22.5** (21.3-23.7)	**23.9** (22.6-25.2)	**24.9** (23.5-26.3)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

DELAWARE VALLEY
SEPTIC • SEWER • STORM

504 Eagle Road, Suite B, Springfield, PA 19064
Office # 610-789-0739 – Fax # 610-789-0963

dvs@delvalseptics.com
www.delvalseptics.com

PA # 108248

PERCOLATION REPORT

Client: Sleepy Valley Holdings LLC
Location: 201 Greenbriar Lane **(LOT #1)**
Municipality: Haverford County: Delaware
Date: 6/18/20 Degrees: 80 Rain: Yes
On-Site Septic System: Storm Water Testing: X
Falling Head Testing: Double Ring Testing: X

Hole #	Depth	Water	Time	PS1	PS2	1	2	3	4	5	6	7	8
#1	5		10			2.25	2	2	2				
#2	6		10			3	3	3	3				
#3	7		10			3	3	3	3				
#4													
#5													
#6													

Final Reading	
#1	2
#2	3
#3	3
#4	
#5	
#6	

Inches / Hour	
#1	12
#2	18
#3	18
#4	
#5	
#6	

NOTES
No Limiting Zone Clear to 10’

RUN RATE=	16.0

DELAWARE VALLEY
SEPTIC • SEWER • STORM

504 Eagle Road, Suite B, Springfield, PA 19064
Office # 610-789-0739 – Fax # 610-789-0963

dvs@delvalseptics.com
www.delvalseptics.com

PA # 108248

PERCOLATION REPORT

Client: Sleepy Valley Holdings LLC
Location: 201 Greenbriar Lane **(LOT #2)**
Municipality: Haverford County: Delaware
Date: 6/18/20 Degrees: 80 Rain: Yes
On-Site Septic System: Storm Water Testing: X
Falling Head Testing: Double Ring Testing: X

Hole #	Depth	Water	Time	PS1	PS2	1	2	3	4	5	6	7	8
#1	4		10			1.75	1.75	1.75	1.75				
#2	5		10			3	3	3	3				
#3													
#4													
#5													
#6													

Final Reading	
#1	1.75
#2	3
#3	
#4	
#5	
#6	

Inches / Hour	
#1	10.5
#2	18
#3	
#4	
#5	
#6	

NOTES
Limiting Zone Rock at 7’

RUN RATE=	14.25

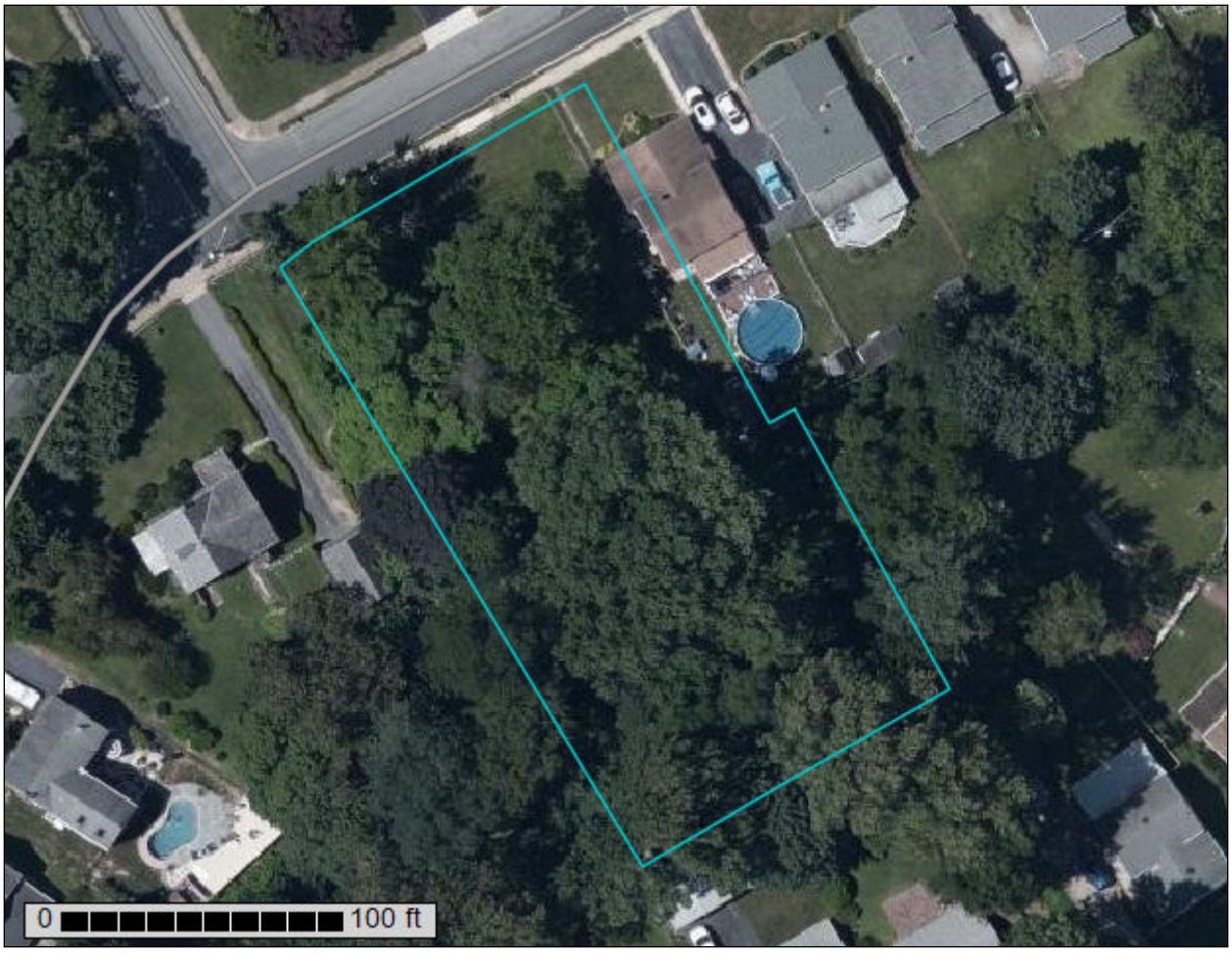
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Delaware County, Pennsylvania



March 19, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

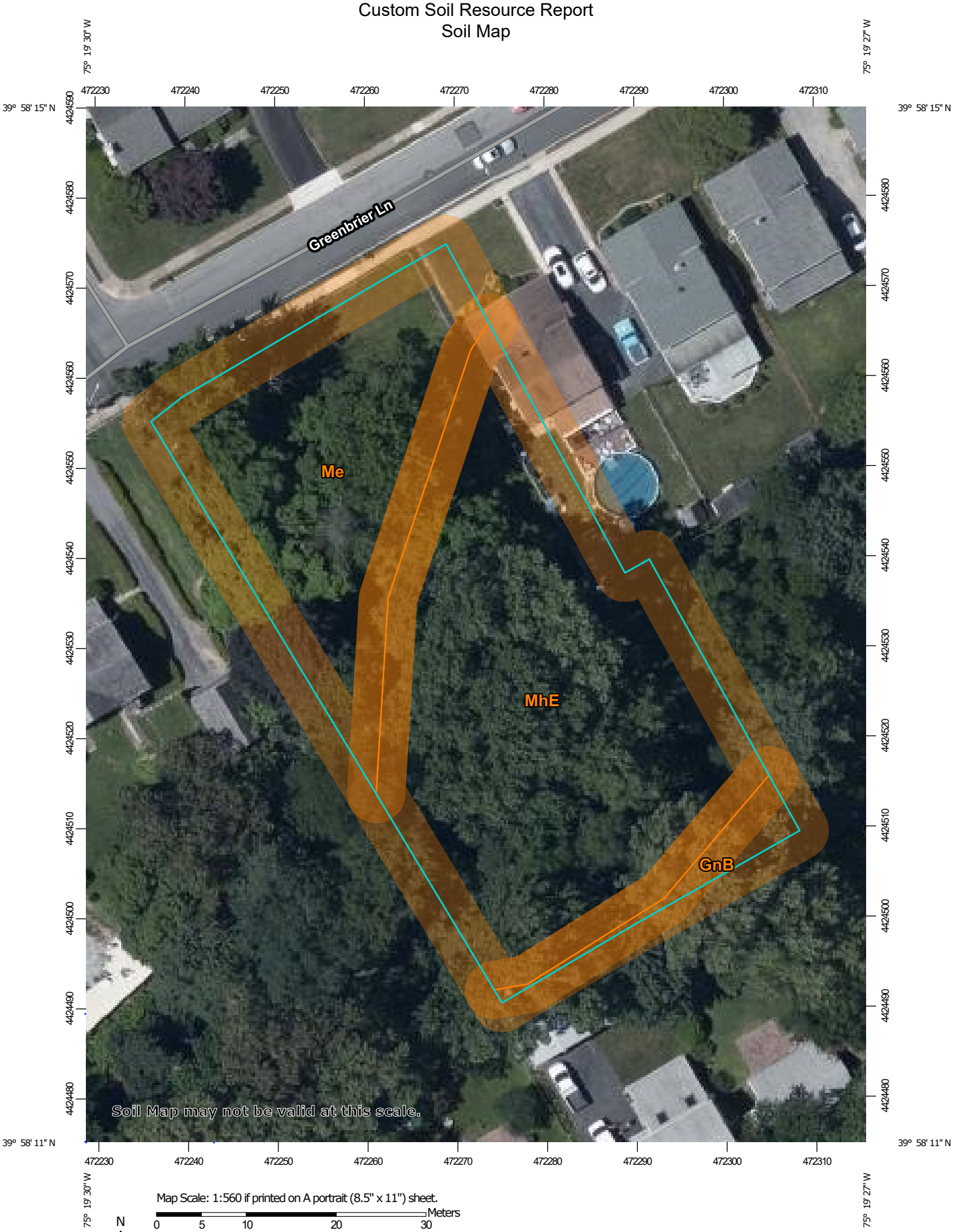
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.


75° 19' 30" W
75° 19' 27" W
39° 58' 15" N
39° 58' 11" N
472230
472240
472250
472260
472270
472280
472290
472300
472310
4424590
4424580
4424570
4424560
4424550
4424540
4424530
4424520
4424510
4424500
4424490
4424480
Greenbrier Ln
Me
MhE
GnB
Soil Map may not be valid at this scale.
Map Scale: 1:560 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 5 10 20 30
Feet
0 25 50 100 150
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Delaware County, Pennsylvania
Survey Area Data: Version 17, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 26, 2019—Jul 10, 2019

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
GnB	Glenville silt loam, 3 to 8 percent slopes	0.0	2.8%
Me	Made land, schist and gneiss materials	0.2	34.6%
MhE	Manor loam and channery loam, 25 to 35 percent slopes	0.4	62.5%
Totals for Area of Interest		**0.7**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Delaware County, Pennsylvania

GnB—Glenville silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 121fp
Elevation: 200 to 2,000 feet
Mean annual precipitation: 35 to 55 inches
Mean annual air temperature: 45 to 61 degrees F
Frost-free period: 110 to 235 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Glenville and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Glenville

Setting

Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Parent material: Colluvium and/or residuum weathered from mica schist

Typical profile

Ap - 0 to 9 inches: silt loam
Bt - 9 to 19 inches: silt loam
Bx - 19 to 39 inches: silt loam
C - 39 to 82 inches: channery loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: 15 to 30 inches to fragipan; 60 to 99 inches to paralithic bedrock
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 6 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Glenelg

Percent of map unit: 5 percent

Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Baile

Percent of map unit: 5 percent
Landform: Depressions
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Me—Made land, schist and gneiss materials

Map Unit Setting

National map unit symbol: 121fy
Elevation: 200 to 2,000 feet
Mean annual precipitation: 35 to 55 inches
Mean annual air temperature: 45 to 61 degrees F
Frost-free period: 110 to 235 days
Farmland classification: Not prime farmland

Map Unit Composition

Udorthents, schist and gneiss, and similar soils: 95 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents, Schist And Gneiss

Setting

Landform: Ridges
Landform position (two-dimensional): Backslope, shoulder, summit
Landform position (three-dimensional): Side slope, nose slope, interfluve
Down-slope shape: Convex, linear
Across-slope shape: Convex, linear
Parent material: Graded areas of schist and/or gneiss

Typical profile

A - 0 to 3 inches: silt loam
C - 3 to 40 inches: gravelly silt loam
2C - 40 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 0 to 8 percent
Depth to restrictive feature: 40 to 72 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: Medium

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 60 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 10.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Hatboro

Percent of map unit: 1 percent
Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave, linear
Across-slope shape: Concave, linear
Hydric soil rating: Yes

Glenelg

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder, backslope
Landform position (three-dimensional): Interfluve, side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Hydric soil rating: No

Gladstone

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Summit, shoulder
Landform position (three-dimensional): Nose slope, side slope
Down-slope shape: Linear, convex
Across-slope shape: Linear, convex
Hydric soil rating: No

Glenville

Percent of map unit: 1 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

Edgemont

Percent of map unit: 1 percent
Landform: Ridges
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountaintop
Down-slope shape: Convex, linear

Across-slope shape: Linear, convex
Hydric soil rating: No

MhE—Manor loam and channery loam, 25 to 35 percent slopes

Map Unit Setting

National map unit symbol: 121g9
Elevation: 200 to 1,000 feet
Mean annual precipitation: 35 to 50 inches
Mean annual air temperature: 48 to 57 degrees F
Frost-free period: 150 to 220 days
Farmland classification: Not prime farmland

Map Unit Composition

Manor and similar soils: 98 percent
Minor components: 2 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Manor

Setting

Landform: Hillslopes
Landform position (two-dimensional): Backslope, shoulder
Landform position (three-dimensional): Side slope, nose slope
Down-slope shape: Linear, convex
Across-slope shape: Convex, linear
Parent material: Residuum weathered from mica schist

Typical profile

A - 0 to 4 inches: loam
Bw - 4 to 19 inches: channery loam
C - 19 to 60 inches: very fine sandy loam

Properties and qualities

Slope: 25 to 35 percent
Depth to restrictive feature: 72 to 99 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Glenville

Percent of map unit: 2 percent
Landform: Hillslopes
Landform position (two-dimensional): Footslope, backslope
Landform position (three-dimensional): Side slope, head slope
Down-slope shape: Linear, concave
Across-slope shape: Concave, linear
Hydric soil rating: No

References

American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.

American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

National Research Council. 1995. Wetlands: Characteristics and boundaries.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580

Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.

United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.

United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374

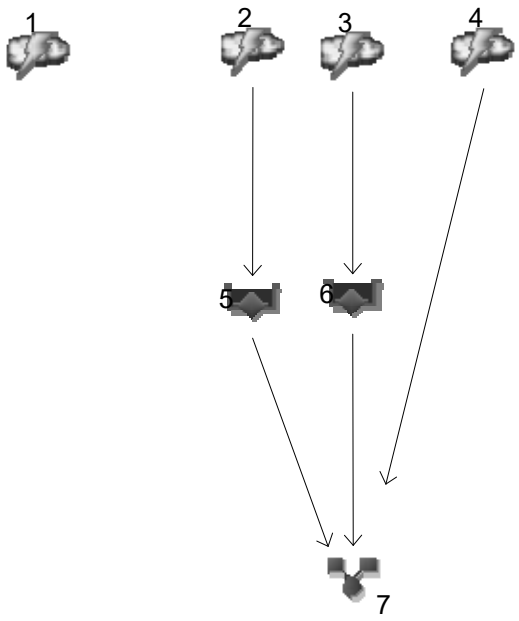
United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf

Watershed Model Schematic



Legend

Hyd.	Origin	Description
1	Rational	PRE ENTIRE WATERSHED
2	Rational	CONTROLLED #1
3	Rational	CONTROLLED #2
4	Rational	UNCONTROLLED
5	Reservoir	PCSM #1 ROUTED
6	Reservoir	PCSM #2 ROUTED
7	Combine	TOTAL POST

Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	Rational	------	0.294	0.339	-------	0.390	0.442	0.493	0.552	0.618	PRE ENTIRE WATERSHED
2	Rational	------	0.232	0.267	-------	0.307	0.348	0.389	0.435	0.487	CONTROLLED #1
3	Rational	------	0.237	0.272	-------	0.314	0.355	0.397	0.444	0.497	CONTROLLED #2
4	Rational	------	0.146	0.168	-------	0.193	0.219	0.245	0.274	0.307	UNCONTROLLED
5	Reservoir	2	0.000	0.000	-------	0.000	0.000	0.000	0.000	0.000	PCSM #1 ROUTED
6	Reservoir	3	0.000	0.000	-------	0.000	0.000	0.000	0.152	0.249	PCSM #2 ROUTED
7	Combine	4, 5, 6	0.146	0.168	-------	0.193	0.219	0.245	0.274	0.427	TOTAL POST

Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

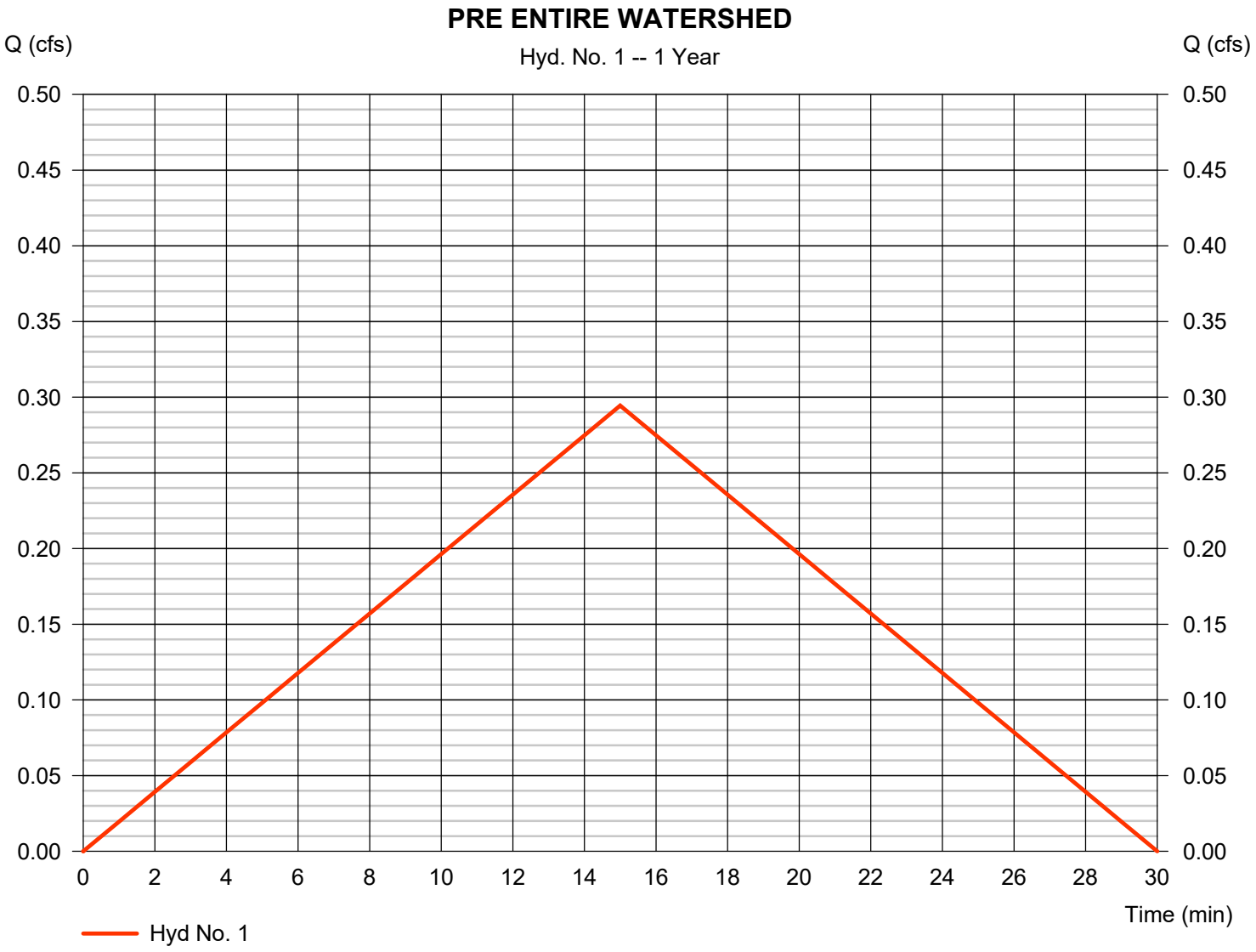
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.294	1	15	265	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.232	1	15	209	------	------	------	CONTROLLED #1
3	Rational	0.237	1	15	213	------	------	------	CONTROLLED #2
4	Rational	0.146	1	15	131	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	76	0	2	264.00	175	PCSM #1 ROUTED
6	Reservoir	0.000	1	76	0	3	274.00	177	PCSM #2 ROUTED
7	Combine	0.146	1	15	131	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.294 cfs
Storm frequency	=	1 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	265 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	3.994 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

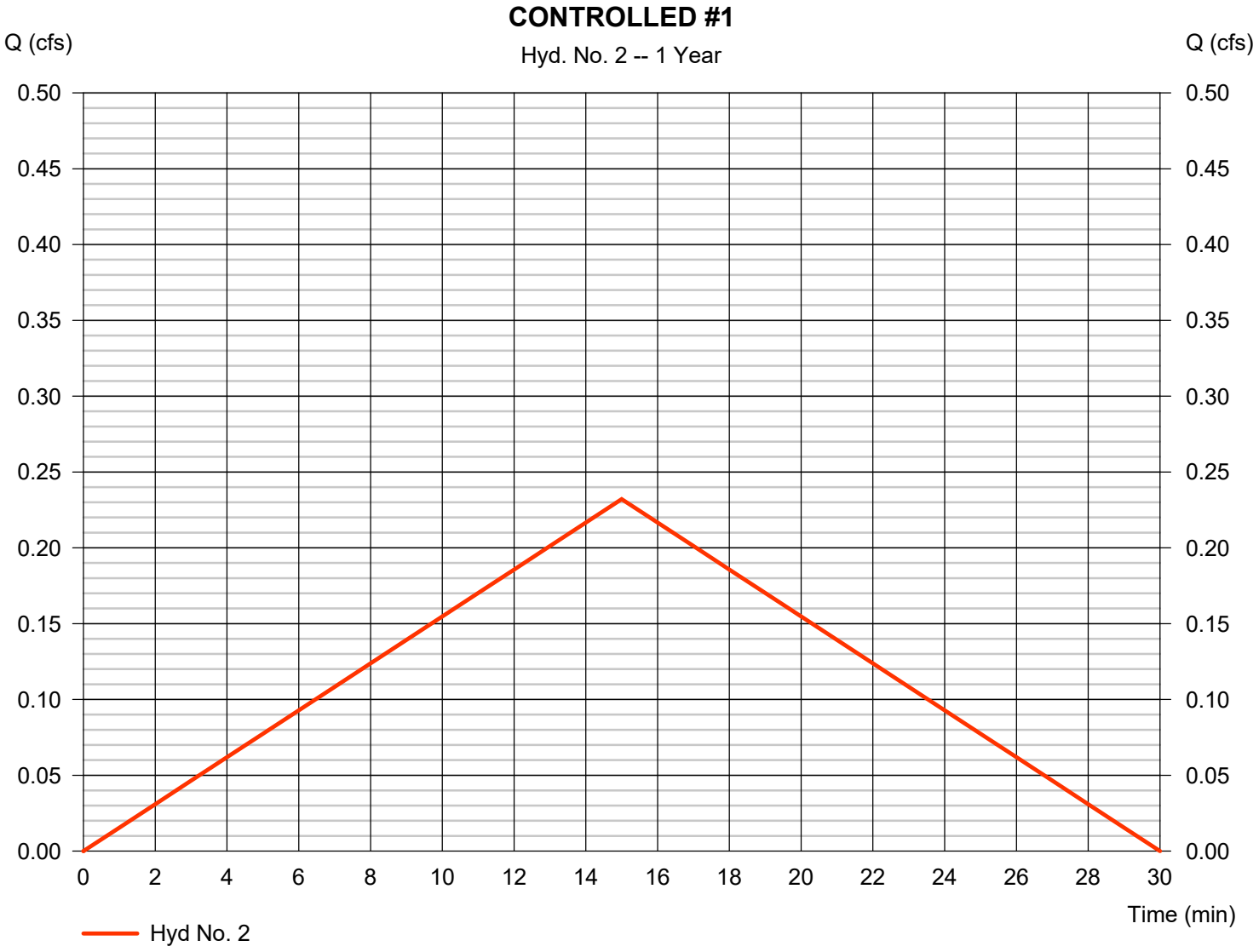


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.232 cfs
Storm frequency	=	1 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	209 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	3.994 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

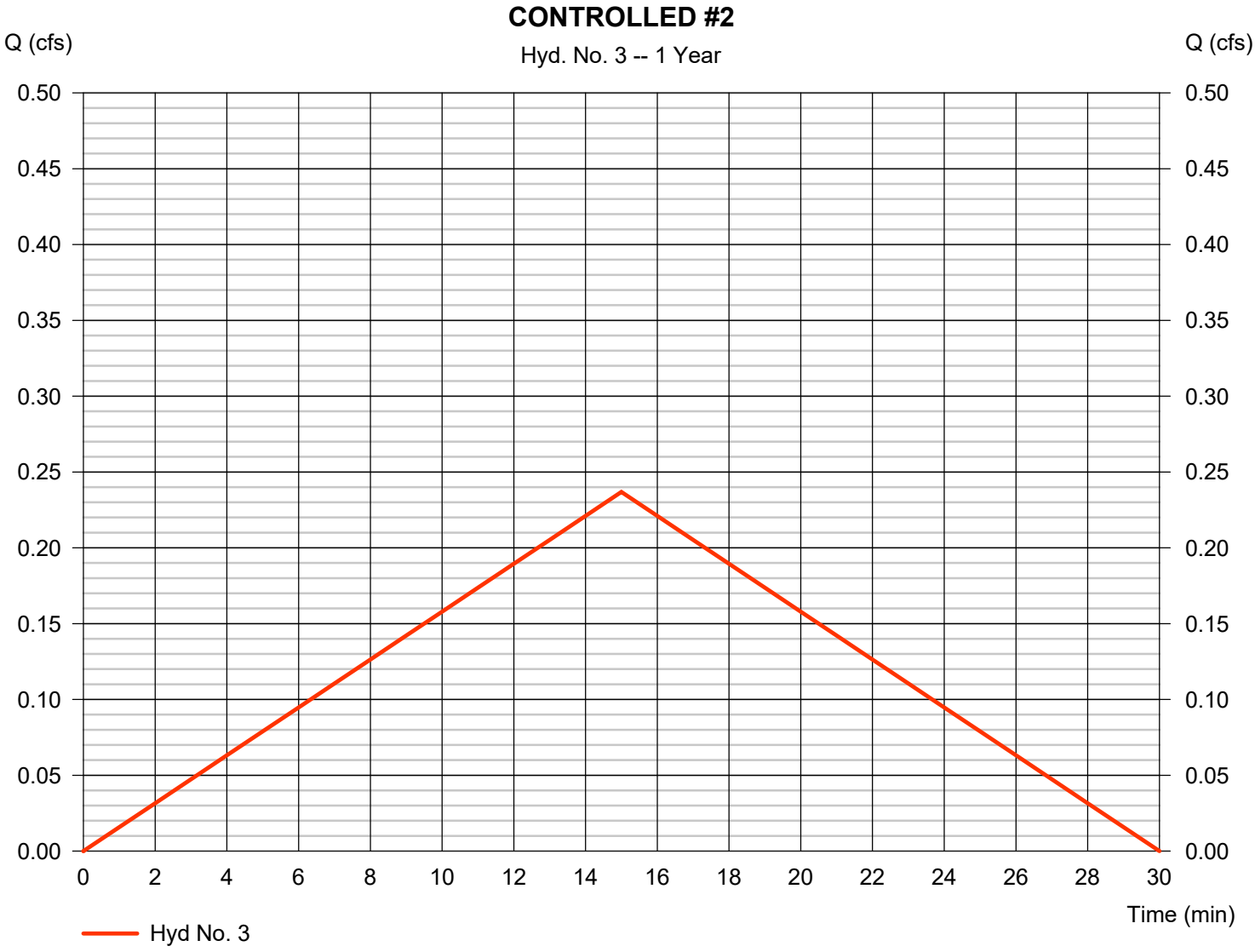


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.237 cfs
Storm frequency	=	1 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	213 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	3.994 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.146 cfs
Storm frequency	=	1 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	131 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	3.994 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

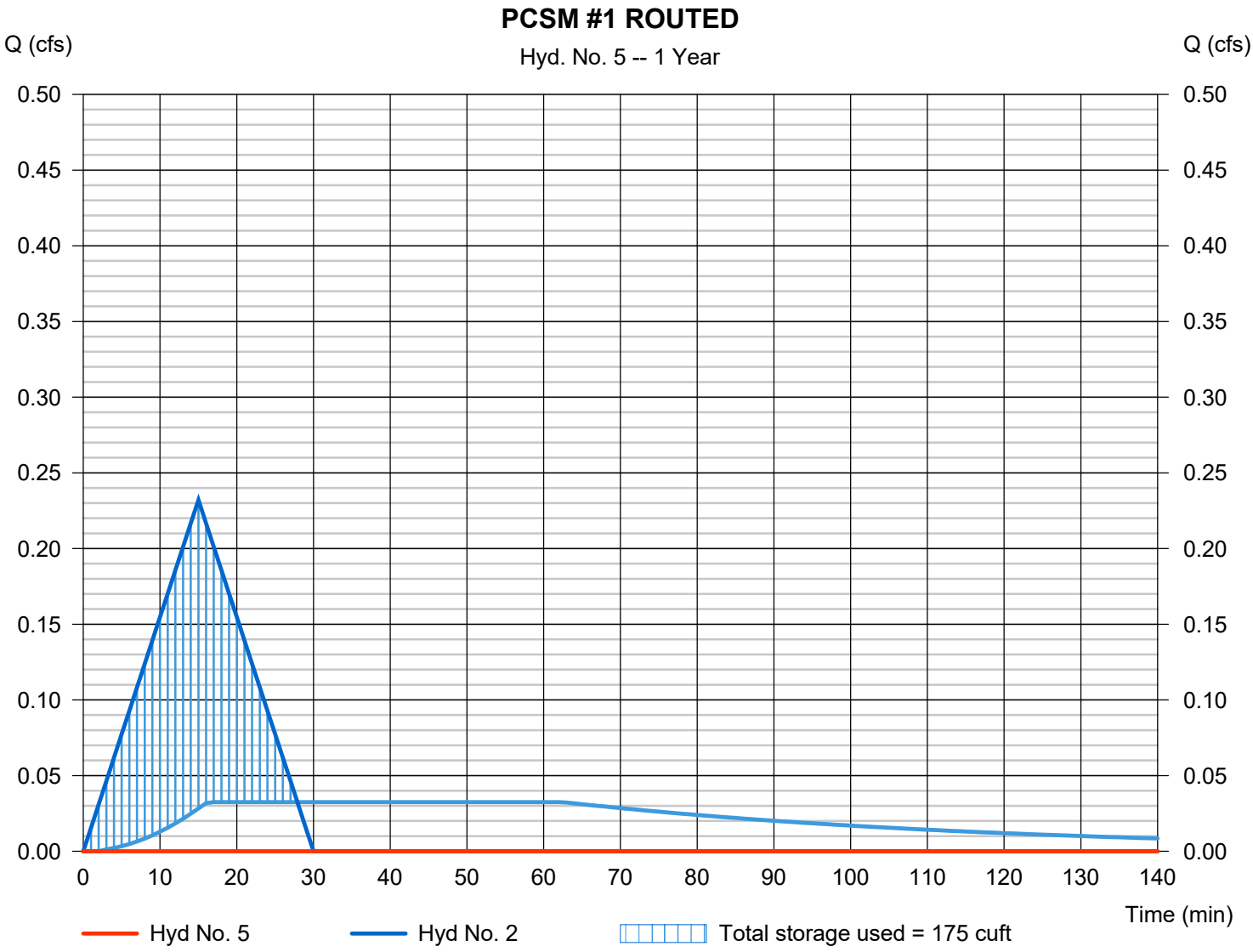
Hydrograph Report

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 1 yrs	Time to peak	= 76 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - CONTROLLED #1	Max. Elevation	= 264.00 ft
Reservoir name	= PCSM #1	Max. Storage	= 175 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 1 - PCSM #1

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 263.00 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	263.00	260	0	0
1.00	264.00	260	104	104
2.00	265.00	260	104	208
3.00	266.00	260	104	312
4.00	267.00	260	104	416

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 264.90	0.00	0.00	0.00
Length (ft)	= 40.00	0.00	0.00	0.00
Slope (%)	= 1.10	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.14	0.00	0.00	0.00
Crest El. (ft)	= 266.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No

Exfil.(in/hr) = 5.000 (by Contour)

TW Elev. (ft) = 0.00

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	263.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.10	10	263.10	0.00	---	---	---	0.00	---	---	---	0.003	---	0.003
0.20	21	263.20	0.00	---	---	---	0.00	---	---	---	0.006	---	0.006
0.30	31	263.30	0.00	---	---	---	0.00	---	---	---	0.009	---	0.009
0.40	42	263.40	0.00	---	---	---	0.00	---	---	---	0.012	---	0.012
0.50	52	263.50	0.00	---	---	---	0.00	---	---	---	0.015	---	0.015
0.60	62	263.60	0.00	---	---	---	0.00	---	---	---	0.018	---	0.018
0.70	73	263.70	0.00	---	---	---	0.00	---	---	---	0.021	---	0.021
0.80	83	263.80	0.00	---	---	---	0.00	---	---	---	0.024	---	0.024
0.90	94	263.90	0.00	---	---	---	0.00	---	---	---	0.027	---	0.027
1.00	104	264.00	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.10	114	264.10	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.20	125	264.20	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.30	135	264.30	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.40	146	264.40	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.50	156	264.50	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.60	166	264.60	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.70	177	264.70	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.80	187	264.80	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
1.90	198	264.90	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.00	208	265.00	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.10	218	265.10	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.20	229	265.20	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.30	239	265.30	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.40	250	265.40	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.50	260	265.50	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.60	270	265.60	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.70	281	265.70	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.80	291	265.80	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
2.90	302	265.90	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.00	312	266.00	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.10	322	266.10	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.20	333	266.20	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.30	343	266.30	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.40	354	266.40	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.50	364	266.50	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.60	374	266.60	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.70	385	266.70	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030
3.80	395	266.80	0.00	---	---	---	0.00	---	---	---	0.030	---	0.030

Continues on next page...

PCSM #1

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
3.90	406	266.90	0.00 ic	---	---	---	0.00	---	---	---	0.030	---	0.030
4.00	416	267.00	0.34 ic	---	---	---	0.33	---	---	---	0.030	---	0.361

...End

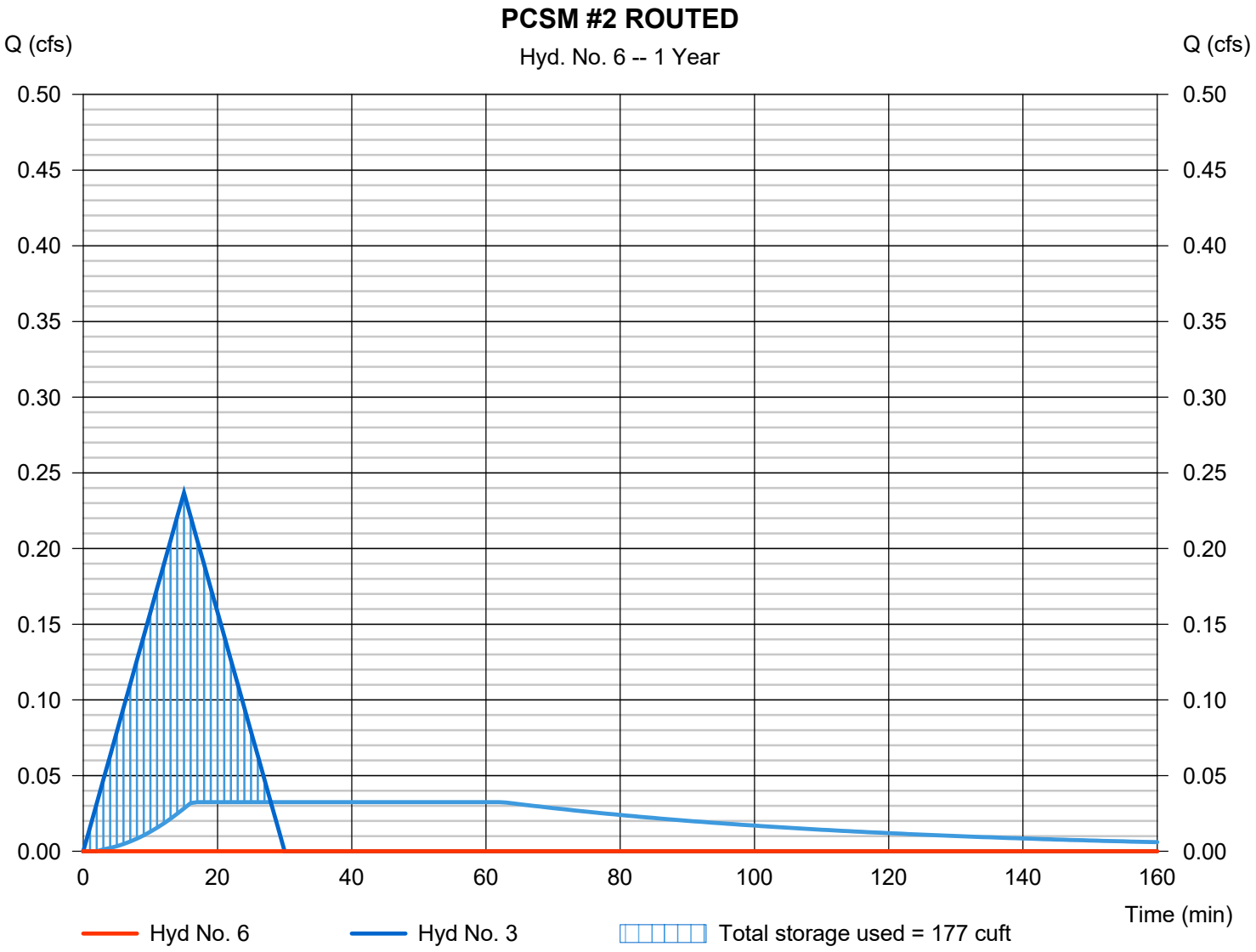
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	1 yrs	Time to peak	=	76 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	3 - CONTROLLED #2	Max. Elevation	=	274.00 ft
Reservoir name	=	PCSM #2	Max. Storage	=	177 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



Pond No. 2 - PCSM #2

Pond Data

Contours -User-defined contour areas. Conic method used for volume calculation. Begining Elevation = 273.00 ft. Voids = 40.00%

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (cuft)	Total storage (cuft)
0.00	273.00	280	0	0
1.00	274.00	280	112	112
2.00	275.00	280	112	224
3.00	276.00	280	112	336

Culvert / Orifice Structures

	[A]	[B]	[C]	[PrfRsr]
Rise (in)	= 12.00	0.00	0.00	0.00
Span (in)	= 12.00	0.00	0.00	0.00
No. Barrels	= 1	0	0	0
Invert El. (ft)	= 273.00	0.00	0.00	0.00
Length (ft)	= 27.00	0.00	0.00	0.00
Slope (%)	= 9.30	0.00	0.00	n/a
N-Value	= .013	.013	.013	n/a
Orifice Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 3.14	0.00	0.00	0.00
Crest El. (ft)	= 275.90	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	3.33	3.33
Weir Type	= 1	---	---	---
Multi-Stage	= Yes	No	No	No
Exfil.(in/hr)	= 5.000 (by Contour)			
TW Elev. (ft)	= 0.00			

Note: Culvert/Orifice outflows are analyzed under inlet (ic) and outlet (oc) control. Weir risers checked for orifice conditions (ic) and submergence (s).

Stage / Storage / Discharge Table

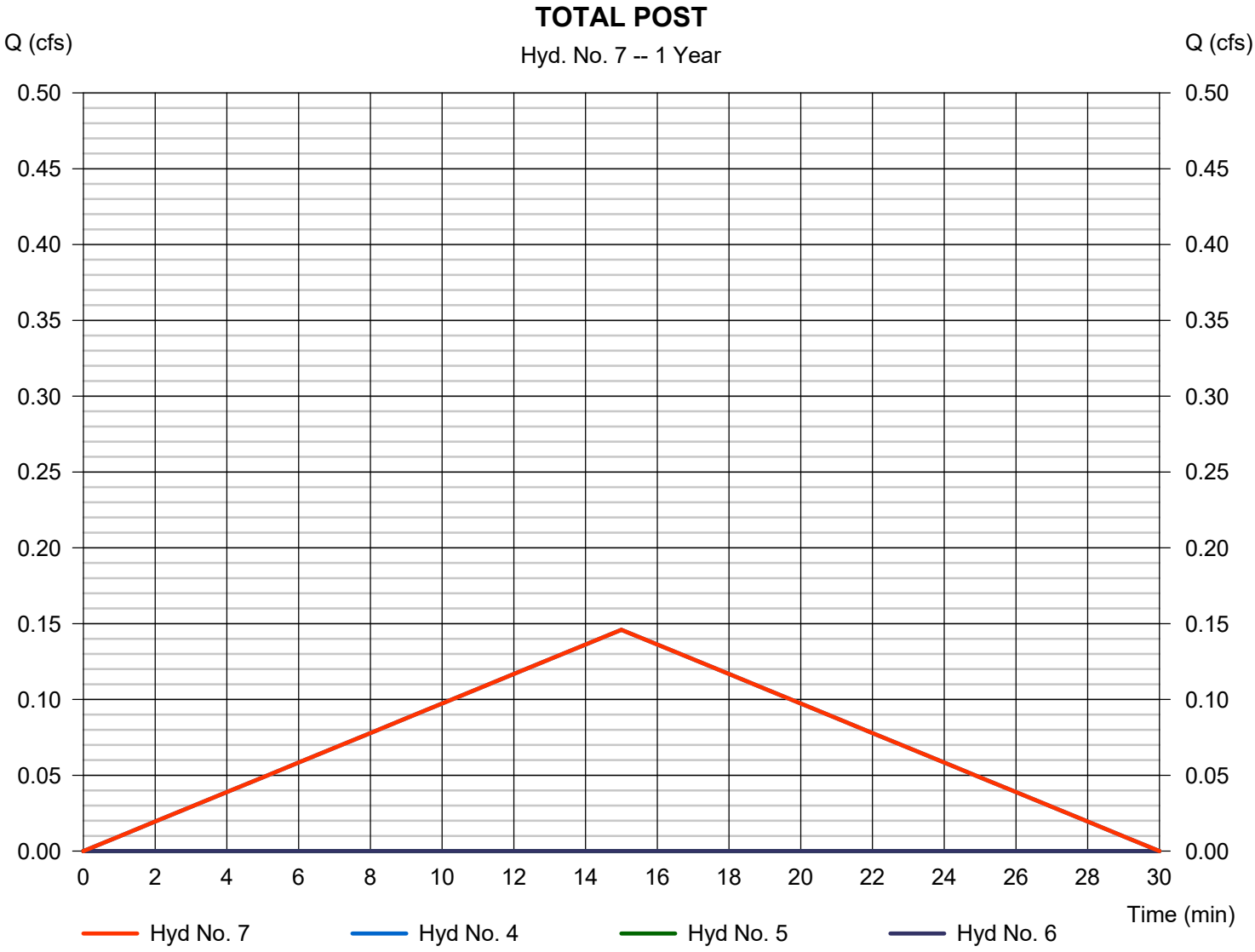
Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	PrfRsr cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Exfil cfs	User cfs	Total cfs
0.00	0	273.00	0.00	---	---	---	0.00	---	---	---	0.000	---	0.000
0.10	11	273.10	0.00	---	---	---	0.00	---	---	---	0.003	---	0.003
0.20	22	273.20	0.00	---	---	---	0.00	---	---	---	0.006	---	0.006
0.30	34	273.30	0.00	---	---	---	0.00	---	---	---	0.010	---	0.010
0.40	45	273.40	0.00	---	---	---	0.00	---	---	---	0.013	---	0.013
0.50	56	273.50	0.00	---	---	---	0.00	---	---	---	0.016	---	0.016
0.60	67	273.60	0.00	---	---	---	0.00	---	---	---	0.019	---	0.019
0.70	78	273.70	0.00	---	---	---	0.00	---	---	---	0.023	---	0.023
0.80	90	273.80	0.00	---	---	---	0.00	---	---	---	0.026	---	0.026
0.90	101	273.90	0.00	---	---	---	0.00	---	---	---	0.029	---	0.029
1.00	112	274.00	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.10	123	274.10	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.20	134	274.20	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.30	146	274.30	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.40	157	274.40	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.50	168	274.50	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.60	179	274.60	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.70	190	274.70	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.80	202	274.80	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
1.90	213	274.90	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.00	224	275.00	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.10	235	275.10	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.20	246	275.20	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.30	258	275.30	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.40	269	275.40	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.50	280	275.50	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.60	291	275.60	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.70	302	275.70	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.80	314	275.80	0.00	---	---	---	0.00	---	---	---	0.032	---	0.032
2.90	325	275.90	0.00 ic	---	---	---	0.00	---	---	---	0.032	---	0.032
3.00	336	276.00	0.34 ic	---	---	---	0.33	---	---	---	0.032	---	0.363

Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	= Combine	Peak discharge	= 0.146 cfs
Storm frequency	= 1 yrs	Time to peak	= 15 min
Time interval	= 1 min	Hyd. volume	= 131 cuft
Inflow hyds.	= 4, 5, 6	Contrib. drain. area	= 0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

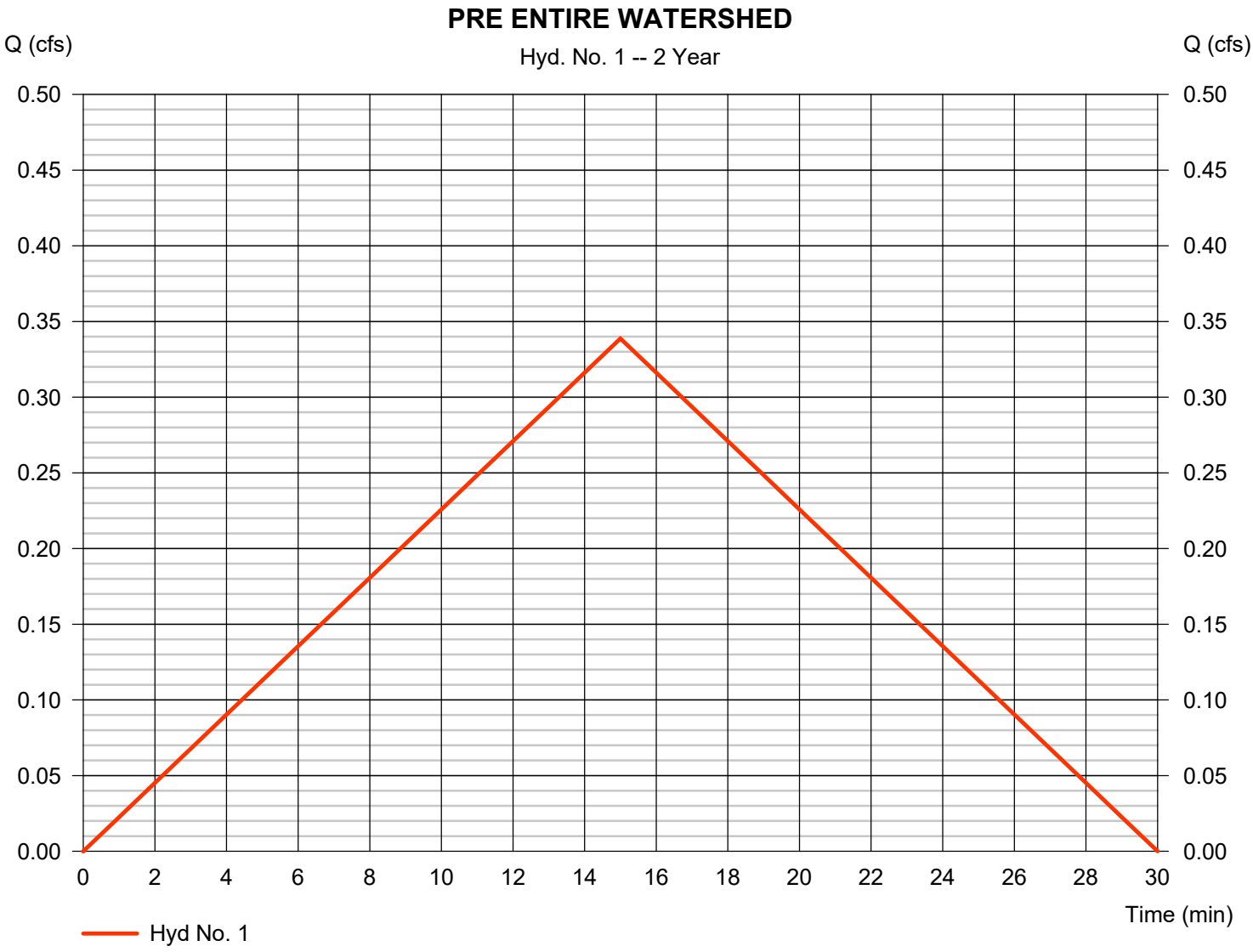
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.339	1	15	305	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.267	1	15	240	------	------	------	CONTROLLED #1
3	Rational	0.272	1	15	245	------	------	------	CONTROLLED #2
4	Rational	0.168	1	15	151	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	26	0	2	264.95	205	PCSM #1 ROUTED
6	Reservoir	0.000	1	91	0	3	274.00	208	PCSM #2 ROUTED
7	Combine	0.168	1	15	151	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.339 cfs
Storm frequency	=	2 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	305 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	4.596 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

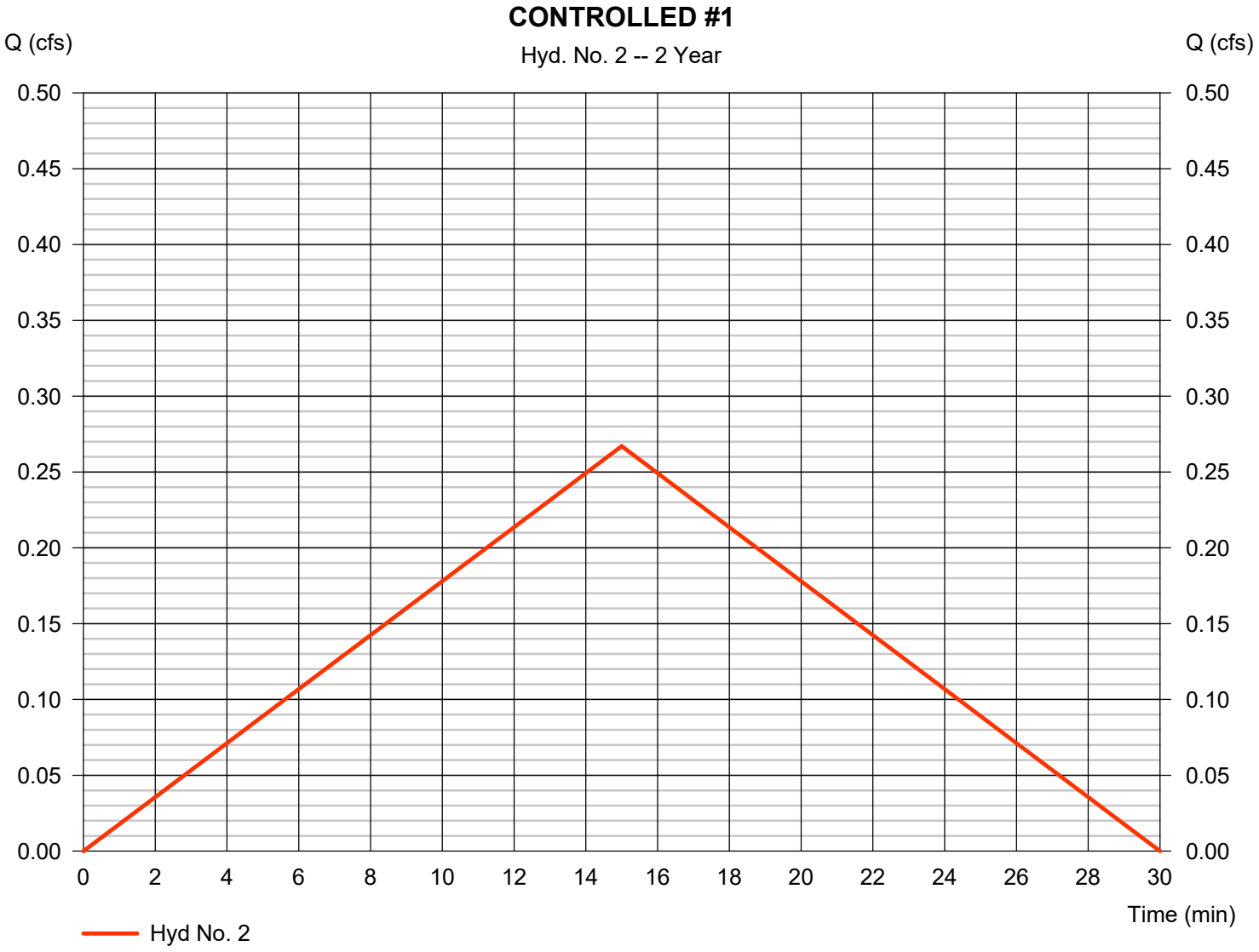


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.267 cfs
Storm frequency	=	2 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	240 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	4.596 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

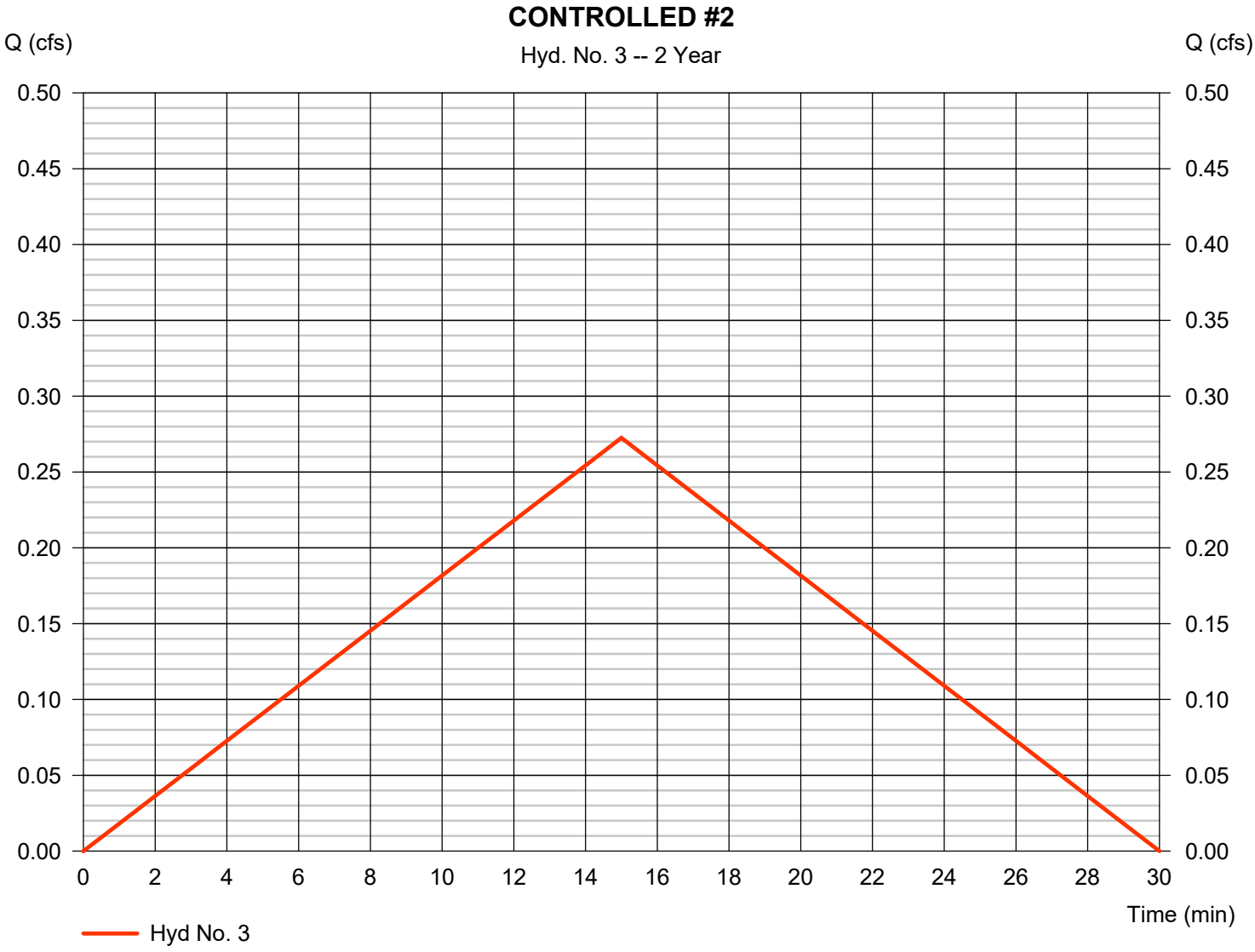


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.272 cfs
Storm frequency	=	2 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	245 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	4.596 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.168 cfs
Storm frequency	=	2 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	151 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	4.596 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

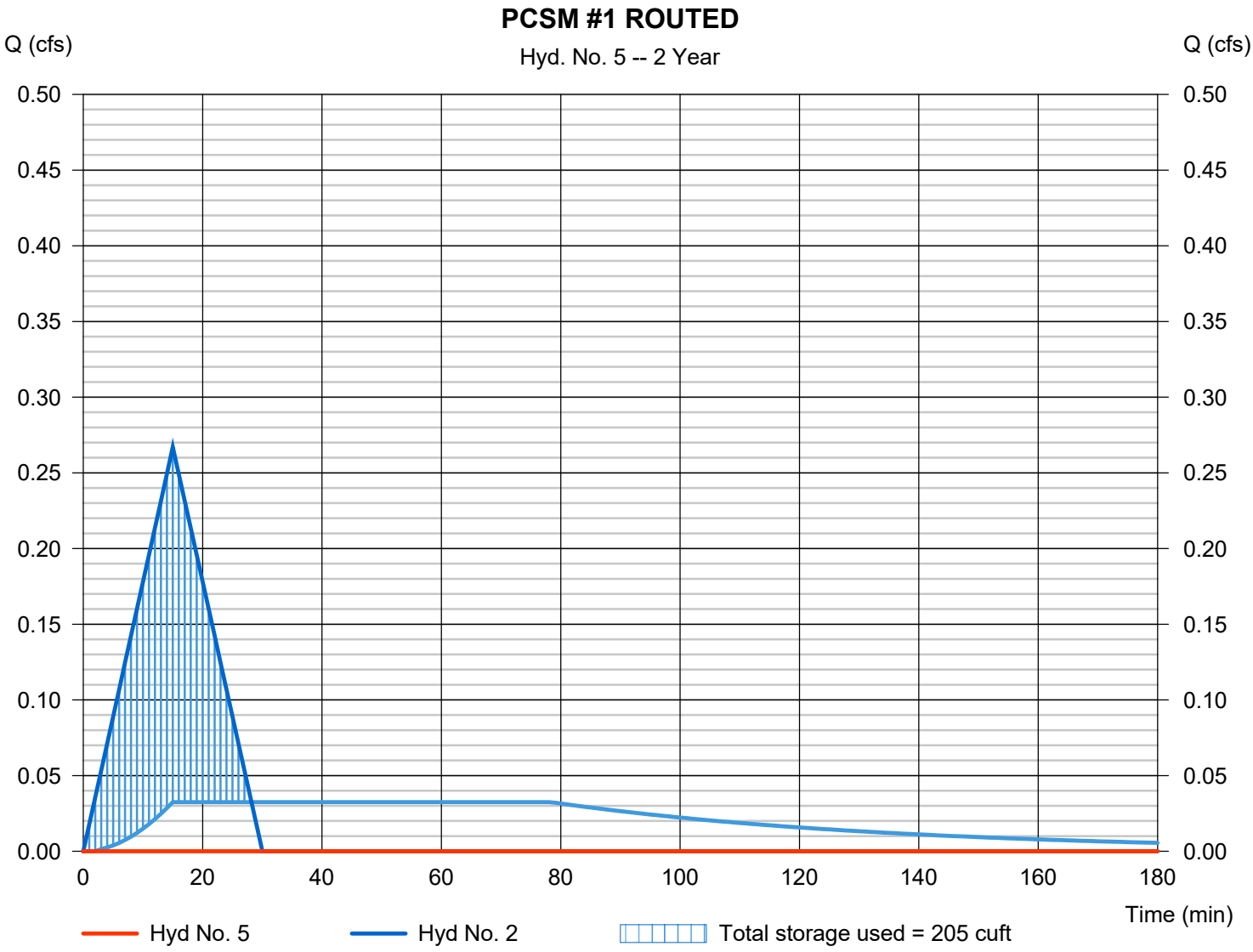
Hydrograph Report

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	2 yrs	Time to peak	=	26 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - CONTROLLED #1	Max. Elevation	=	264.95 ft
Reservoir name	=	PCSM #1	Max. Storage	=	205 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



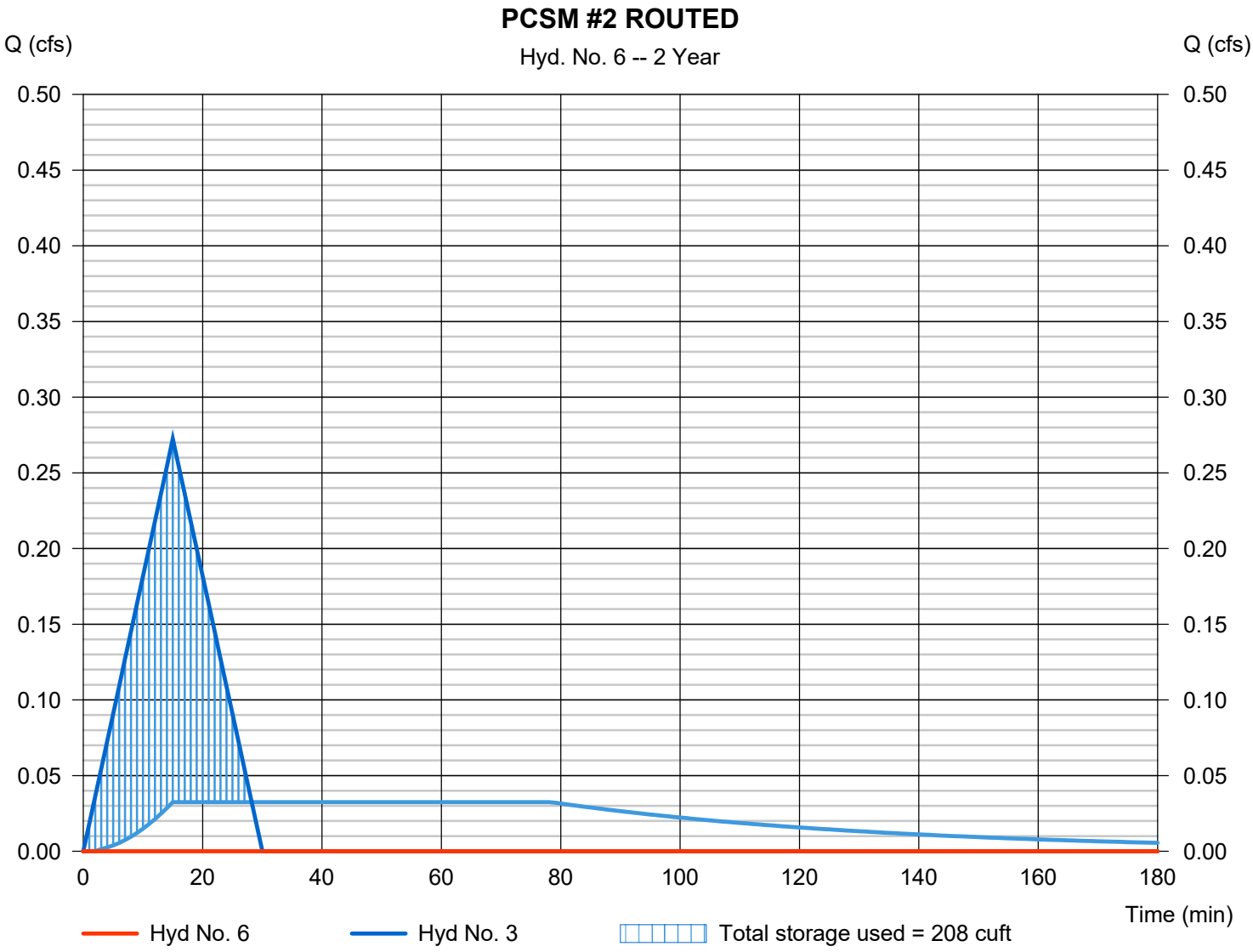
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 2 yrs	Time to peak	= 91 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 3 - CONTROLLED #2	Max. Elevation	= 274.00 ft
Reservoir name	= PCSM #2	Max. Storage	= 208 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

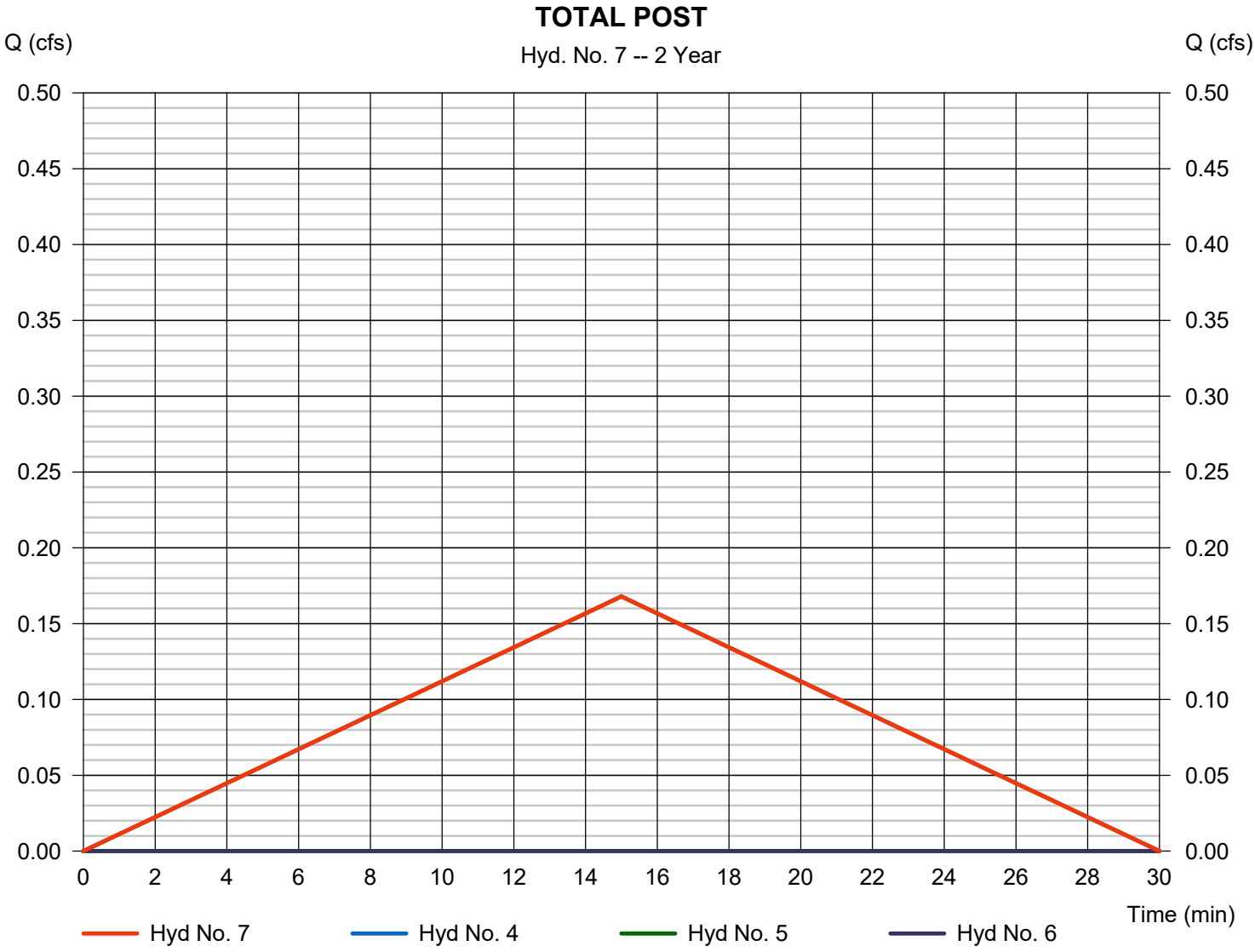


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	= Combine	Peak discharge	= 0.168 cfs
Storm frequency	= 2 yrs	Time to peak	= 15 min
Time interval	= 1 min	Hyd. volume	= 151 cuft
Inflow hyds.	= 4, 5, 6	Contrib. drain. area	= 0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

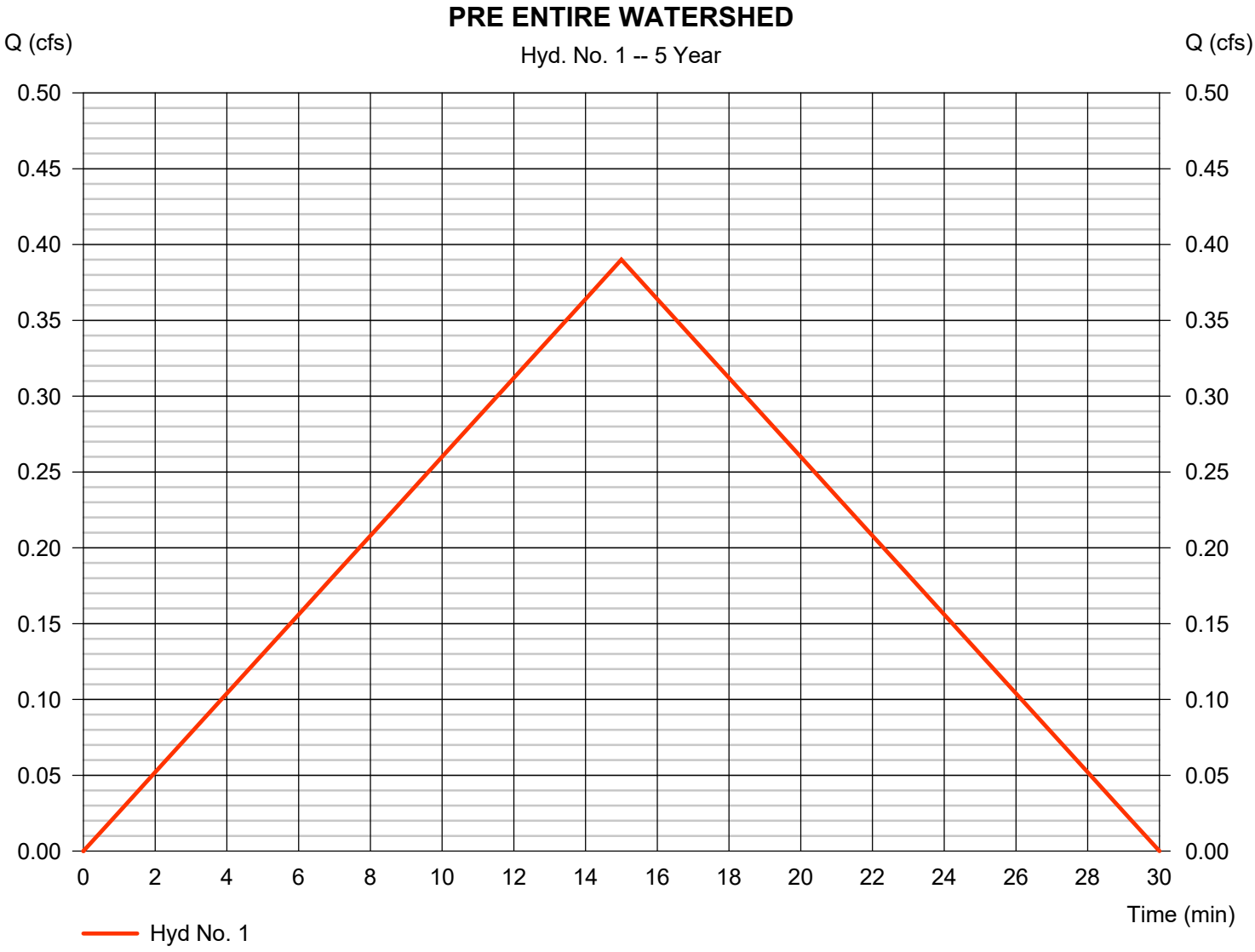
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.390	1	15	351	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.307	1	15	277	------	------	------	CONTROLLED #1
3	Rational	0.314	1	15	282	------	------	------	CONTROLLED #2
4	Rational	0.193	1	15	174	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	28	0	2	265.30	240	PCSM #1 ROUTED
6	Reservoir	0.000	1	110	0	3	274.00	243	PCSM #2 ROUTED
7	Combine	0.193	1	15	174	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.390 cfs
Storm frequency	=	5 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	351 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	5.291 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

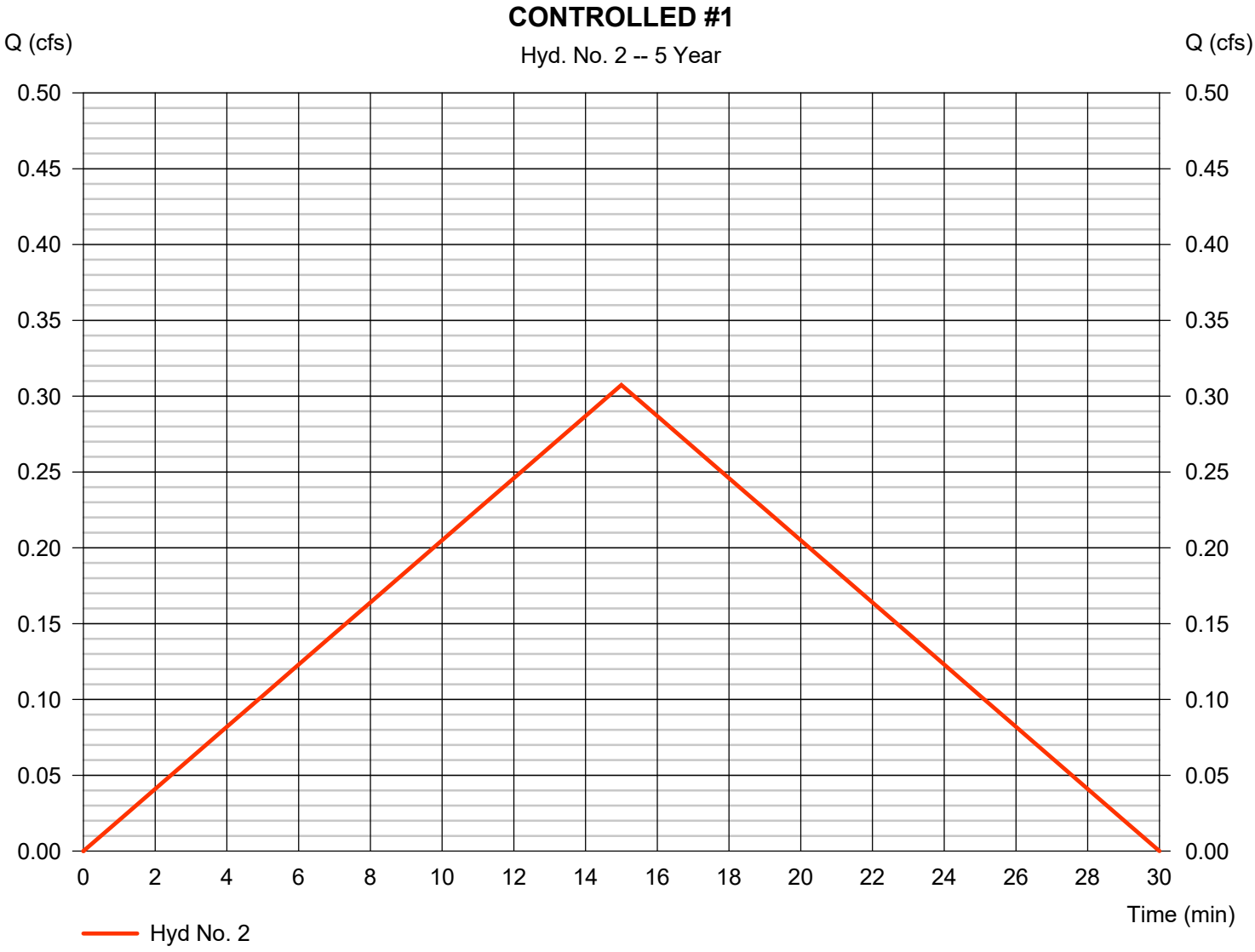


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.307 cfs
Storm frequency	=	5 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	277 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	5.291 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

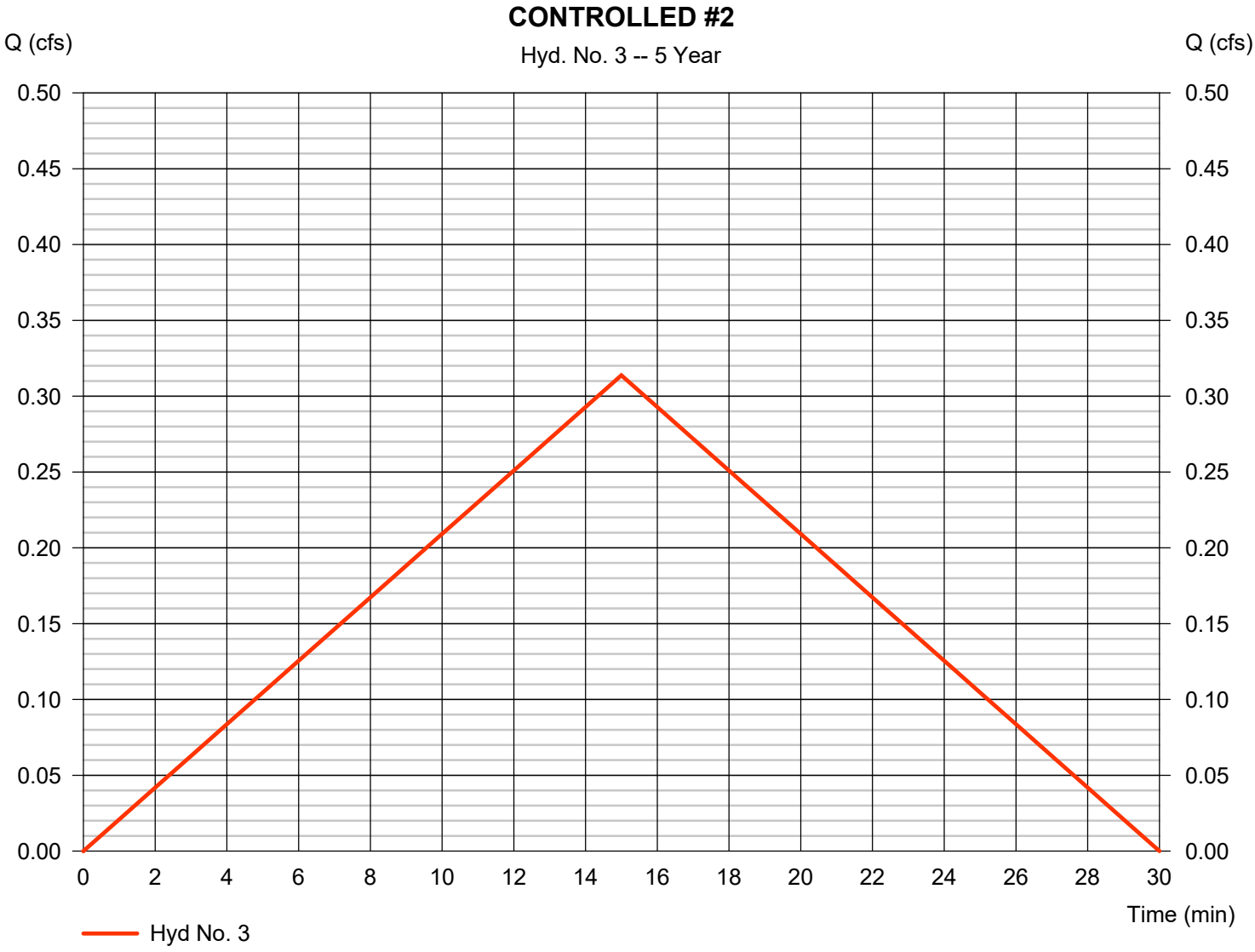


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.314 cfs
Storm frequency	=	5 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	282 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	5.291 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.193 cfs
Storm frequency	=	5 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	174 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	5.291 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

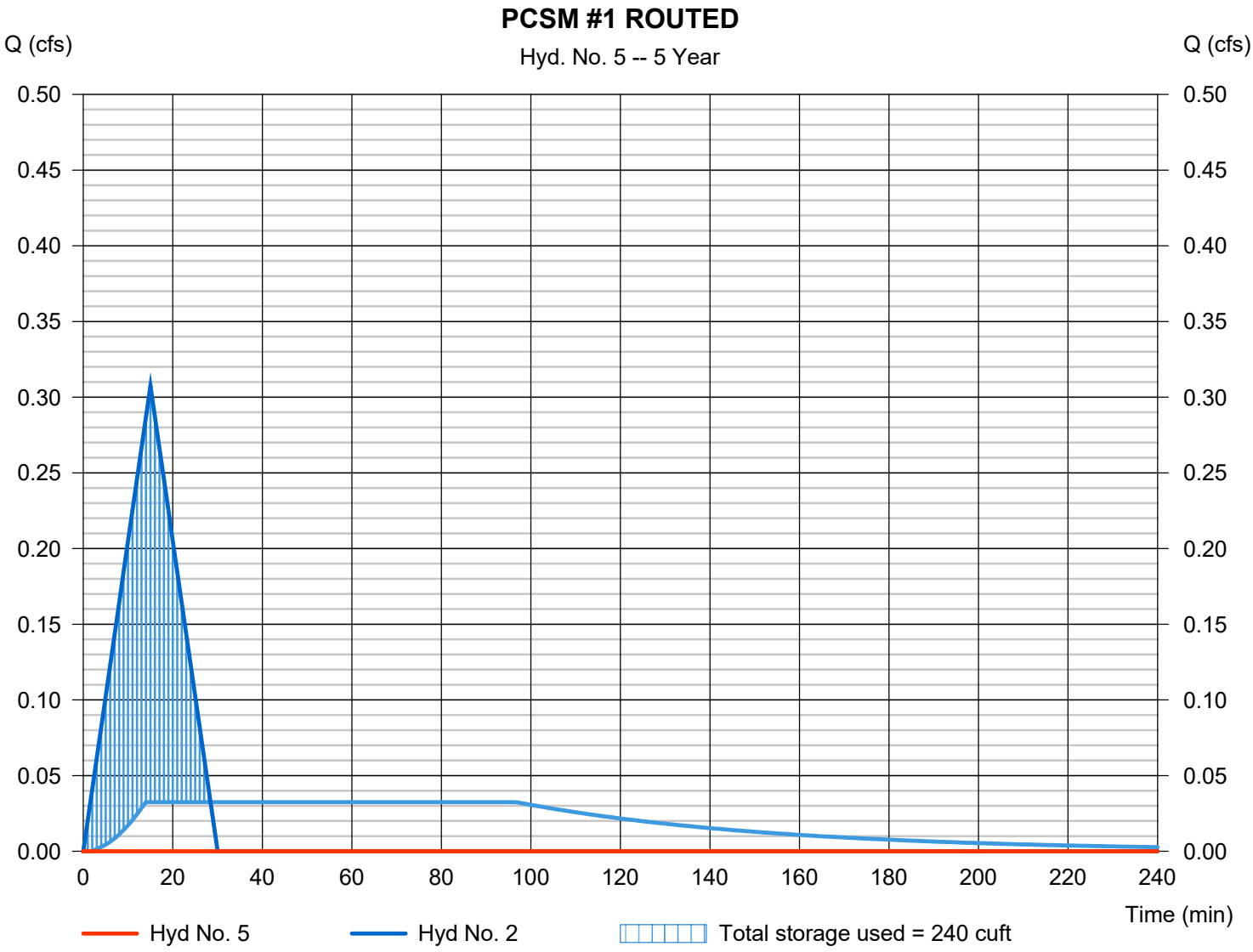
Hydrograph Report

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	5 yrs	Time to peak	=	28 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - CONTROLLED #1	Max. Elevation	=	265.30 ft
Reservoir name	=	PCSM #1	Max. Storage	=	240 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



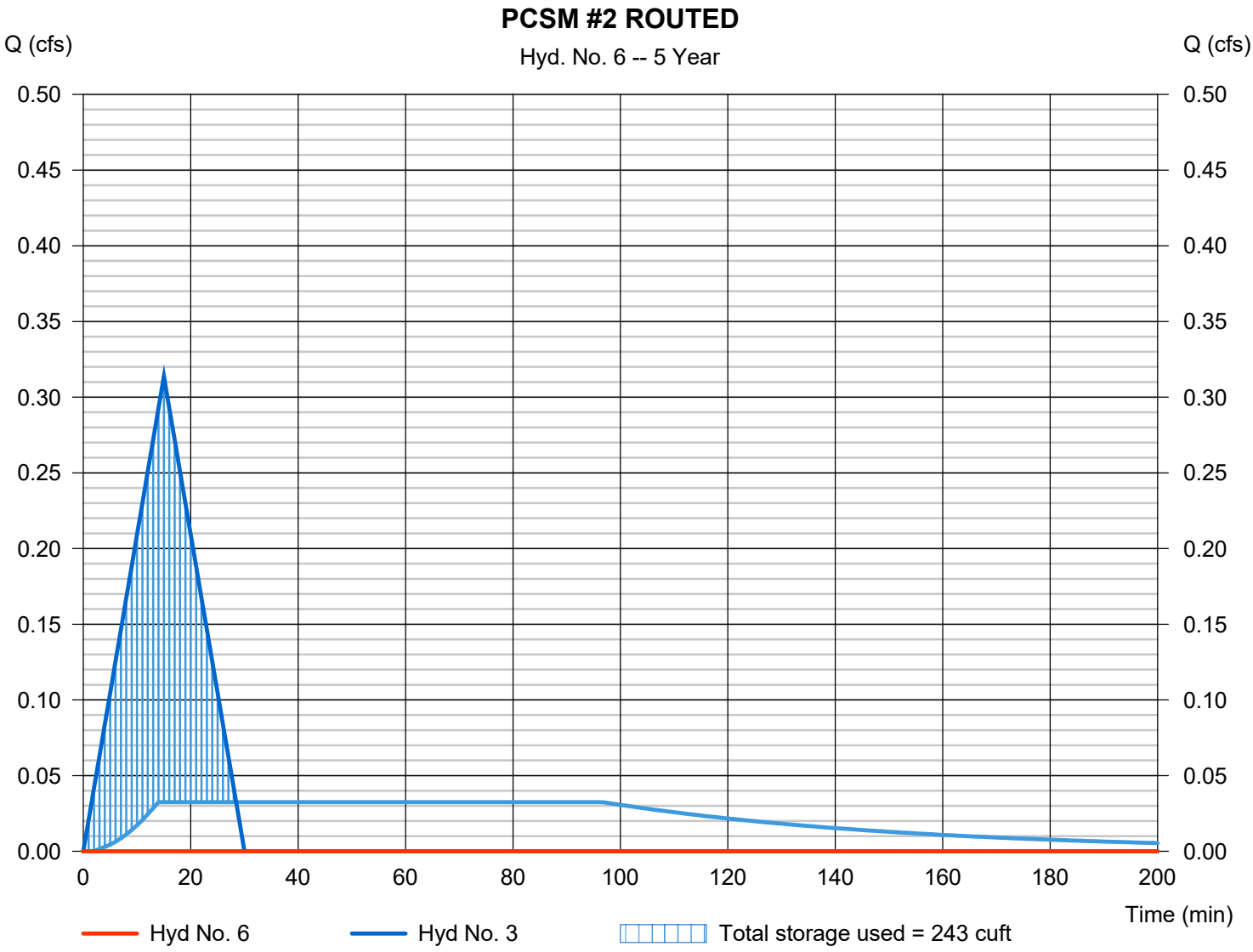
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 5 yrs	Time to peak	= 110 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 3 - CONTROLLED #2	Max. Elevation	= 274.00 ft
Reservoir name	= PCSM #2	Max. Storage	= 243 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

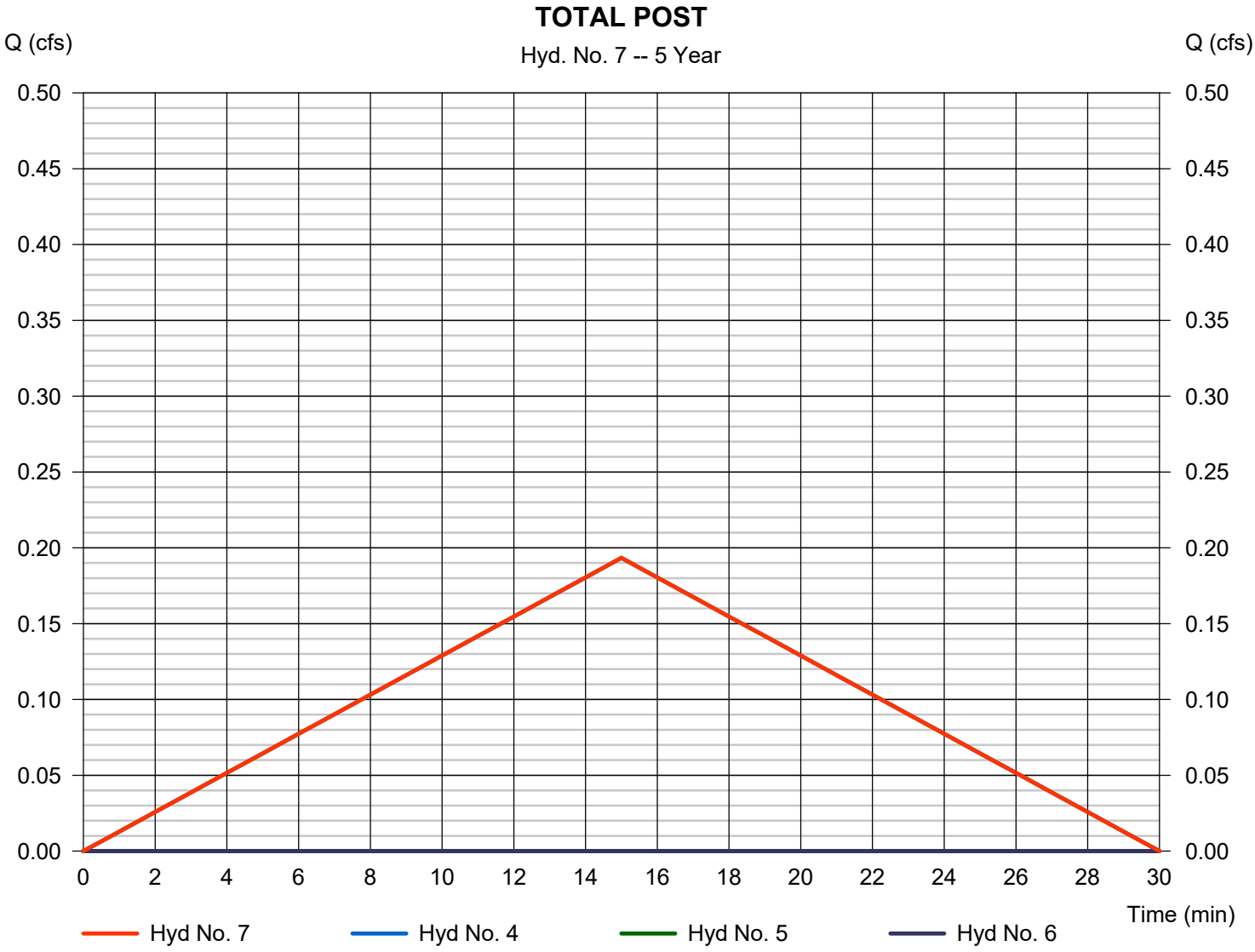


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	= Combine	Peak discharge	= 0.193 cfs
Storm frequency	= 5 yrs	Time to peak	= 15 min
Time interval	= 1 min	Hyd. volume	= 174 cuft
Inflow hyds.	= 4, 5, 6	Contrib. drain. area	= 0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

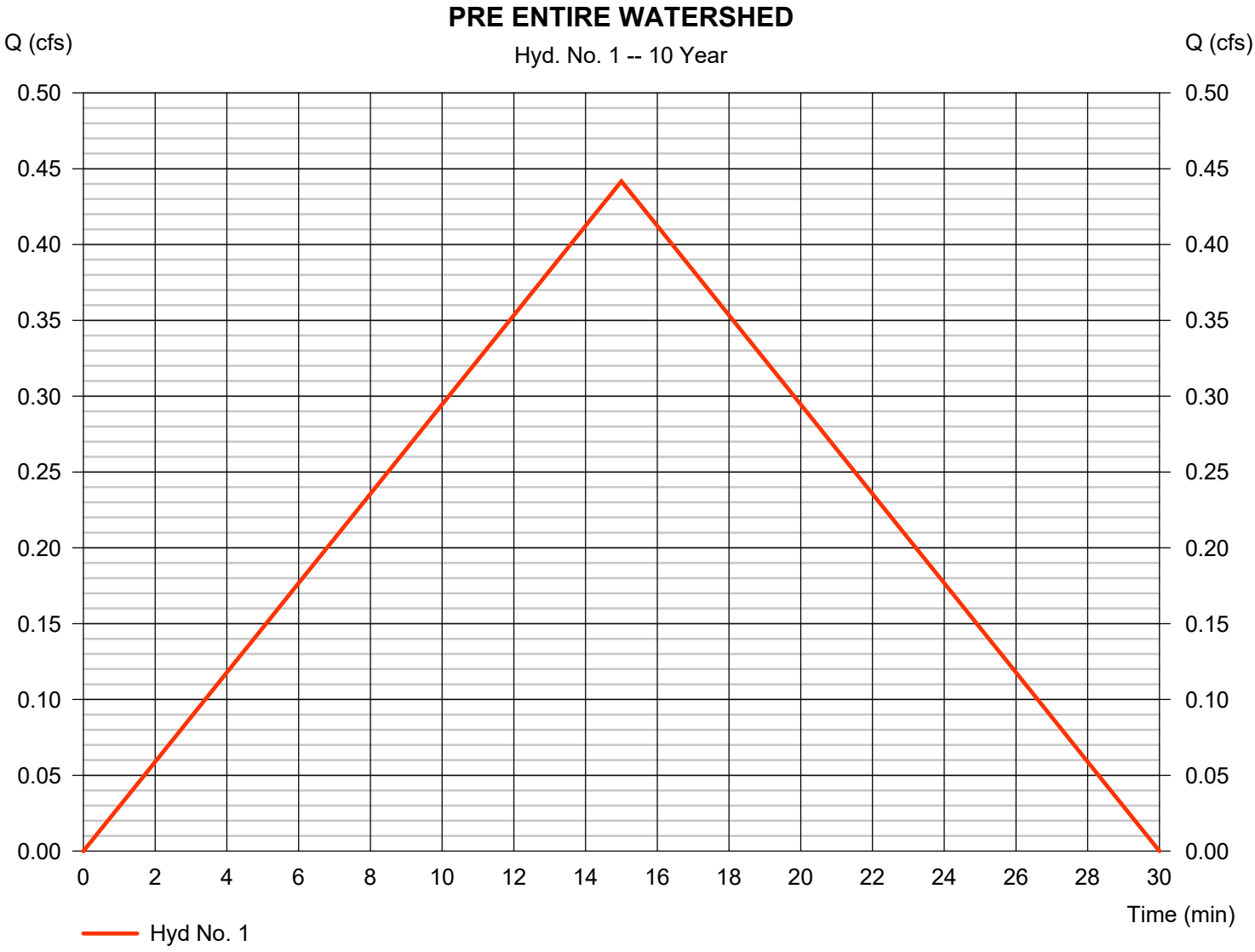
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.442	1	15	398	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.348	1	15	313	------	------	------	CONTROLLED #1
3	Rational	0.355	1	15	320	------	------	------	CONTROLLED #2
4	Rational	0.219	1	15	197	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	22	0	2	265.30	275	PCSM #1 ROUTED
6	Reservoir	0.000	1	128	0	3	274.00	279	PCSM #2 ROUTED
7	Combine	0.219	1	15	197	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.442 cfs
Storm frequency	=	10 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	398 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	5.993 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

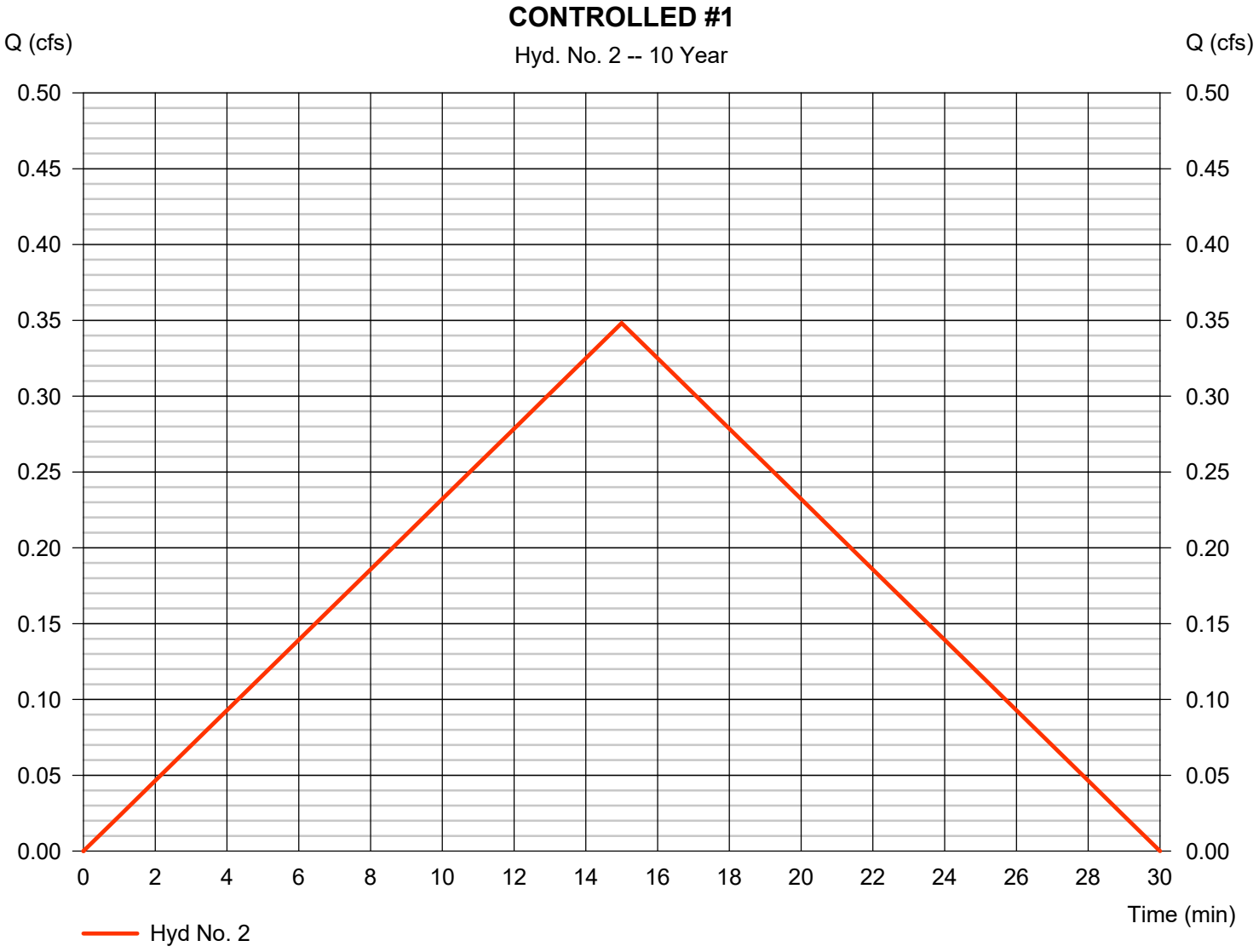


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.348 cfs
Storm frequency	=	10 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	313 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	5.993 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

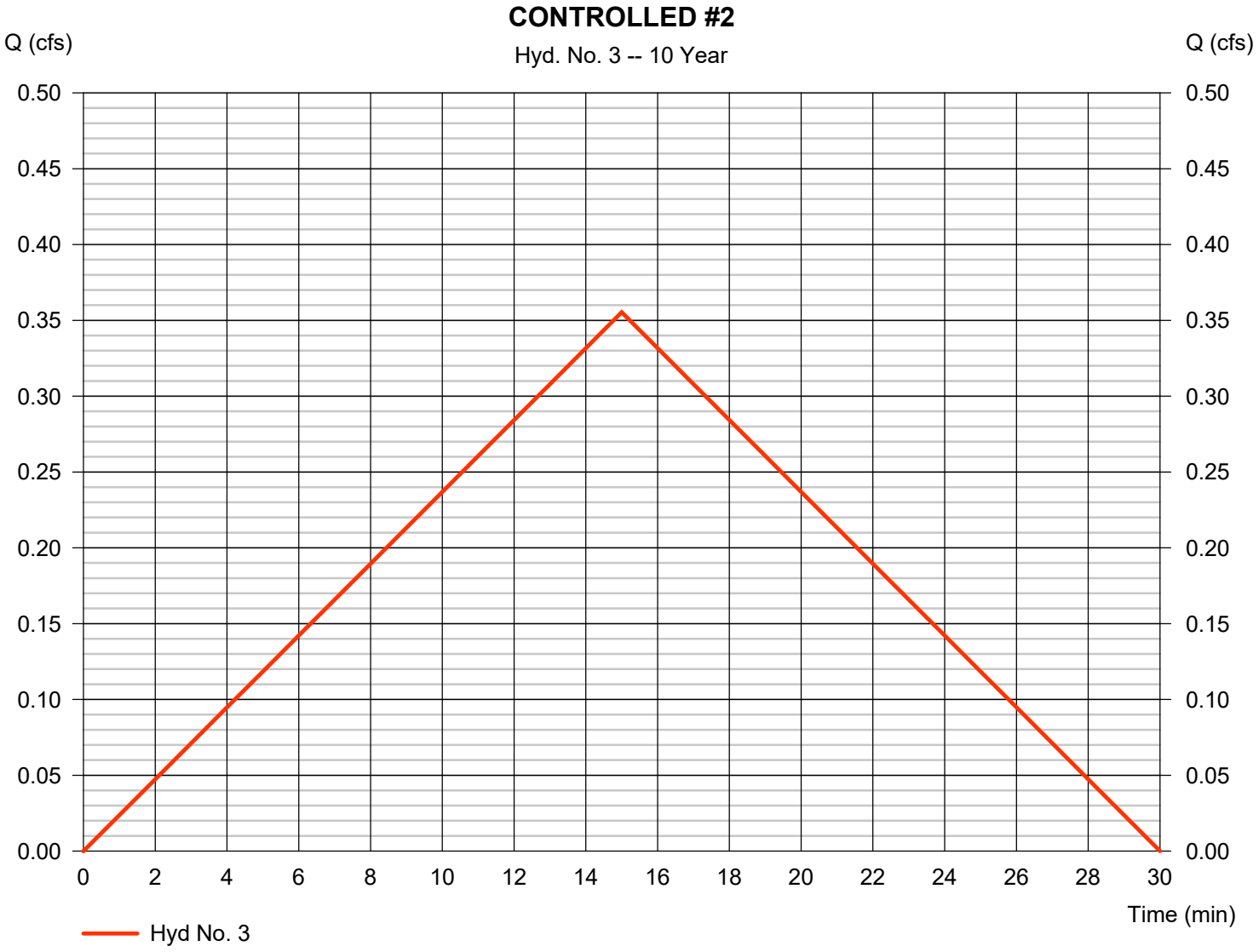


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.355 cfs
Storm frequency	=	10 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	320 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	5.993 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

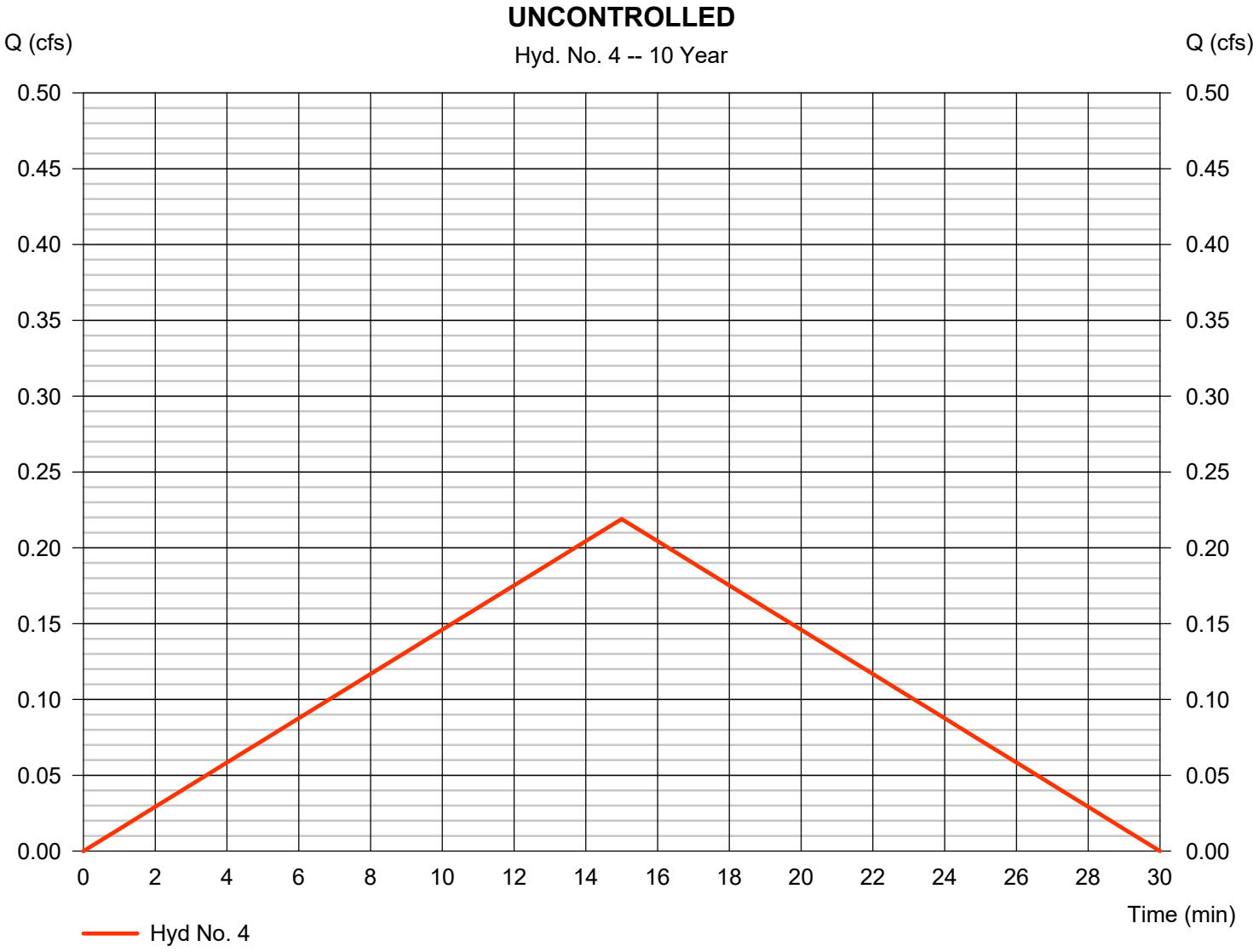


Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.219 cfs
Storm frequency	=	10 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	197 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	5.993 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



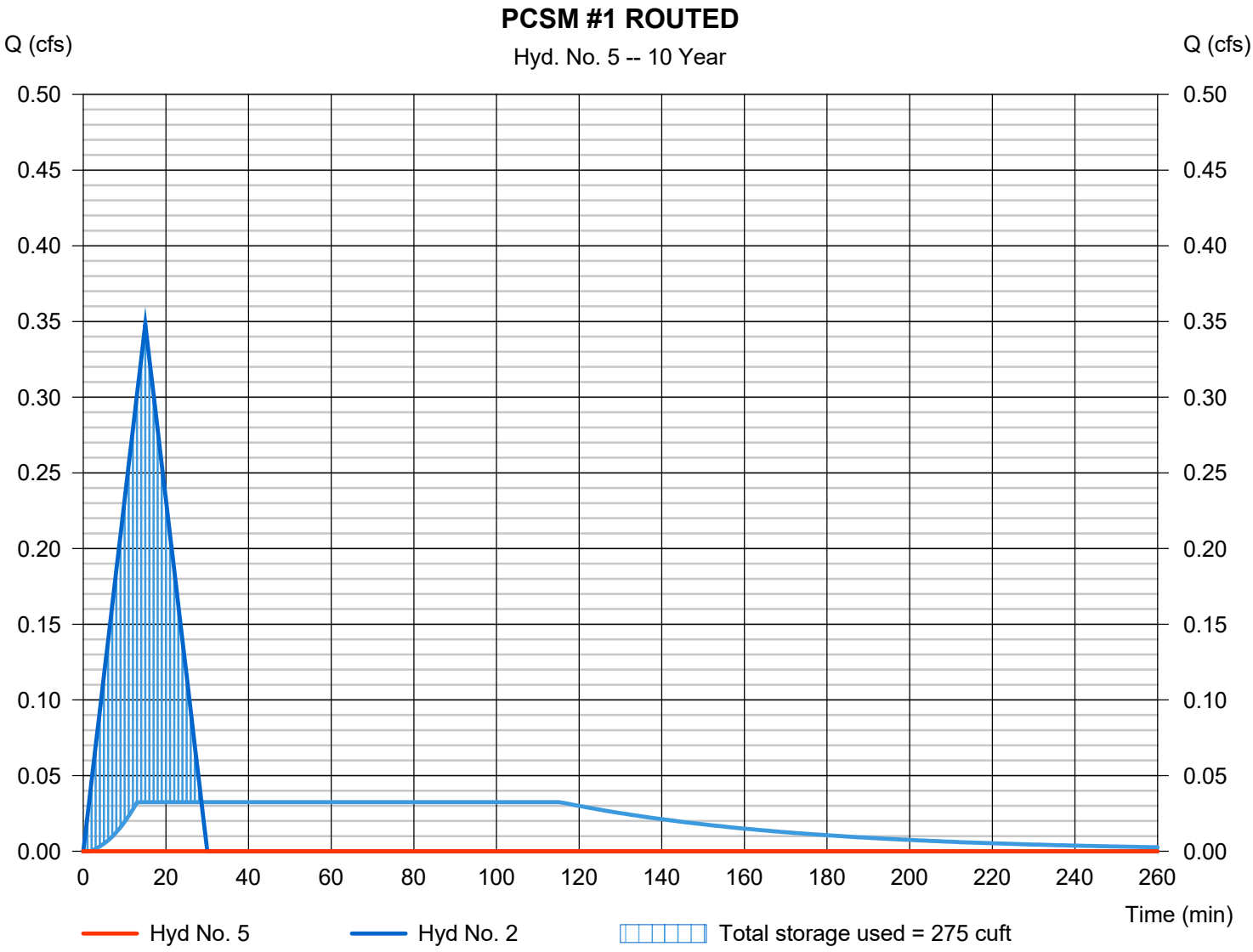
Hydrograph Report

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	22 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - CONTROLLED #1	Max. Elevation	=	265.30 ft
Reservoir name	=	PCSM #1	Max. Storage	=	275 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



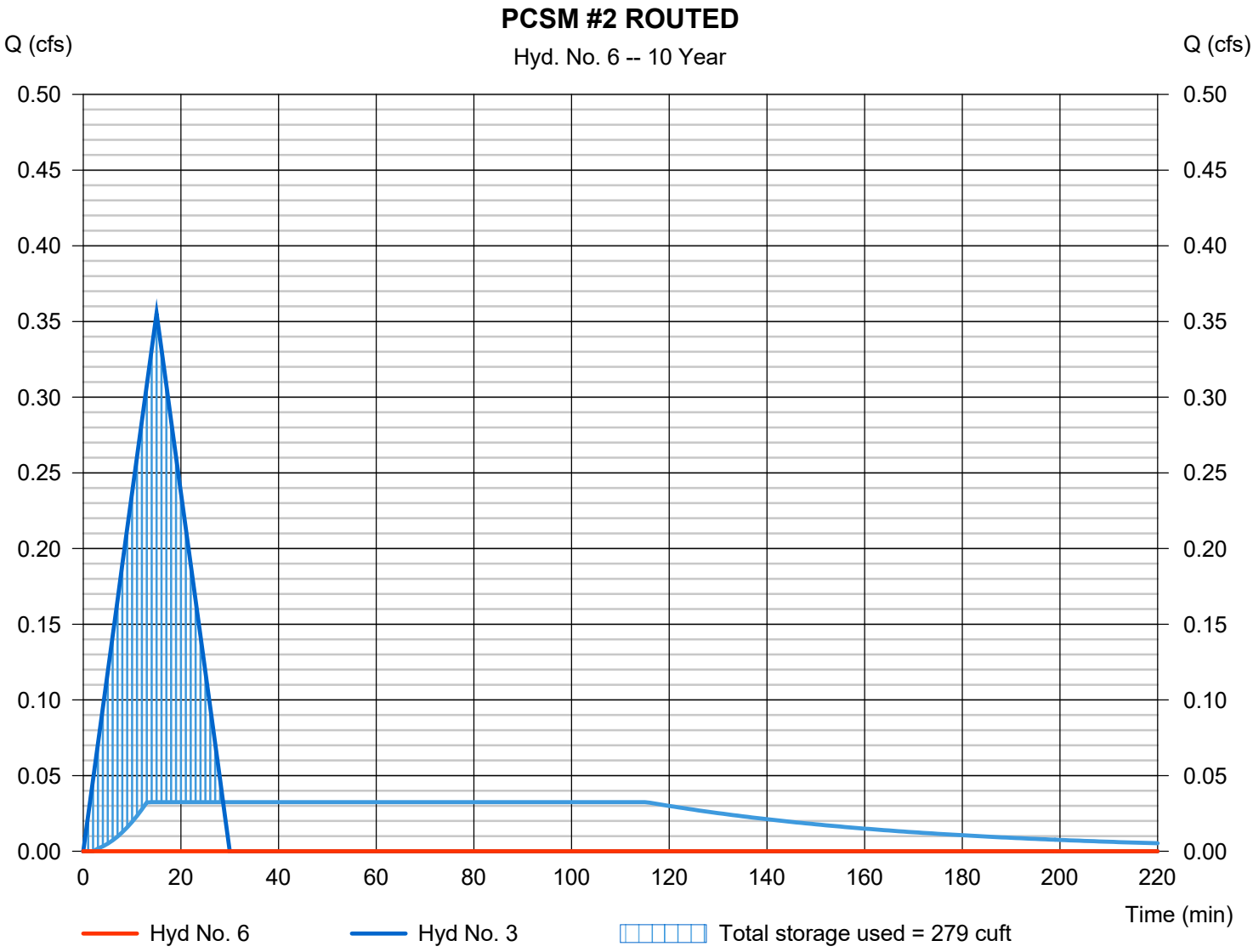
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	10 yrs	Time to peak	=	128 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	3 - CONTROLLED #2	Max. Elevation	=	274.00 ft
Reservoir name	=	PCSM #2	Max. Storage	=	279 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

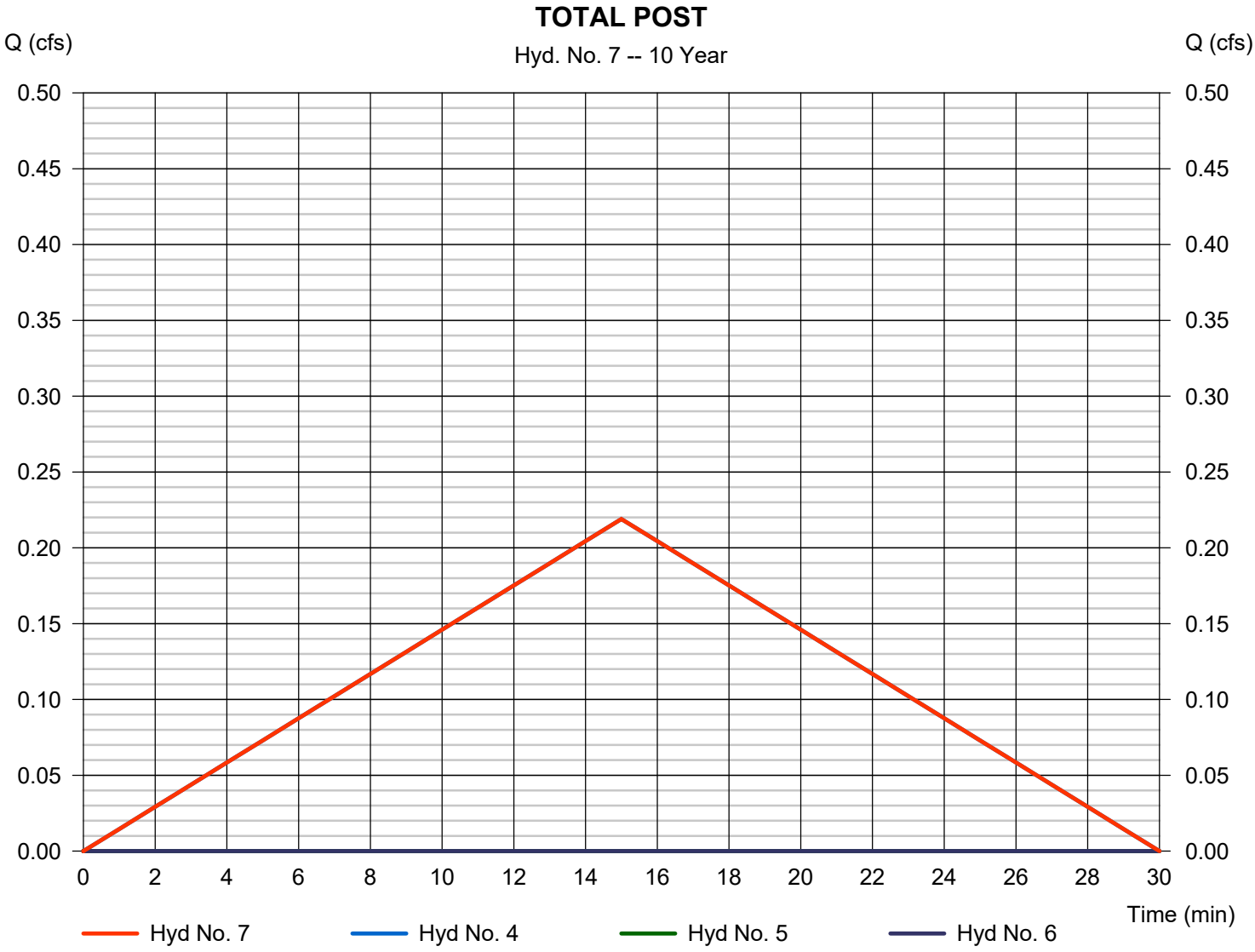


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	= Combine	Peak discharge	= 0.219 cfs
Storm frequency	= 10 yrs	Time to peak	= 15 min
Time interval	= 1 min	Hyd. volume	= 197 cuft
Inflow hyds.	= 4, 5, 6	Contrib. drain. area	= 0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

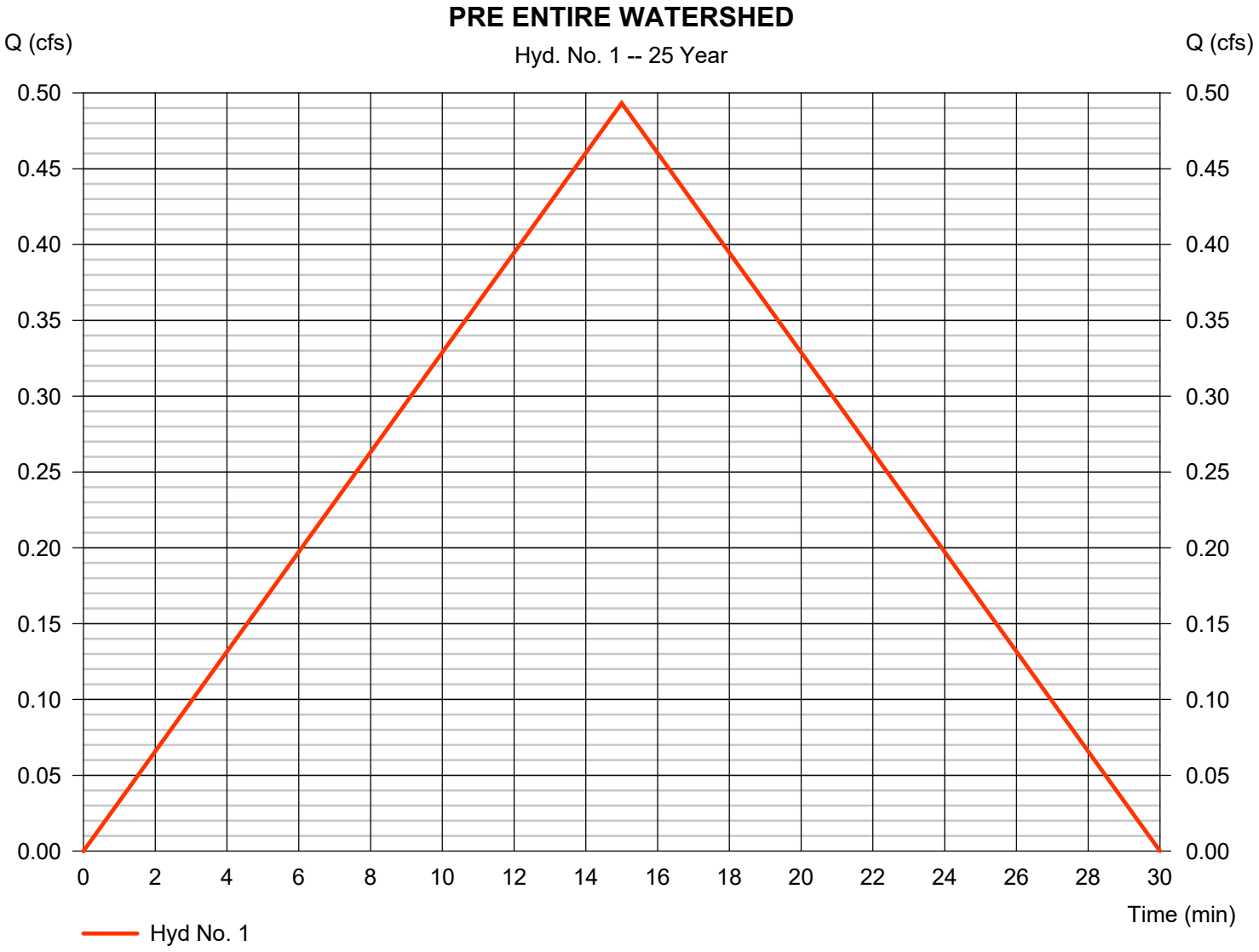
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.493	1	15	444	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.389	1	15	350	------	------	------	CONTROLLED #1
3	Rational	0.397	1	15	357	------	------	------	CONTROLLED #2
4	Rational	0.245	1	15	220	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	23	0	2	265.70	311	PCSM #1 ROUTED
6	Reservoir	0.000	1	29	0	3	275.82	316	PCSM #2 ROUTED
7	Combine	0.245	1	15	220	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.493 cfs
Storm frequency	=	25 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	444 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	6.692 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

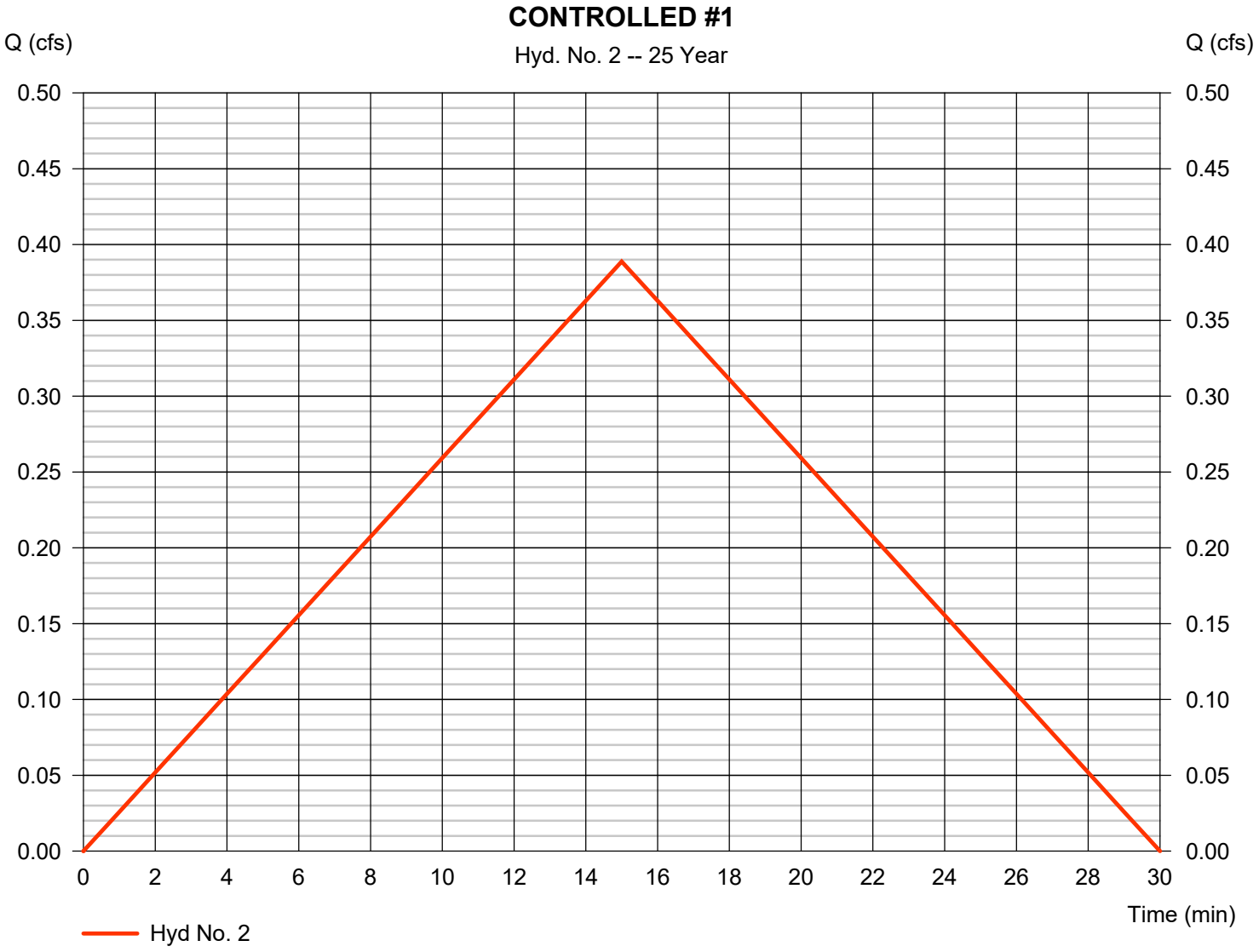


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.389 cfs
Storm frequency	=	25 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	350 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	6.692 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

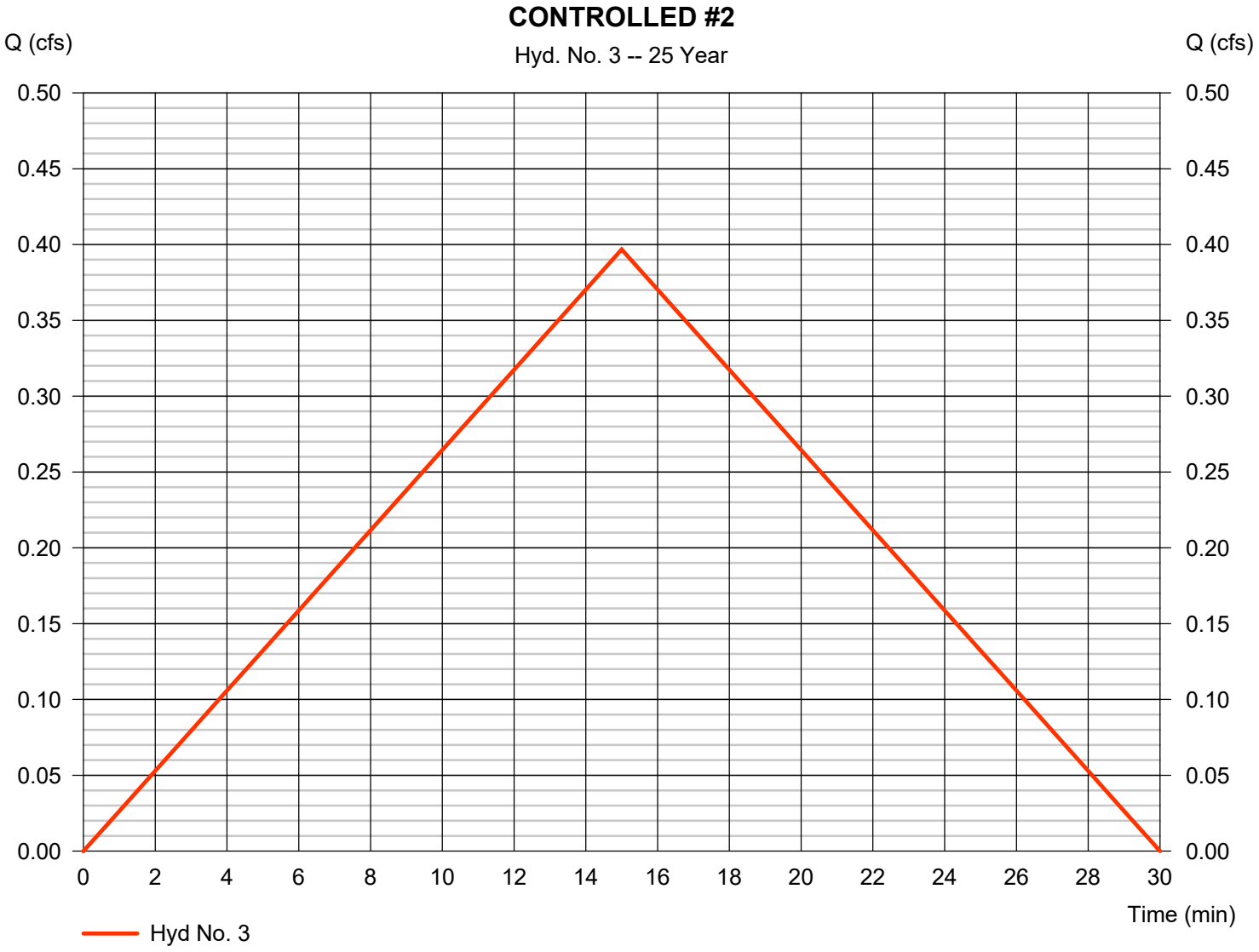


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.397 cfs
Storm frequency	=	25 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	357 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	6.692 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

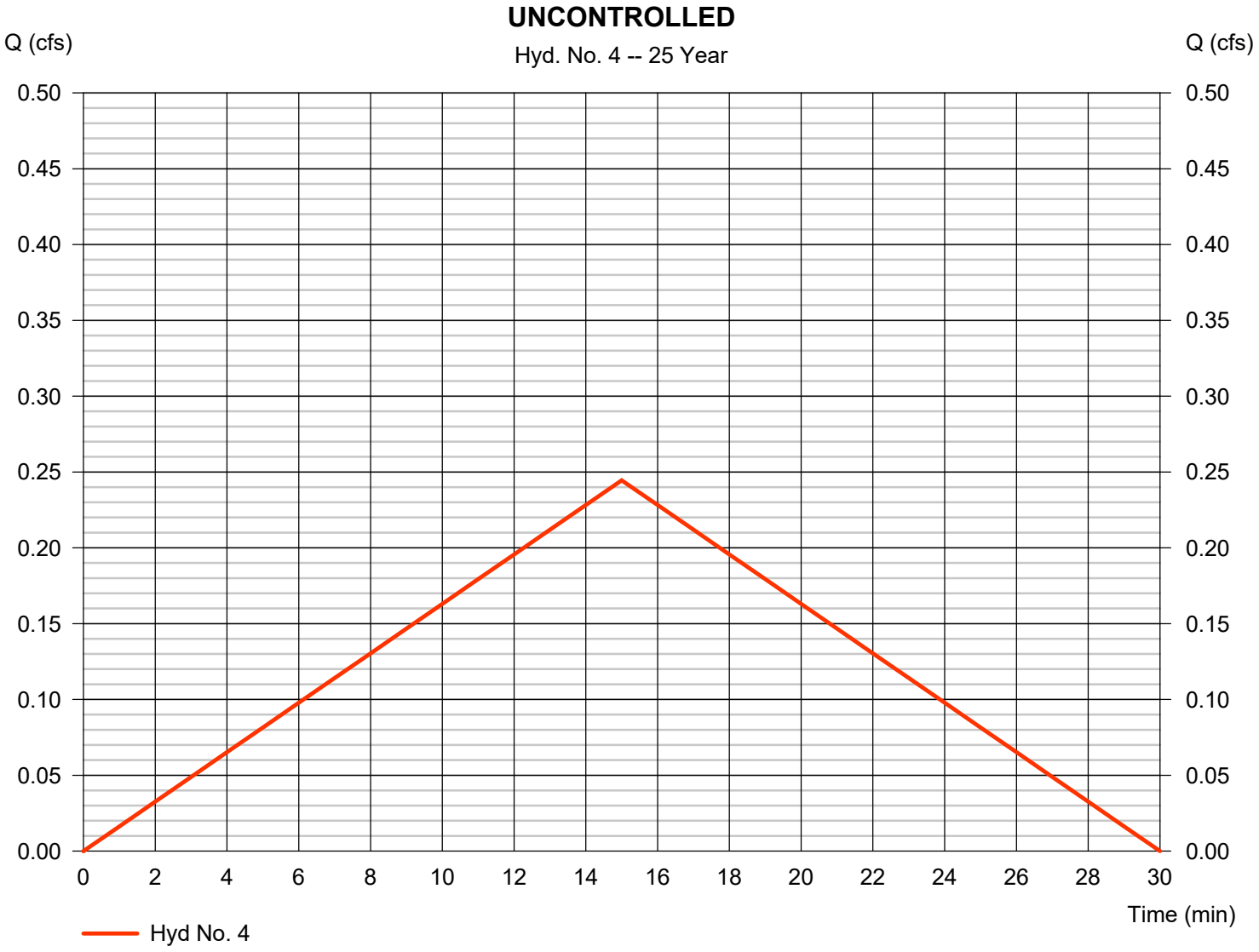


Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.245 cfs
Storm frequency	=	25 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	220 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	6.692 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



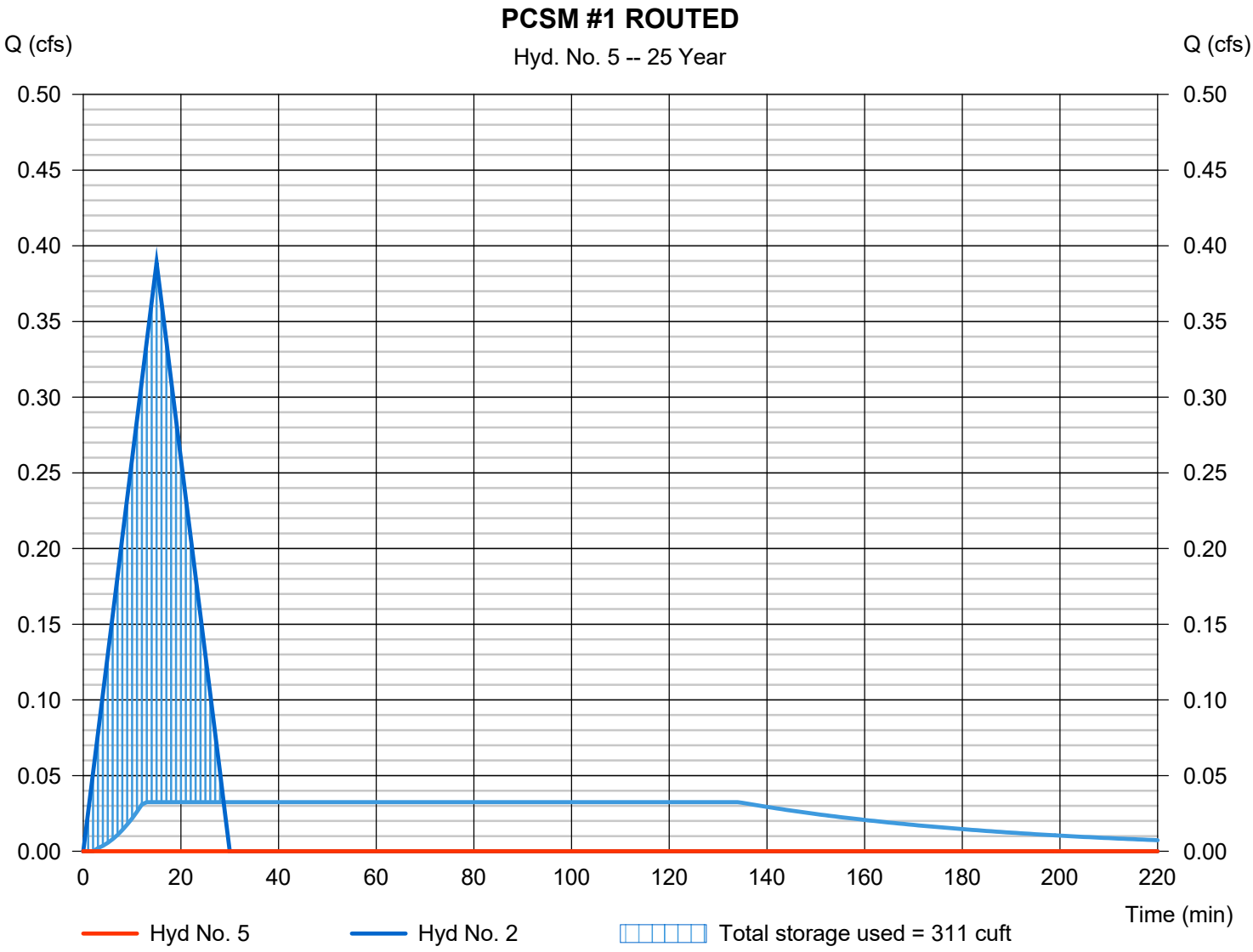
Hydrograph Report

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	25 yrs	Time to peak	=	23 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	2 - CONTROLLED #1	Max. Elevation	=	265.70 ft
Reservoir name	=	PCSM #1	Max. Storage	=	311 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



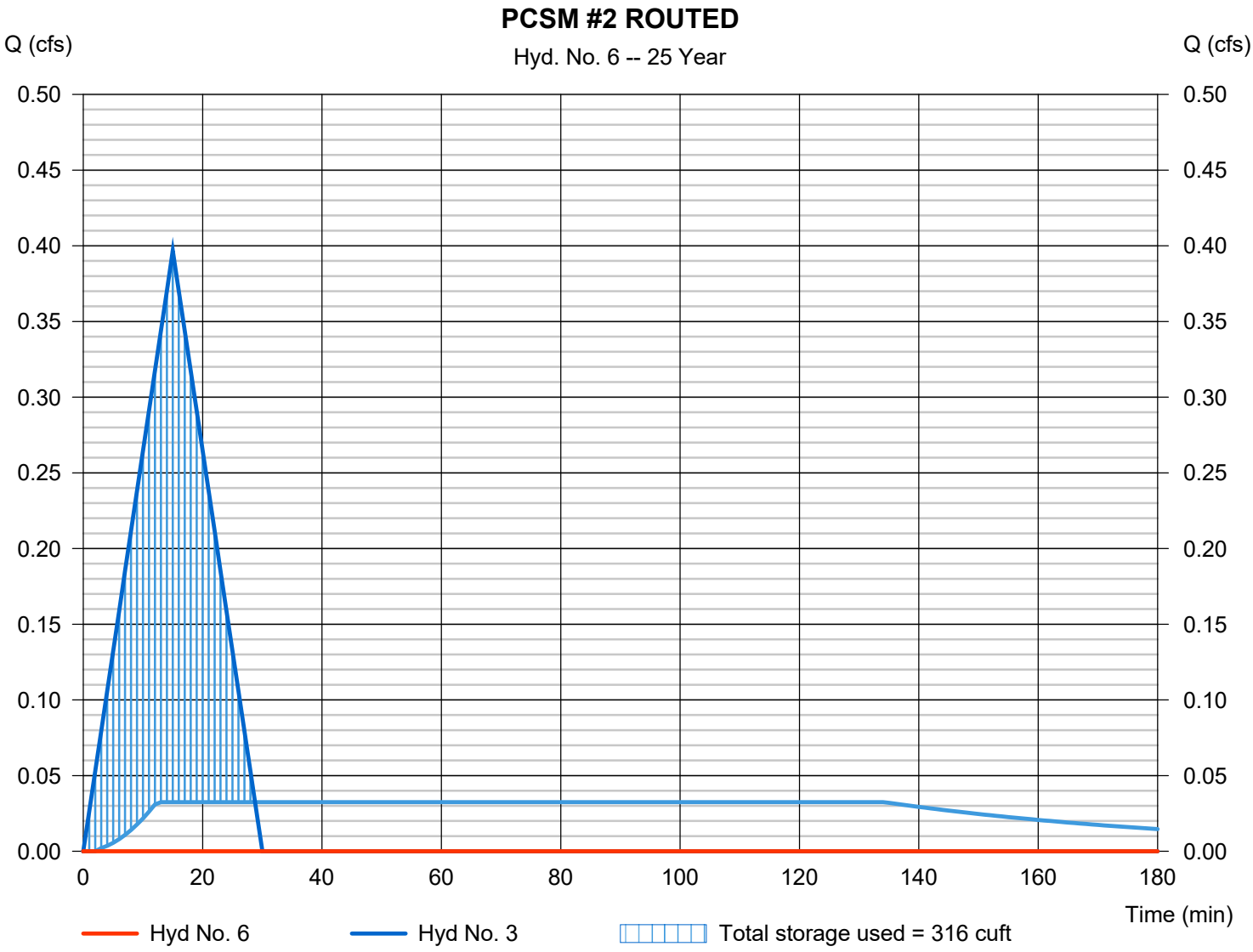
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.000 cfs
Storm frequency	=	25 yrs	Time to peak	=	29 min
Time interval	=	1 min	Hyd. volume	=	0 cuft
Inflow hyd. No.	=	3 - CONTROLLED #2	Max. Elevation	=	275.82 ft
Reservoir name	=	PCSM #2	Max. Storage	=	316 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

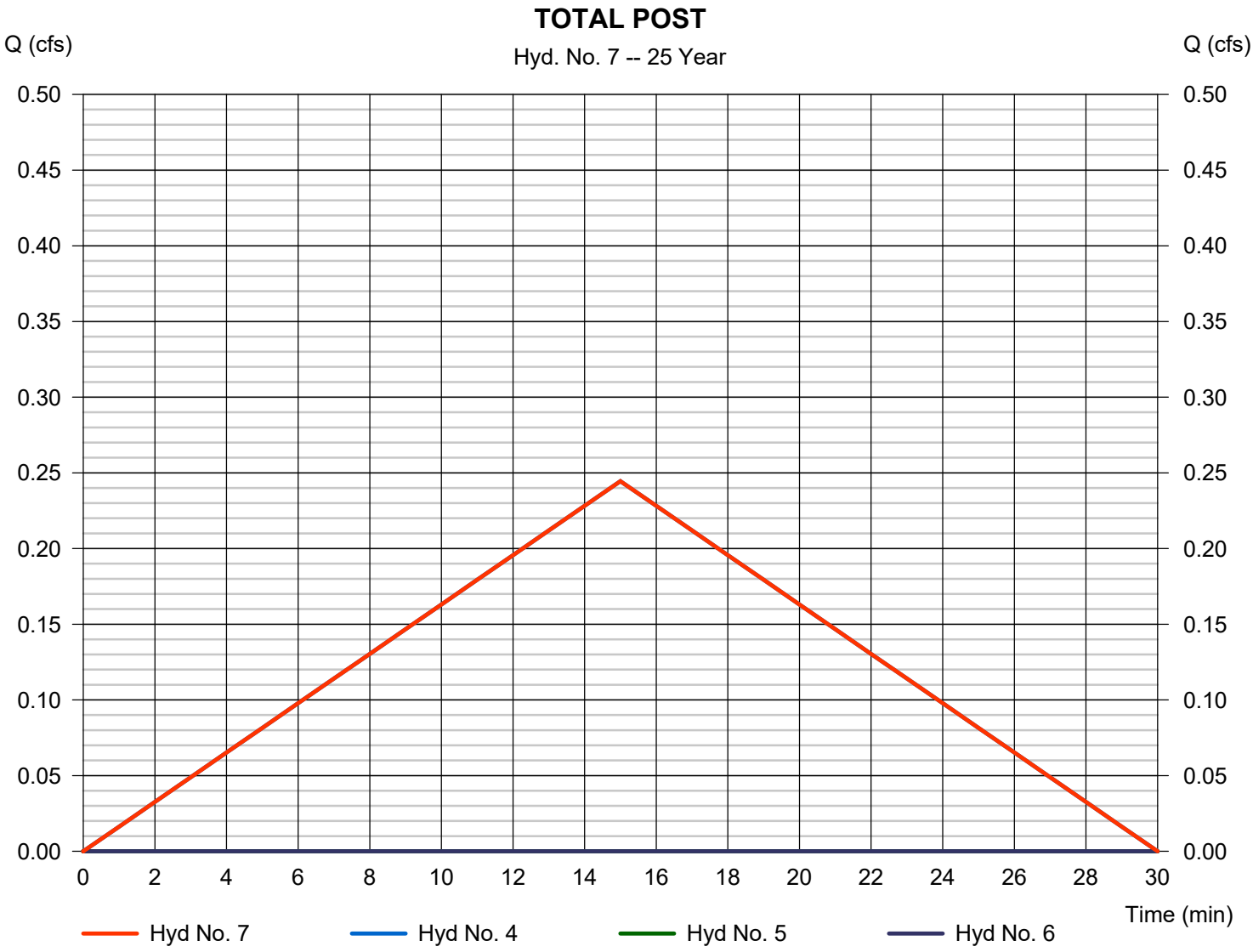


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	=	Combine	Peak discharge	=	0.245 cfs
Storm frequency	=	25 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	220 cuft
Inflow hyds.	=	4, 5, 6	Contrib. drain. area	=	0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

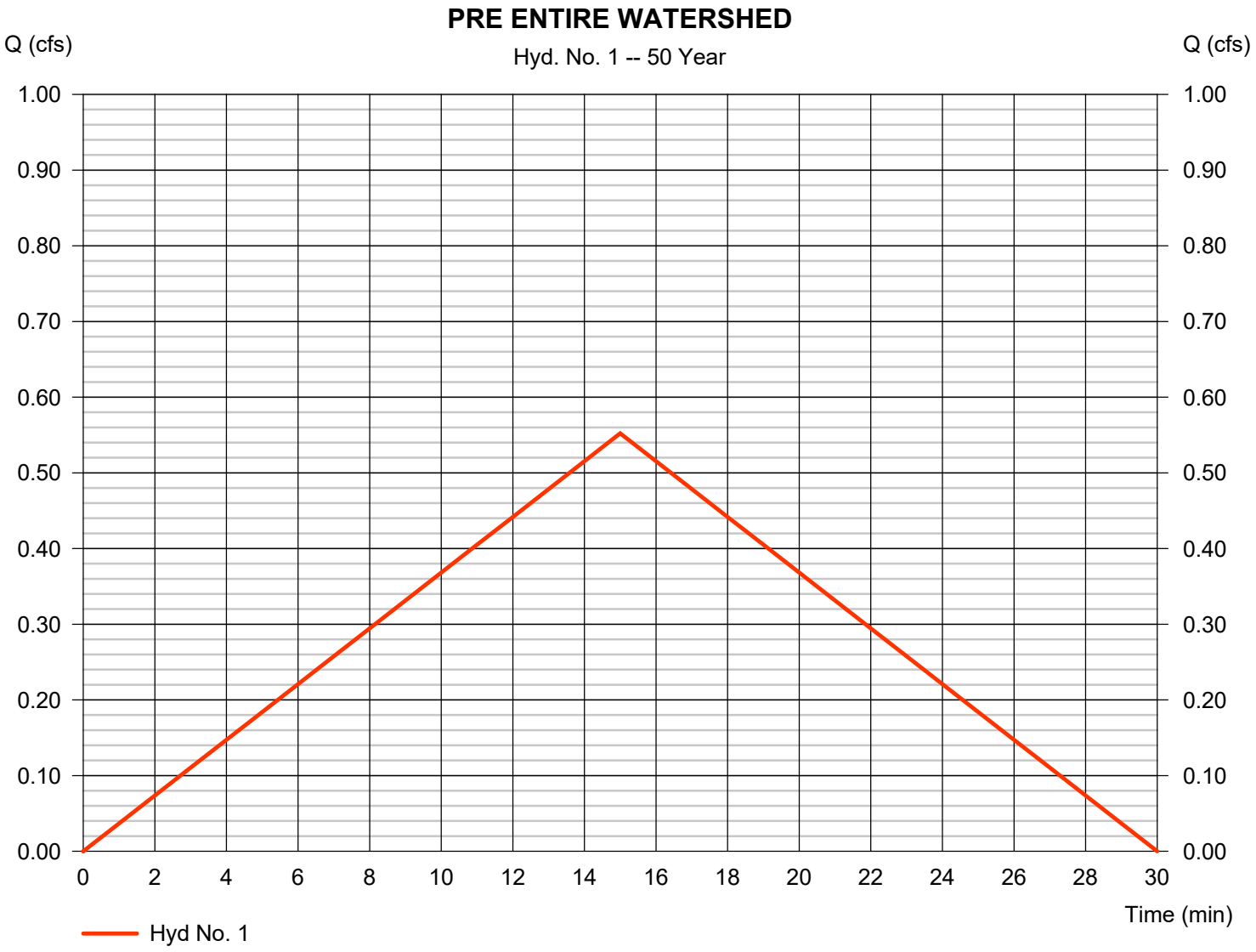
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.552	1	15	497	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.435	1	15	392	------	------	------	CONTROLLED #1
3	Rational	0.444	1	15	400	------	------	------	CONTROLLED #2
4	Rational	0.274	1	15	246	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	20	0	2	265.70	352	PCSM #1 ROUTED
6	Reservoir	0.152	1	24	33	3	275.95	330	PCSM #2 ROUTED
7	Combine	0.274	1	15	279	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.552 cfs
Storm frequency	=	50 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	497 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	7.492 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

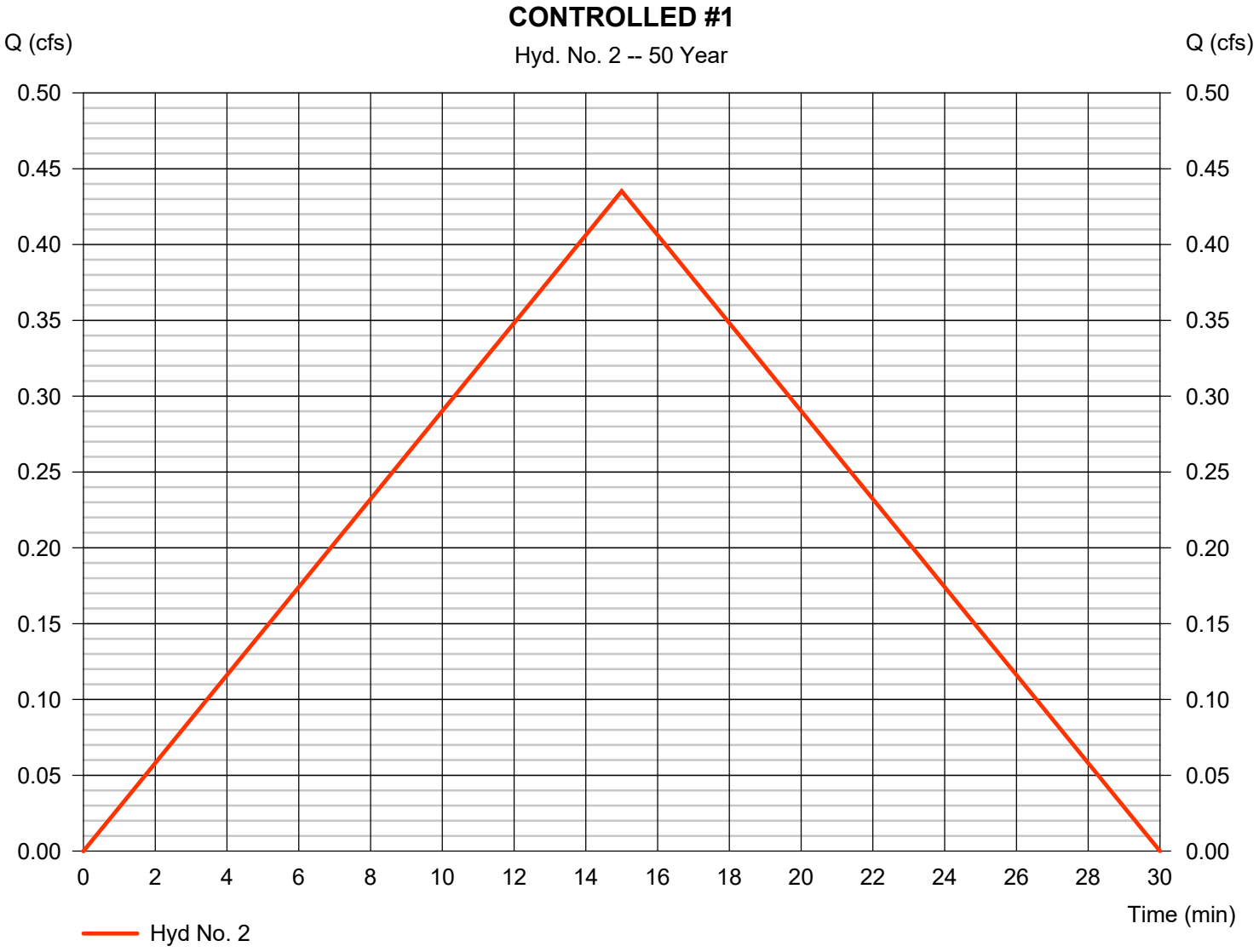


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.435 cfs
Storm frequency	=	50 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	392 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	7.492 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

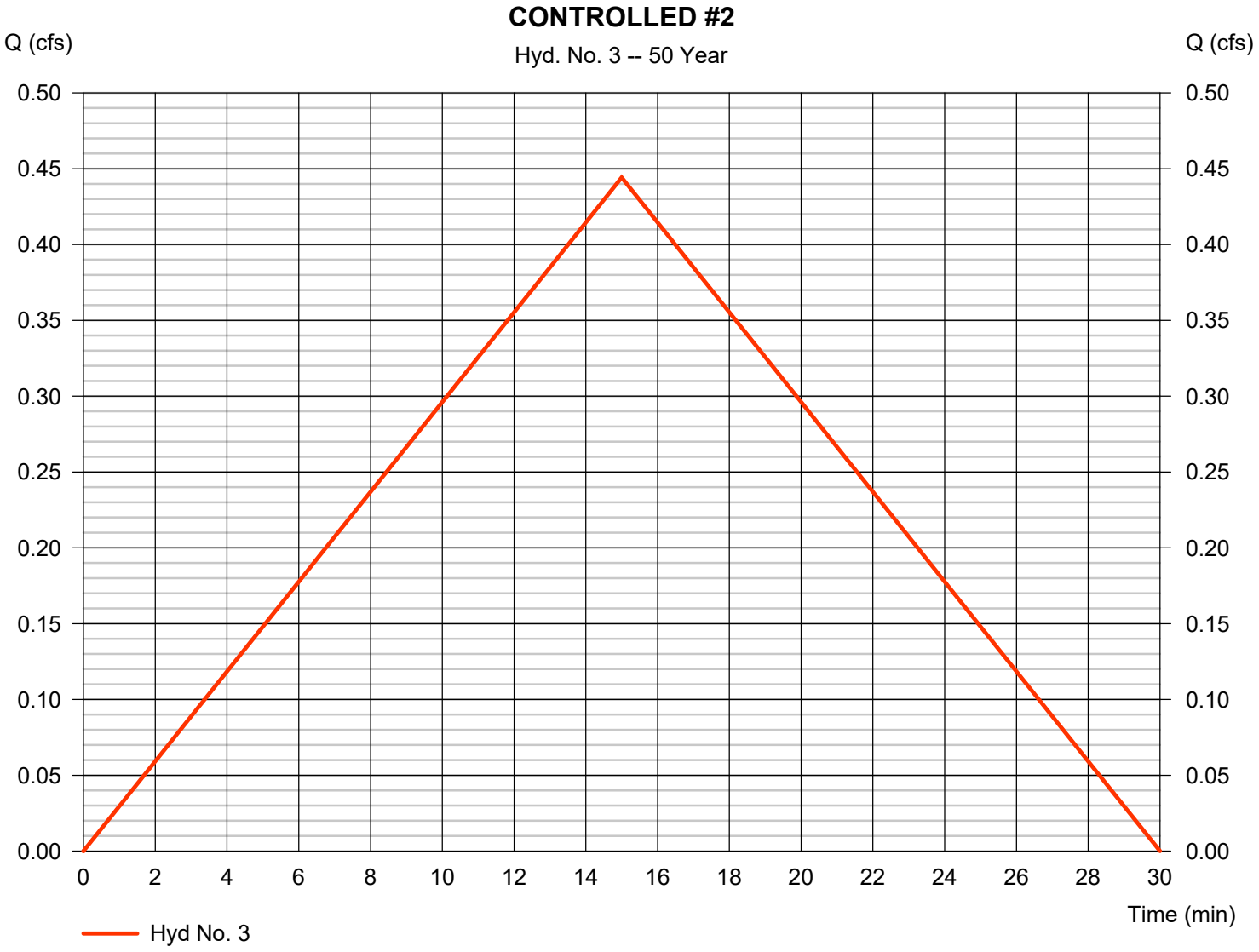


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.444 cfs
Storm frequency	=	50 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	400 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	7.492 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.274 cfs
Storm frequency	=	50 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	246 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	7.492 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

Hydrograph Report

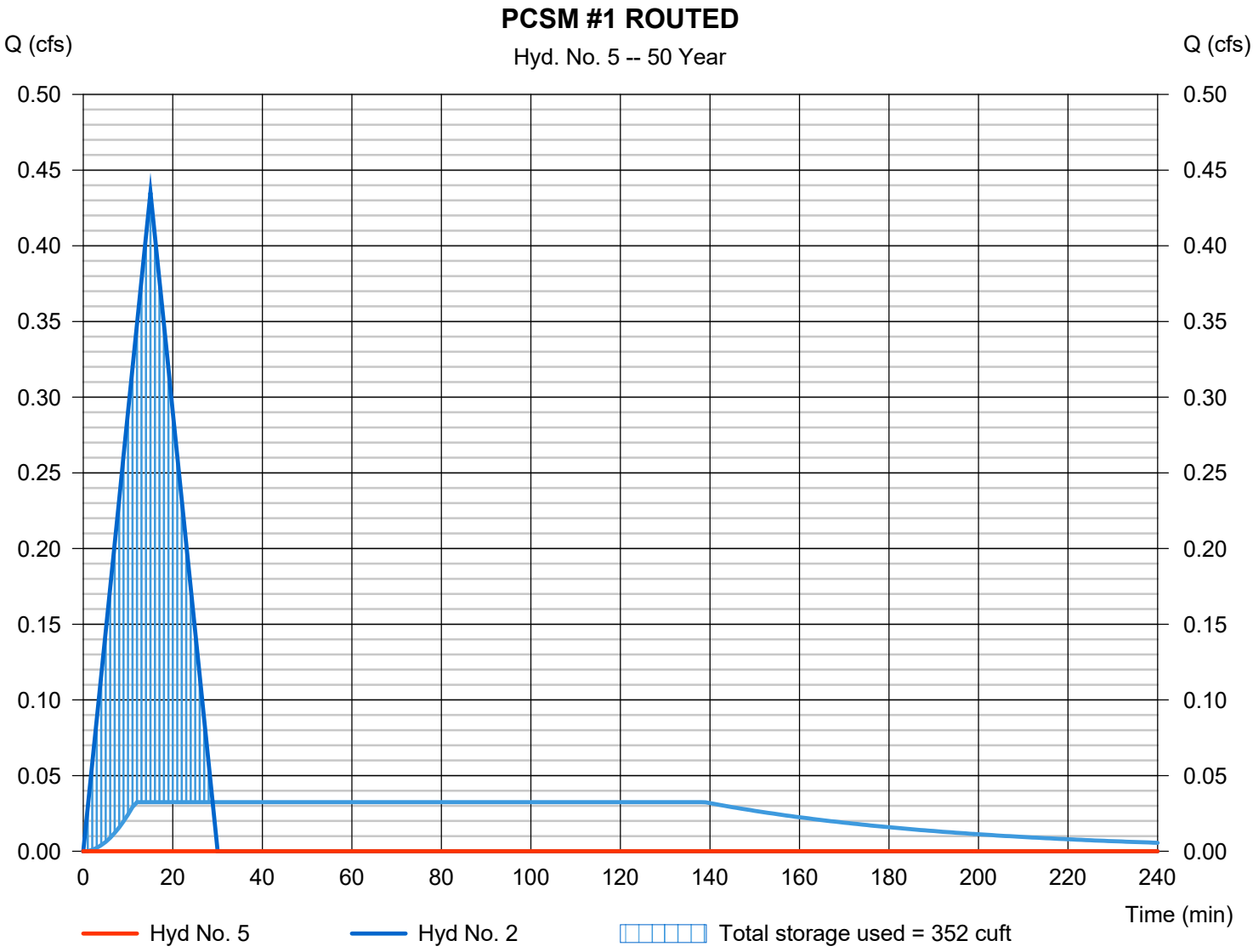
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 06 / 25 / 2020

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 50 yrs	Time to peak	= 20 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - CONTROLLED #1	Max. Elevation	= 265.70 ft
Reservoir name	= PCSM #1	Max. Storage	= 352 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



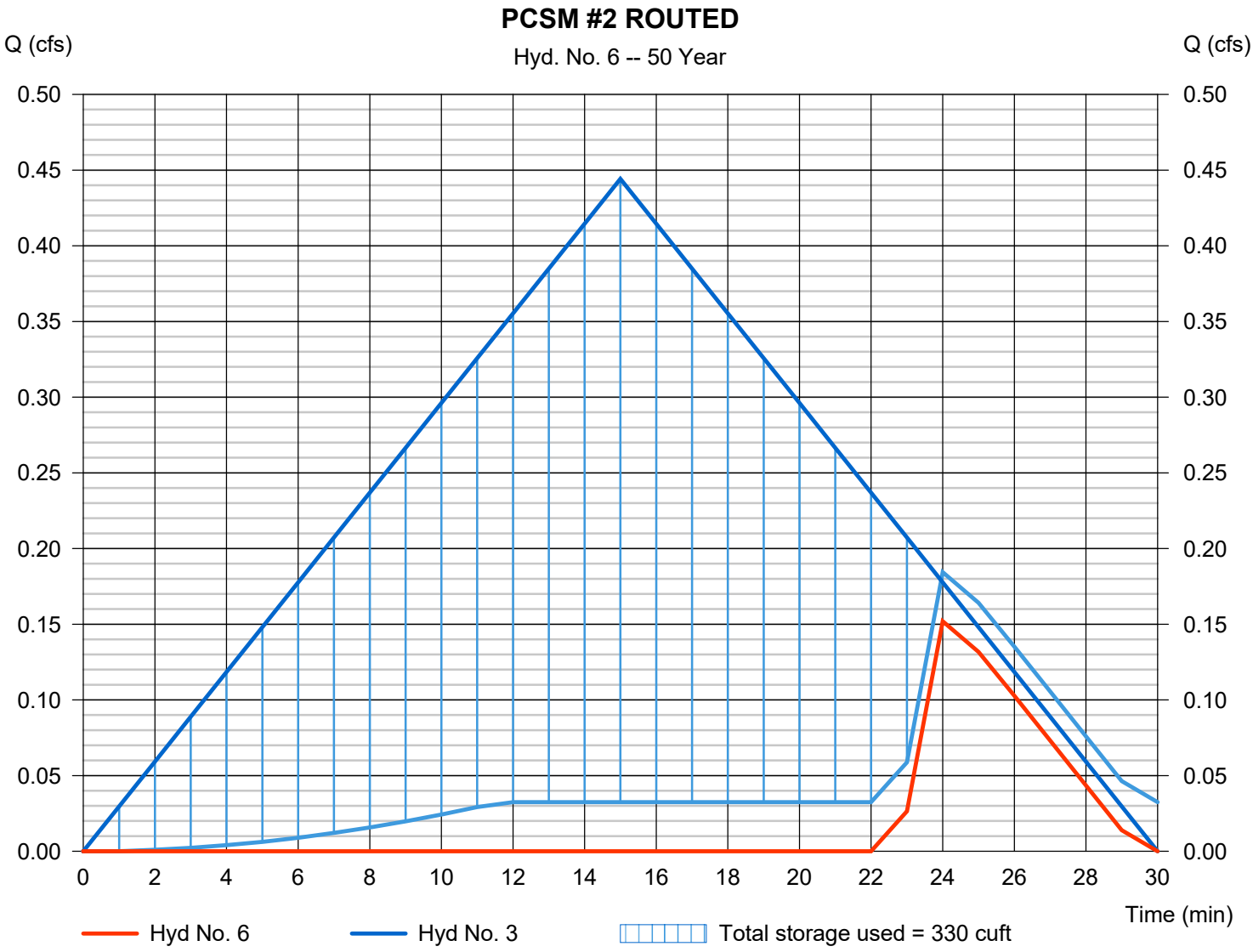
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.152 cfs
Storm frequency	=	50 yrs	Time to peak	=	24 min
Time interval	=	1 min	Hyd. volume	=	33 cuft
Inflow hyd. No.	=	3 - CONTROLLED #2	Max. Elevation	=	275.95 ft
Reservoir name	=	PCSM #2	Max. Storage	=	330 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

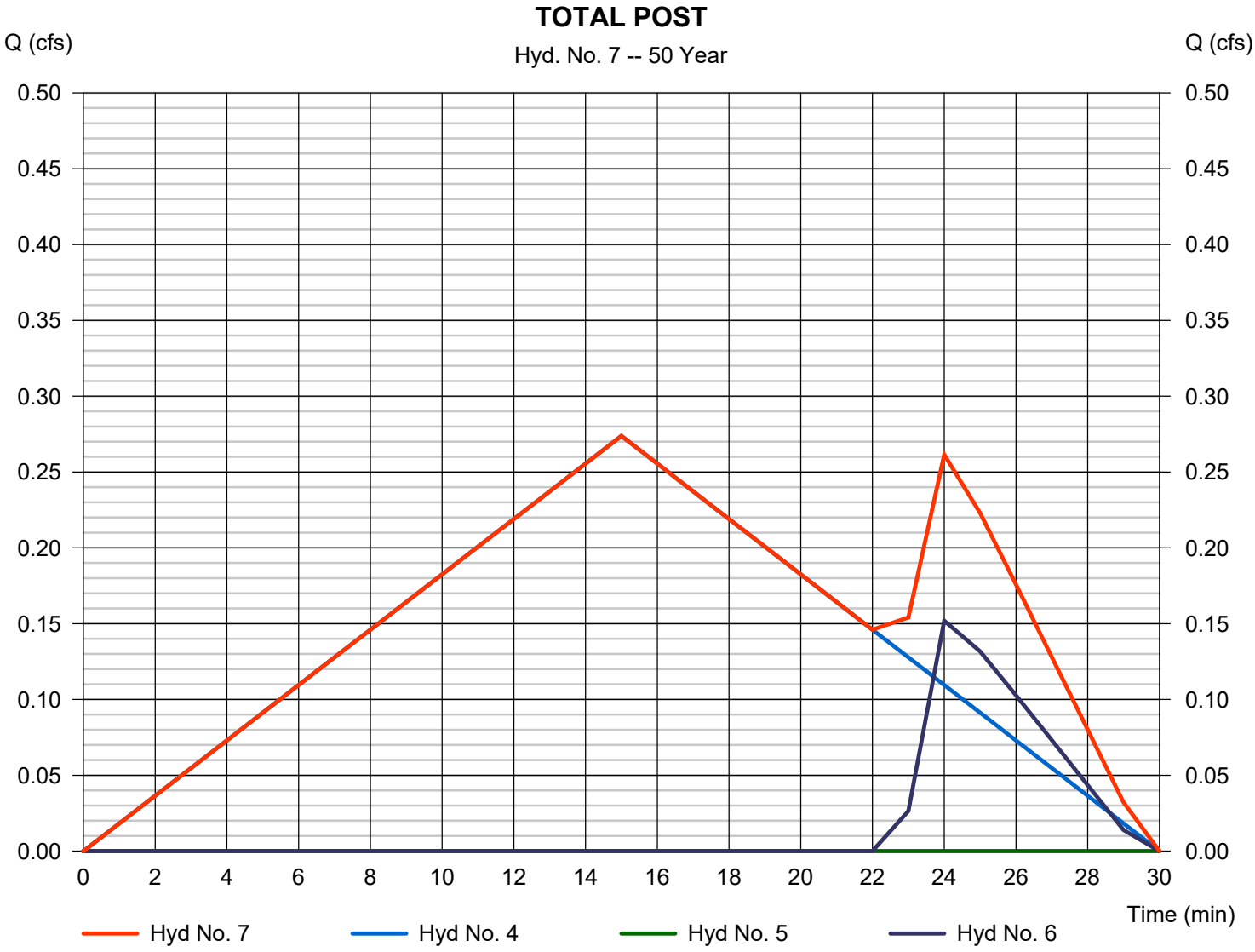


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	=	Combine	Peak discharge	=	0.274 cfs
Storm frequency	=	50 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	279 cuft
Inflow hyds.	=	4, 5, 6	Contrib. drain. area	=	0.126 ac



Hydrograph Summary Report

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

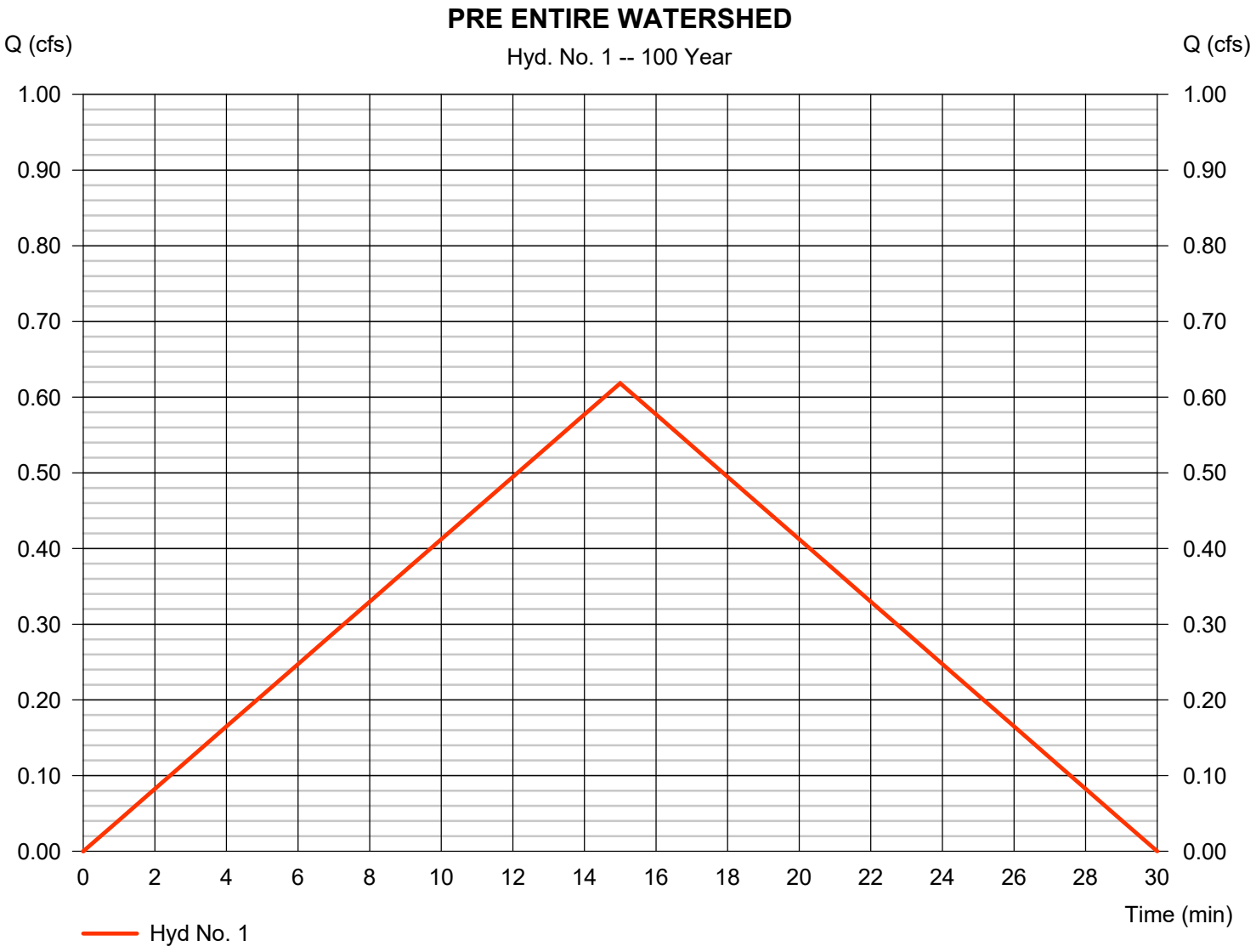
Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to Peak (min)	Hyd. volume (cuft)	Inflow hyd(s)	Maximum elevation (ft)	Total strge used (cuft)	Hydrograph Description
1	Rational	0.618	1	15	557	------	------	------	PRE ENTIRE WATERSHED
2	Rational	0.487	1	15	439	------	------	------	CONTROLLED #1
3	Rational	0.497	1	15	448	------	------	------	CONTROLLED #2
4	Rational	0.307	1	15	276	------	------	------	UNCONTROLLED
5	Reservoir	0.000	1	29	0	2	266.83	398	PCSM #1 ROUTED
6	Reservoir	0.249	1	22	79	3	275.98	333	PCSM #2 ROUTED
7	Combine	0.427	1	21	355	4, 5, 6	------	------	TOTAL POST

Hydrograph Report

Hyd. No. 1

PRE ENTIRE WATERSHED

Hydrograph type	=	Rational	Peak discharge	=	0.618 cfs
Storm frequency	=	100 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	557 cuft
Drainage area	=	0.273 ac	Runoff coeff.	=	0.27
Intensity	=	8.389 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

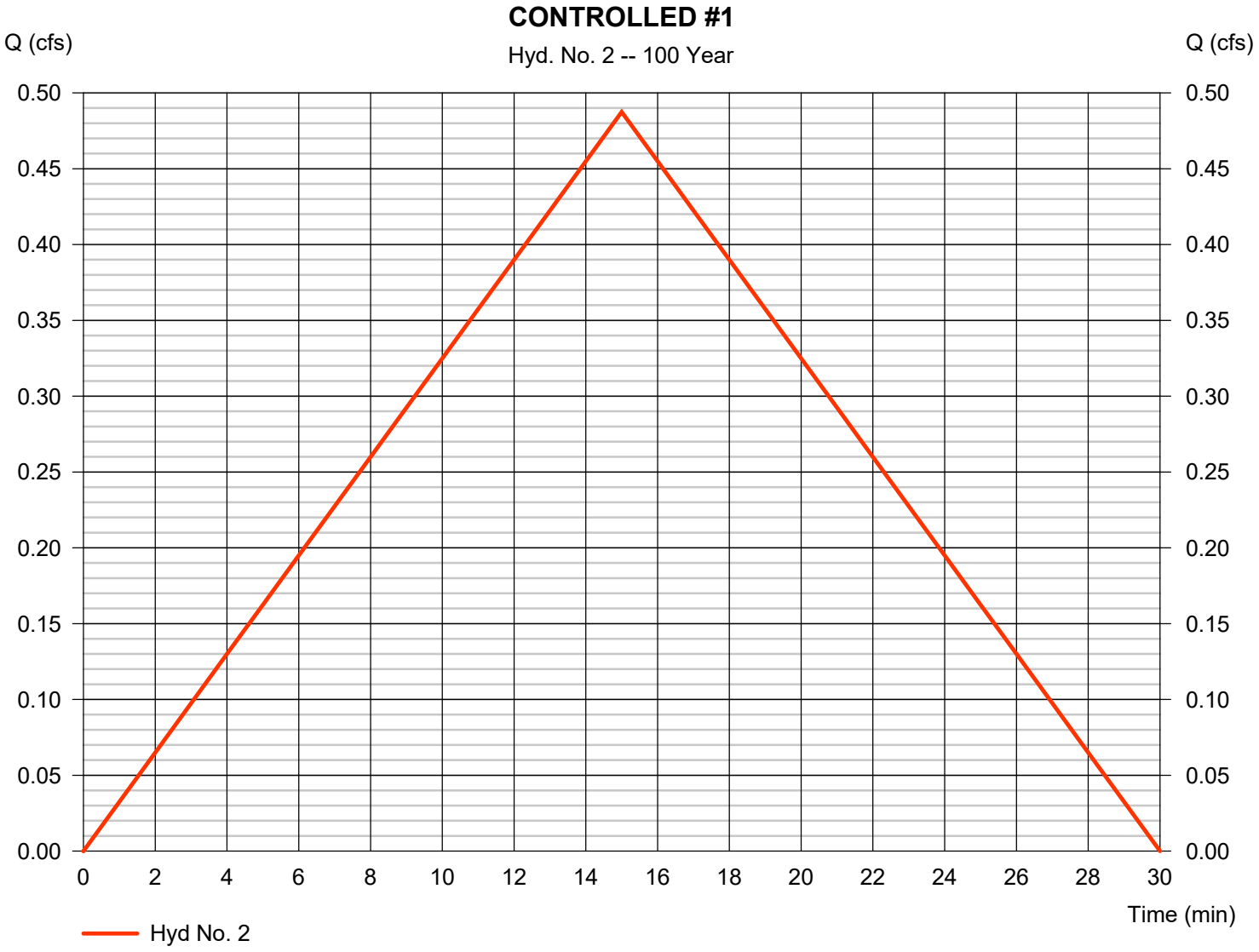


Hydrograph Report

Hyd. No. 2

CONTROLLED #1

Hydrograph type	=	Rational	Peak discharge	=	0.487 cfs
Storm frequency	=	100 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	439 cuft
Drainage area	=	0.070 ac	Runoff coeff.	=	0.83
Intensity	=	8.389 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

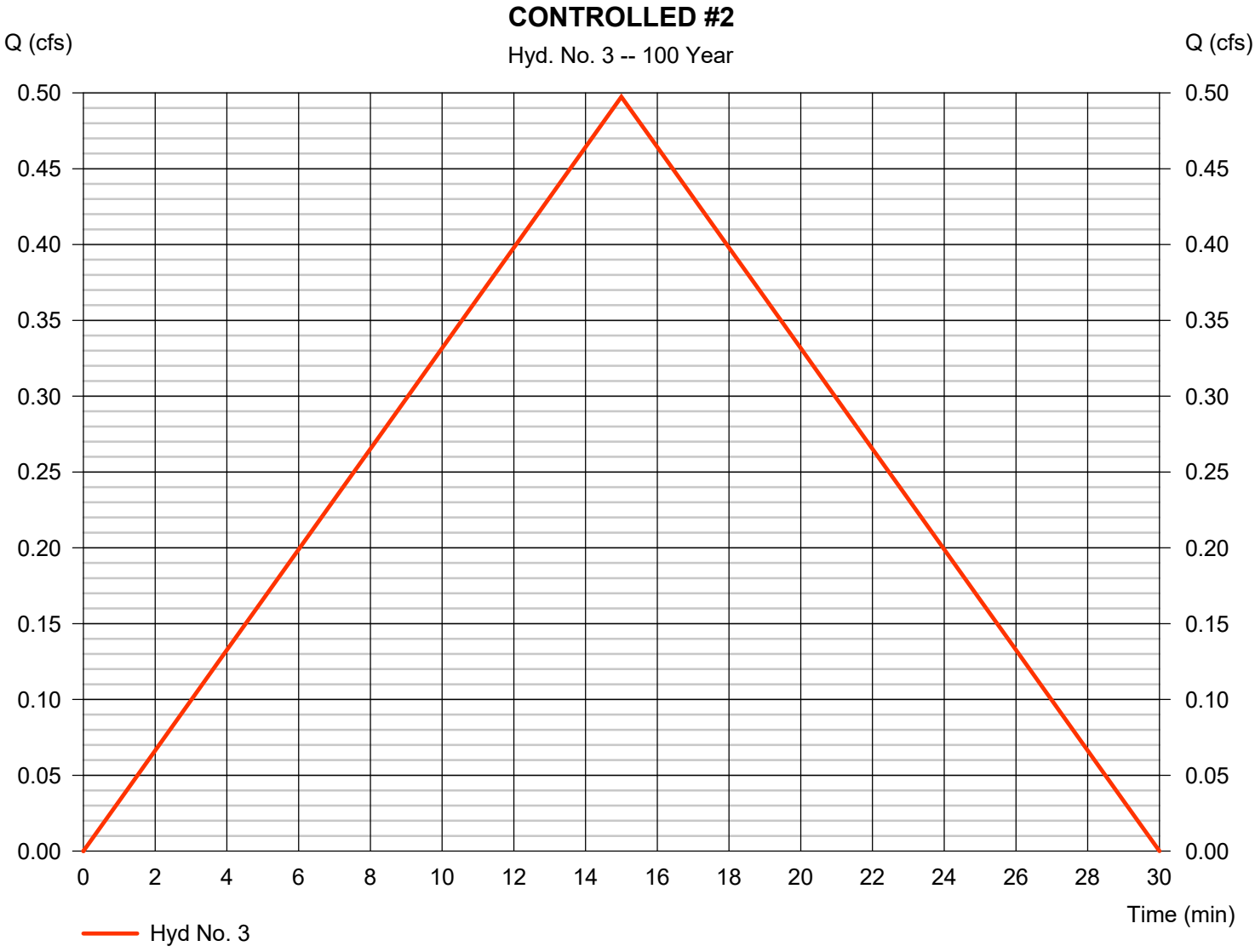


Hydrograph Report

Hyd. No. 3

CONTROLLED #2

Hydrograph type	=	Rational	Peak discharge	=	0.497 cfs
Storm frequency	=	100 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	448 cuft
Drainage area	=	0.077 ac	Runoff coeff.	=	0.77
Intensity	=	8.389 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3



Hydrograph Report

Hyd. No. 4

UNCONTROLLED

Hydrograph type	=	Rational	Peak discharge	=	0.307 cfs
Storm frequency	=	100 yrs	Time to peak	=	15 min
Time interval	=	1 min	Hyd. volume	=	276 cuft
Drainage area	=	0.126 ac	Runoff coeff.	=	0.29
Intensity	=	8.389 in/hr	Tc by User	=	5.00 min
IDF Curve	=	Region 5.IDF	Asc/Rec limb fact	=	3/3

Hydrograph Report

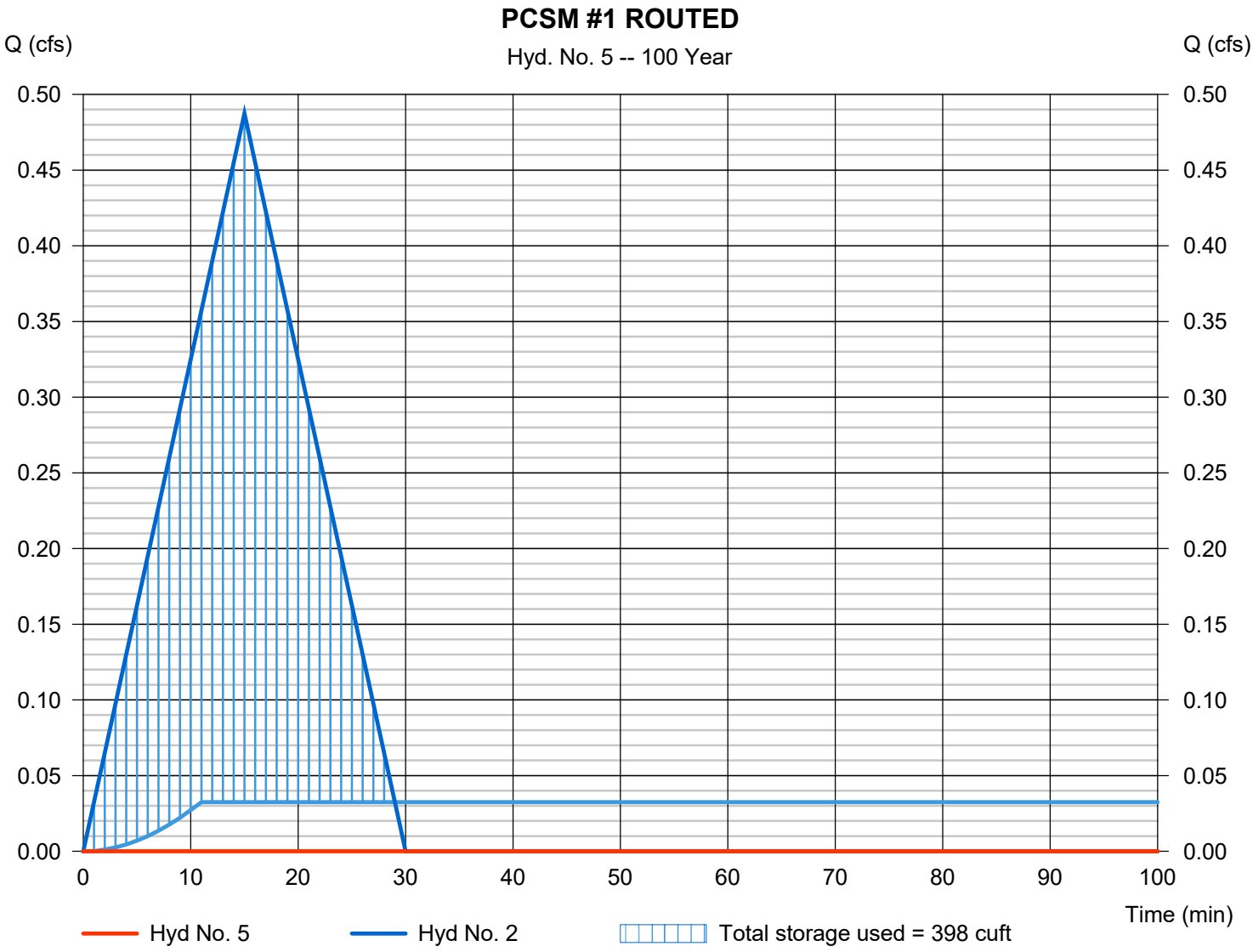
Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 06 / 25 / 2020

Hyd. No. 5

PCSM #1 ROUTED

Hydrograph type	= Reservoir	Peak discharge	= 0.000 cfs
Storm frequency	= 100 yrs	Time to peak	= 29 min
Time interval	= 1 min	Hyd. volume	= 0 cuft
Inflow hyd. No.	= 2 - CONTROLLED #1	Max. Elevation	= 266.83 ft
Reservoir name	= PCSM #1	Max. Storage	= 398 cuft

Storage Indication method used. Exfiltration extracted from Outflow.



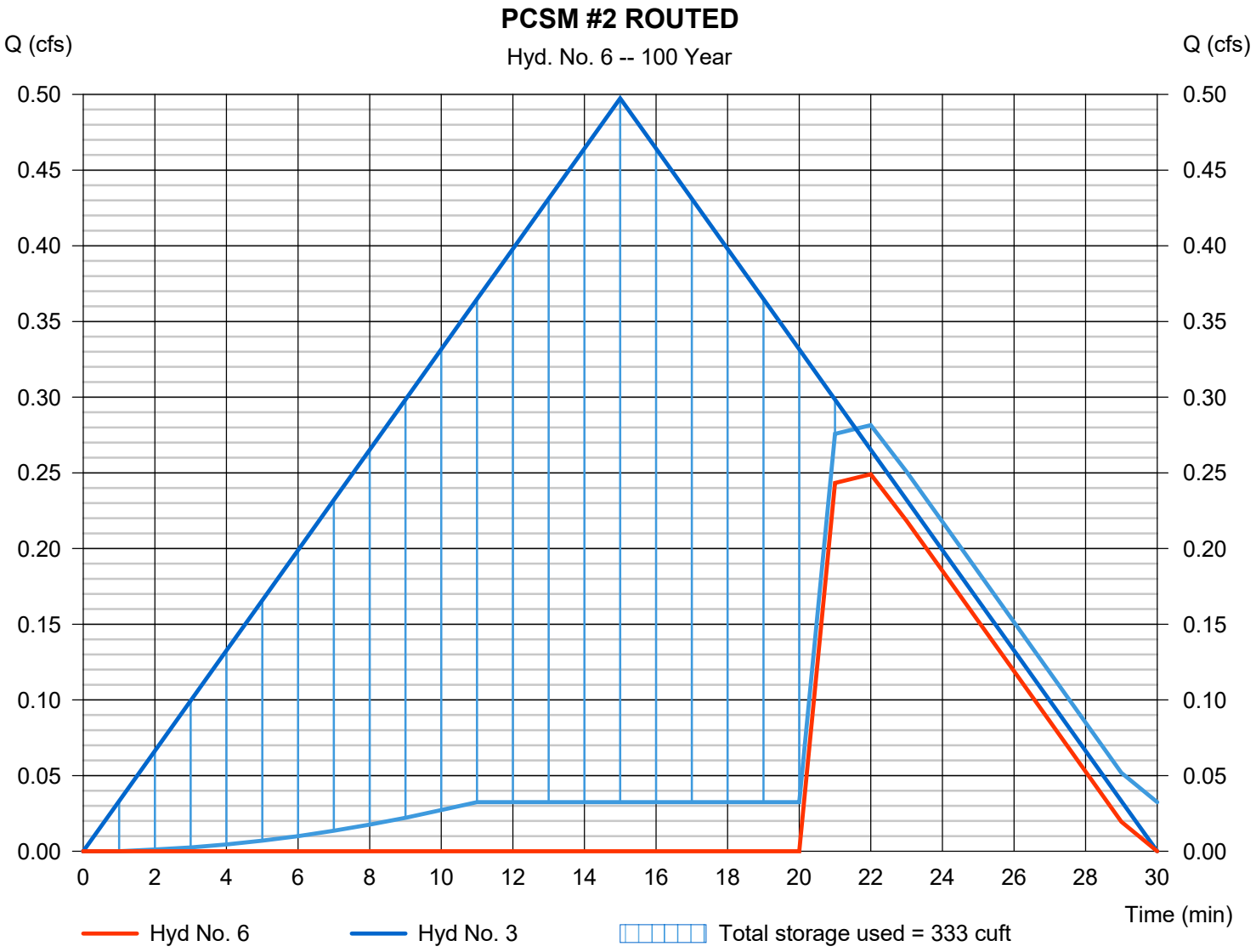
Hydrograph Report

Hyd. No. 6

PCSM #2 ROUTED

Hydrograph type	=	Reservoir	Peak discharge	=	0.249 cfs
Storm frequency	=	100 yrs	Time to peak	=	22 min
Time interval	=	1 min	Hyd. volume	=	79 cuft
Inflow hyd. No.	=	3 - CONTROLLED #2	Max. Elevation	=	275.98 ft
Reservoir name	=	PCSM #2	Max. Storage	=	333 cuft

Storage Indication method used. Exfiltration extracted from Outflow.

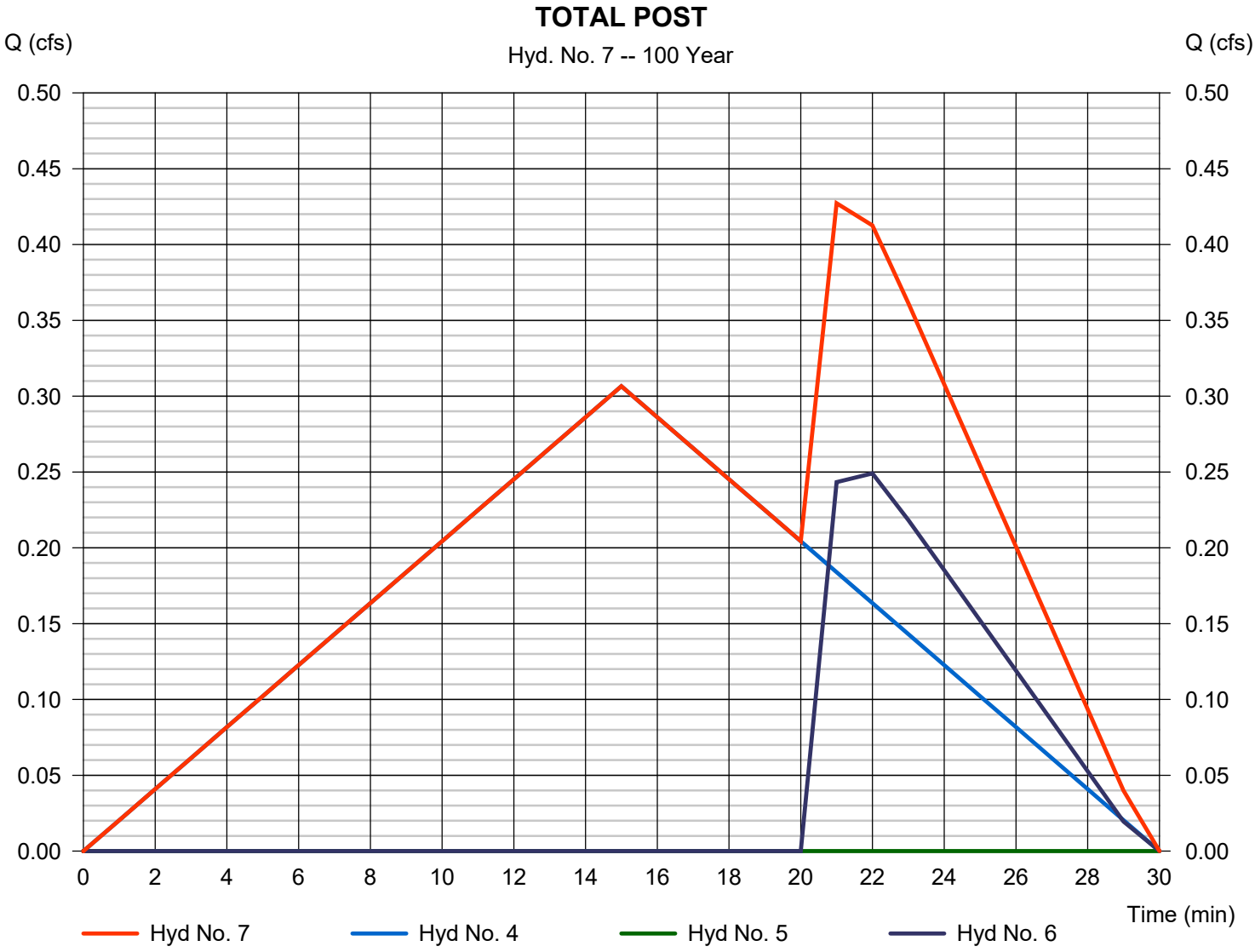


Hydrograph Report

Hyd. No. 7

TOTAL POST

Hydrograph type	=	Combine	Peak discharge	=	0.427 cfs
Storm frequency	=	100 yrs	Time to peak	=	21 min
Time interval	=	1 min	Hyd. volume	=	355 cuft
Inflow hyds.	=	4, 5, 6	Contrib. drain. area	=	0.126 ac



Hydraflow Rainfall Report

Return Period (Yrs)	Intensity-Duration-Frequency Equation Coefficients (FHA)			
	B	D	E	(N/A)
1	22.1293	5.9000	0.7167	--------
2	65.5692	13.4000	0.9127	--------
3	0.0000	0.0000	0.0000	--------
5	26.5614	6.1000	0.6703	--------
10	27.5380	5.9000	0.6384	--------
25	28.9539	5.8000	0.6156	--------
50	78.9131	13.8000	0.8026	--------
100	61.8249	11.8000	0.7079	--------

File name: Region 5.IDF

Intensity = B / (Tc + D)^E

Return Period (Yrs)	Intensity Values (in/hr)											
	5 min	10	15	20	25	30	35	40	45	50	55	60
1	3.99	3.05	2.51	2.15	1.89	1.70	1.55	1.43	1.32	1.24	1.16	1.10
2	4.60	3.69	3.09	2.67	2.35	2.10	1.90	1.74	1.60	1.49	1.39	1.30
3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	5.29	4.12	3.44	2.98	2.65	2.40	2.20	2.04	1.90	1.79	1.69	1.60
10	5.99	4.71	3.96	3.45	3.08	2.80	2.58	2.39	2.24	2.11	2.00	1.90
25	6.69	5.29	4.47	3.91	3.51	3.20	2.95	2.75	2.58	2.43	2.31	2.20
50	7.49	6.20	5.32	4.68	4.19	3.80	3.48	3.22	3.00	2.81	2.64	2.50
100	8.39	6.98	6.03	5.34	4.82	4.40	4.06	3.78	3.54	3.34	3.16	3.00

Tc = time in minutes. Values may exceed 60.

Precip. file name: Sample.pcp

Storm Distribution	Rainfall Precipitation Table (in)							
	1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr
SCS 24-hour	2.71	3.27	0.00	4.11	4.82	5.84	6.71	7.64
SCS 6-Hr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-1st	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-2nd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-3rd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-4th	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Huff-Indy	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Custom	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hydraflow Table of Contents

20009RAT.gpw

Hydraflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020 Thursday, 06 / 25 / 2020

78 Attachment 4

Township of Haverford

Appendix C-1

SAMPLE DRAINAGE PLAN APPLICATION

(To be attached to the "land subdivision plan or development plan review application" or "minor land subdivision plan review application")

Application is hereby made for review of the Stormwater Management Plan and related data as submitted herewith in accordance with the Haverford Township Stormwater Management Ordinance.

_____ Final Plan _____ Preliminary Plan _____ Sketch Plan

Date of Submission 06/25/20 Submission No. 1

1. Name of subdivision or development _____

2. Name of Applicant Sleepy Valley Holdings, LLC Telephone No. (484) 422-8550

   (if corporation, list the corporation's name and the names of two officers of the corporation)

   Vince Sposato Officer 1
   _____ Officer 2

   Address 35 Sleepy Hollow Drive, Newtown Square, Pa
   Zip 19073

   Applicant's interest in subdivision or development
   (if other than property owner, give owner's name and address)

3. Name of property owner _____ Telephone No. _____

   Address _____
   Zip _____

4. Name of engineer or surveyor Christopher C. Yohn, P.E. Telephone No. (610) 489-4580

   Address 555 Second Avenue, Suite B-205, Collegeville, Pa
   Zip 19426

5. Type of subdivision or development proposed:

X	Single-family Lots	_____	Townhouses	_____	Commercial (Multi-Lot)
_____	Two-family Lots	_____	Garden Apartments	_____	Commercial (One Lot)
_____	Multi-family Lots	_____	Mobile Home Park	_____	Industrial (Multi-lot)
_____	Cluster Type Lots	_____	Campground	_____	Industrial (One Lot)
_____	Planned Residential Development	_____	Other (_____)		

6. Linear feet of new road proposed 0 L.F.

7. Area of proposed and existing impervious area on the entire tract.

   a. Existing (to remain) 689 S.F. 3.4 % of property
   b. Proposed 4,723 S.F. 14.7 % of property

8. Stormwater

   a. Does the peak rate of runoff from proposed conditions exceed that flow which occurred for existing conditions for the designated design storm? No

   b. Design storm utilized (on-site conveyance systems) (24 hr.) 100-Yr
   No. of Subarea B2-49
   Watershed Name Darby - Cobbs

   Explain: Rate Calculations are for the 2-100 Year Storms

   c. Does the submission and/or district meet the criteria for the applicable management district? Yes

   d. Number of subarea(s) from Ordinance Appendix A of the Darby-Cobbs Creek Watershed Stormwater Management Plan B2-49

   e. Type of proposed runoff control Subsurface Infiltration Bed

   f. Does the proposed stormwater control criteria meet the requirements/guidelines of the Stormwater Ordinance? Yes

   If not, what variances/waivers are requested? _____

   Reasons _____

   g. Does the plan meet the requirements of Article III of the Stormwater Ordinance? Yes

   If not, what variances/waivers are requested? _____

   Reasons _____

   h. Was TR-55, June 1986, utilized in determining the time of concentration? Yes

   i. What hydrologic method was used in the stormwater computations? SCS & Rational

   j. Is a hydraulic routing through the stormwater control structure submitted? Yes

   k. Is a construction schedule or staging attached? Yes

   l. Is a recommended maintenance program attached? Yes

9. Erosion and Sediment Pollution Control (E&S):

   a. Has the stormwater management and E&S plan, supporting documentation, and narrative been submitted to the Delaware County Conservation District? No

   b. Total area of earth disturbance 19,500 S.F.

10. Wetlands

   a. Have the wetlands been delineated by someone trained in wetland delineation? Unknown

   b. Have the wetland lines been verified by a state or federal permitting authority? Unknown

   c. Have the wetland lines been surveyed? Unknown

   d. Total acreage of wetlands within the property Unknown

   e. Total acreage of wetlands disturbed Unknown

   f. Supporting documentation N/A

11. Filing.

   a. Has the required fee been submitted? 100.00

      Amount

   b. Has the proposed schedule of construction inspection to be performed by the Applicant's engineer been submitted? Yes, Listed in the Construction Timing and Sequence

   c. Name of individual who will be making the inspections Christopher C. Yohn, P.E., CPESC

   d. General comments about stormwater management at the development

      Two stonebeds are proposed in the rear yard which infiltrates the water quality and REV volume volume and further reduces the rate of runoff from the existing condition.

CERTIFICATE OF OWNERSHIP AND ACKNOWLEDGMENT OF APPLICATION:

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF ____Delaware____

On this the _____ day of _____, 20____, before me, the undersigned officer, personally appeared _____ who, being duly sworn according to law, deposes and says that _____ are owners of the property described in this application and that the application was made with _____ knowledge and/or direction and does hereby agree with the said application and to the submission of the same.

_____ Property Owner

My Commission Expires _____ 20 _____
Notary Public _____

THE UNDERSIGNED HEREBY CERTIFIES THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF THE INFORMATION AND STATEMENTS GIVEN ABOVE ARE TRUE AND CORRECT.

SIGNATURE OF APPLICANT _____

(Information Below This Line To Be Completed By The Municipality)

_____ (Name of) Municipality official submission receipt:

Date complete application received _____ Plan number _____

Fees _____Date fees paid _____ Received by _____

Official submission receipt date _____

Received by _____

_____
Municipality

Township of Haverford

Appendix C-2

Delaware County Conservation District
Rose Tree Park – Hunt Club
1521 N. Providence Rd.
Media, PA 19063
Phone: 610-892-9484
Fax: 610-892-9489
Email: Info@delcoed.org

Project: Greenbriar Lane, Havertown, Pa 19083
Municipality: Haverford Township
Engineer: Yohn Engineering, LLC c/o Christopher C. Yohn, P.E., CPESC
Submittal No.: 1
Date: 06/25/20
Project ID: _____ (for County use ONLY)

ARTICLE I: GENERAL PROVISIONS

Reference: Section 105 Applicability/Regulated Activities

1. Is the Proposed Project within the Darby-Cobbs, Crum or Ridley Creek watershed? ☒ Yes ☐ No
2. Does the Proposed Project meet the definition of a "Regulated Activity"? ☒ Yes ☐ No

STOP – If you have checked NO for either of the above questions, you are not required to submit a Storm Water Management Plan under the Darby-Cobbs Creek Storm Water management Ordinance.

ARTICLE I: GENERAL PROVISIONS

Reference: Section 106 Exemptions

Note: Parent Tract refers to the total parcel configuration on June 30, 2005 and includes any subdivision of lands which may have occurred after than date.

Parent Tract Area: 0.74 acres

Total Existing Impervious Area (as of June 30, 2005): 0.02 acres
Total New Impervious Area (all Phases): 0.11 acres

Parcel IS Exempt ☐ Parcel IS NOT Exempt ☒

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 404 Nonstructural Project Design

1. Has an Existing Resource and Site Analysis Map (ERSAM) been prepared?

   ☐ Yes ☒ No, Explain _____

2. Are any of the following Environmentally Sensitive areas identified on site?

Steep Slopes	☐ Yes ☒ No ☐ Unknown
Ponds/Lakes/Vernal Pools	☐ Yes ☒ No ☐ Unknown
Streams	☐ Yes ☒ No ☐ Unknown
Wetlands	☐ Yes ☐ No ☒ Unknown
Hydric Soils	☐ Yes ☒ No ☐ Unknown
Flood plains	☐ Yes ☒ No ☐ Unknown
Stream Buffer Zones	☐ Yes ☒ No ☐ Unknown
Hydrologic Soil Groups A or B	☐ Yes ☒ No ☐ Unknown
Recharge Areas	☐ Yes ☒ No ☐ Unknown
Others: _____	☐ Yes ☐ No ☐ Unknown

3. Does the site layout plan avoid Environmentally Sensitive Areas identified on site?
   ☐ Yes ☒ No, Explain There are no Environmentally Sensitive Areas on site

4. Has a stream buffer been established per Section 406.G.?
   ☐ Yes ☒ No, Explain There is no stream on site or nearby.

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 405 Groundwater Recharge

1. Is the proposed activity considered a "Stormwater Hotspot"? ☐ Yes ☒ No

2. Have provisions been installed to promote groundwater recharge on site?

   ☒ Yes ☐ No, Explain _____

3. Total Recharge Volume Required: 587 cubic feet (using: ☐ Method A; ☒ Method B)

4. How is the Required Recharge Volume being addressed?

   ☐ Infiltration Trench ☐ Dry Swales
   ☒ Infiltration Basin ☐ Other: _____
   ☐ Bioretention

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 406 Water Quality Requirements

1. Have provisions been installed to address stormwater runoff water quality on site?

   ☒ Yes ☐ No, Explain _____

2. Total Water Quality Volume Required: 0.01 acre feet

3. Is the site in a Special Protection watershed which includes Exceptional Value (EV) of High Quality (HQ) waters? ☐ Yes ☒ No

4. How is the Required Water Quality Volume being addressed?

   ☐ Wet Detention Basin
   ☒ Extended Dry Detention Basin
   ☐ Bioretention
   ☐ Sand Filter
   ☐ Constructed Wetlands
   ☐ Other: _____

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 407 Streambank Erosion Requirements

1. Has the two-year proposed conditions flow been reduced to the one-year existing conditions flow?

   ☒ Yes ☐ No, Explain _____

2. Does the proposed conditions one-year storm drain over a minimum twenty-four-hour period?

   ☒ Yes ☐ No, Explain _____

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 408 Stormwater Peak Rate Control and Management Districts

1. In which of the following Storm Water Management District(s) is the site located?

   ☐ A
   ☐ B-1
   ☒ B-2
   ☐ C

2. Does the Proposed Conditions Runoff meet the Criteria established in Table 408.1?

   ☒ Yes ☐ No, if you answered Yes proceed to Section V.

   a. Are you claiming "No Harm" as described in Section 408 in lieu of meeting the requirements of this District?

      ☐ Yes ☐ No, Explain _____

b. If you are claiming "No Harm", has a Downstream Impacts Evaluation been prepared in accordance with Section 408____?

☐ Yes ☐ No, Explain _____
_____
_____

c. Are claiming "Hardship", as described in Section 408____ in lieu of meeting the requirements of this District?

☐ Yes ☐ No, Explain _____
_____
_____

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 409 Calculation Methodology

1. Which method(s) are utilized in the site stormwater management plan for computing stormwater runoff rates and volumes?

☐ TR-20	☐ PSRM
☐ TR-55	☒ Rational Method
☐ HEC-1/HEC-HMS	☐ Other: _____

2. Were Table F-1 or Figure F-4 in Appendix F utilized in rainfall determination?

☒ Yes ☐ No, Explain _____
_____
_____

3. Were Table F-2 (Runoff Curve Numbers) or Table F-3 in the Appendix F (Rational Runoff Coefficients) utilized in calculations for runoff?

☒ Yes ☐ No, Explain _____
_____
_____

4. For any proposed storm water detention facility, were the appropriate design storms routed through the facility using the Storage-Indication Method?

☒ Yes ☐ No, Explain _____
_____
_____

ARTICLE IV: STORMWATER MANAGEMENT

Reference: Section 410 Other Requirements

1. Is this project subject to PENNDOT approval?

   ☐ Yes ☒ No

   a. If "YES" have these plans been forwarded to PENNDOT for review?

      ☐ Yes ☐ No, Explain _____
      _____

2. Have proposed wet detention basins incorporated biologic control consistent with the West Nile Guidelines presented in Appendix H?

   ☐ Yes ☐ No ☒ Not Applicable

3. Are any proposed stormwater facilities subject to PADEP Chapter 105 permitting?

   ☐ Yes ☒ No

   a. If "YES" have these plans been forwarded to PADEP for review?

      ☐ Yes ☐ No, Explain _____
      _____

ARTICLE VII: MAINTENANCE RESPONSIBILITIES

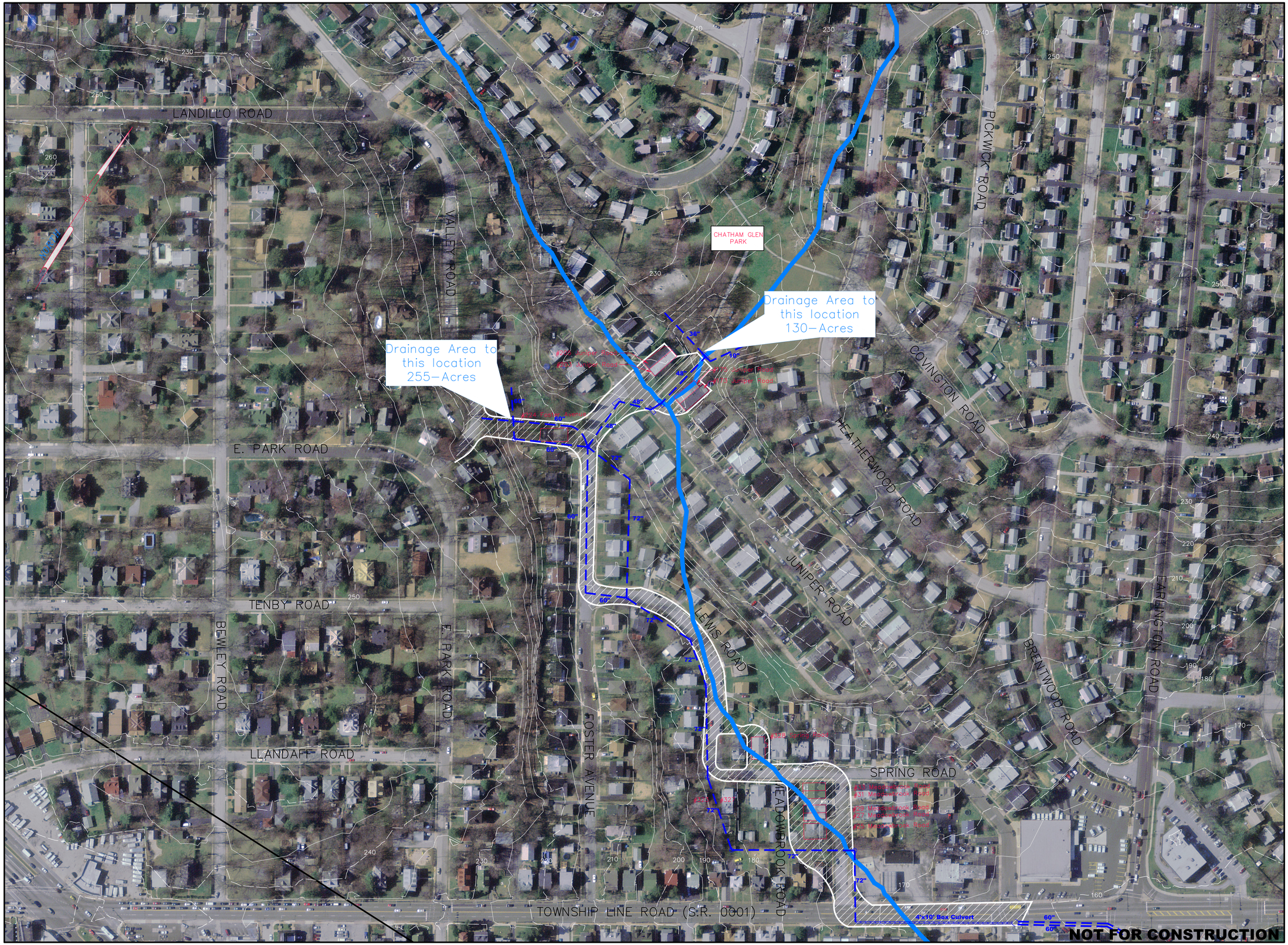
Reference: Section 702 Responsibilities for Operations and Maintenance of Stormwater Control/BMPs

1. Has a Stormwater Control and BMP Operations and Maintenance Plan been approved by the Municipality?

   ☒ Yes ☐ No, Explain _____
   _____

2. Who shall assume responsibility for implementing the Stormwater Control and BMP Operations and Maintenance Plan?

   ☐ Municipality ☐ Homeowner Association
   ☒ Private Owner ☐ Other _____



PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

CHATHAM GLEN INFRASTRUCTURE IMPROVEMENTS

NEIGHBORHOOD PLAN

HAVERFORD TOWNSHIP
DELAWARE COUNTY, PA

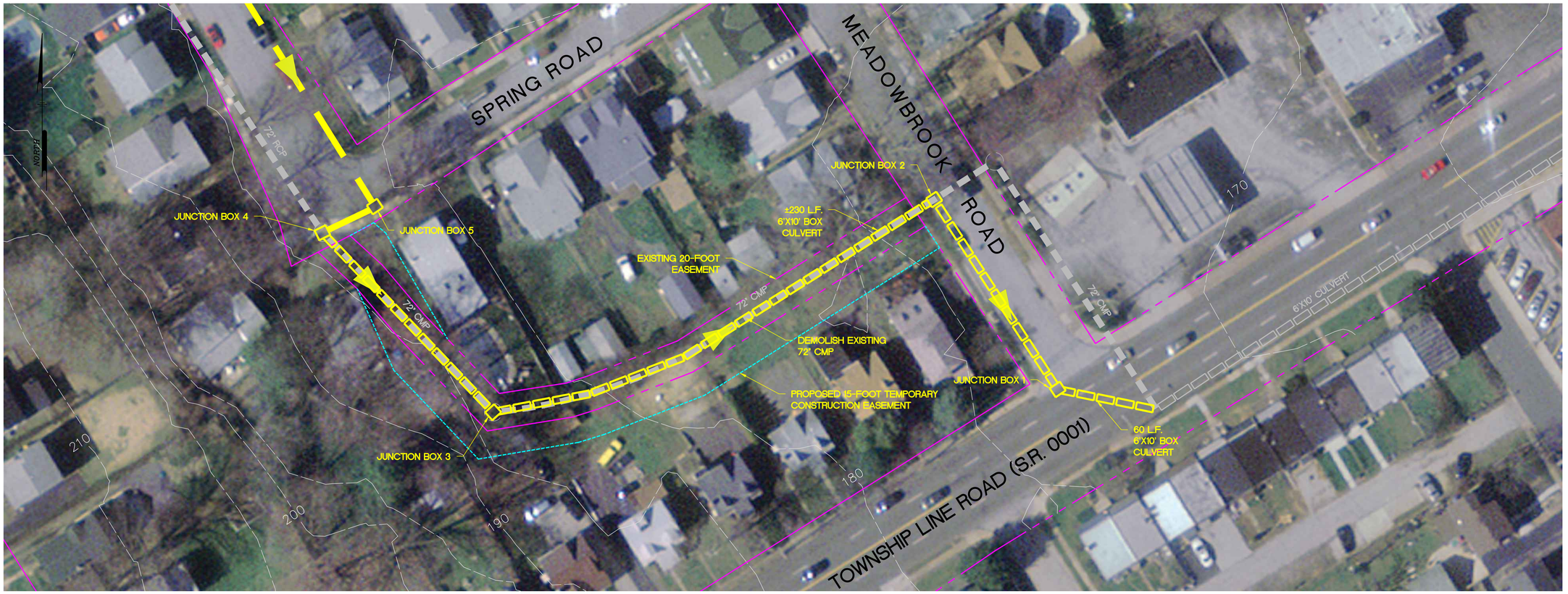
BY	REVISIONS	NO.	DATE

PROJECT	HAVTT20450
DATE	2019-12-13
DRAWING SCALE	1"=100'
DRAWN BY	BV
APPROVED BY	CF

CM1001

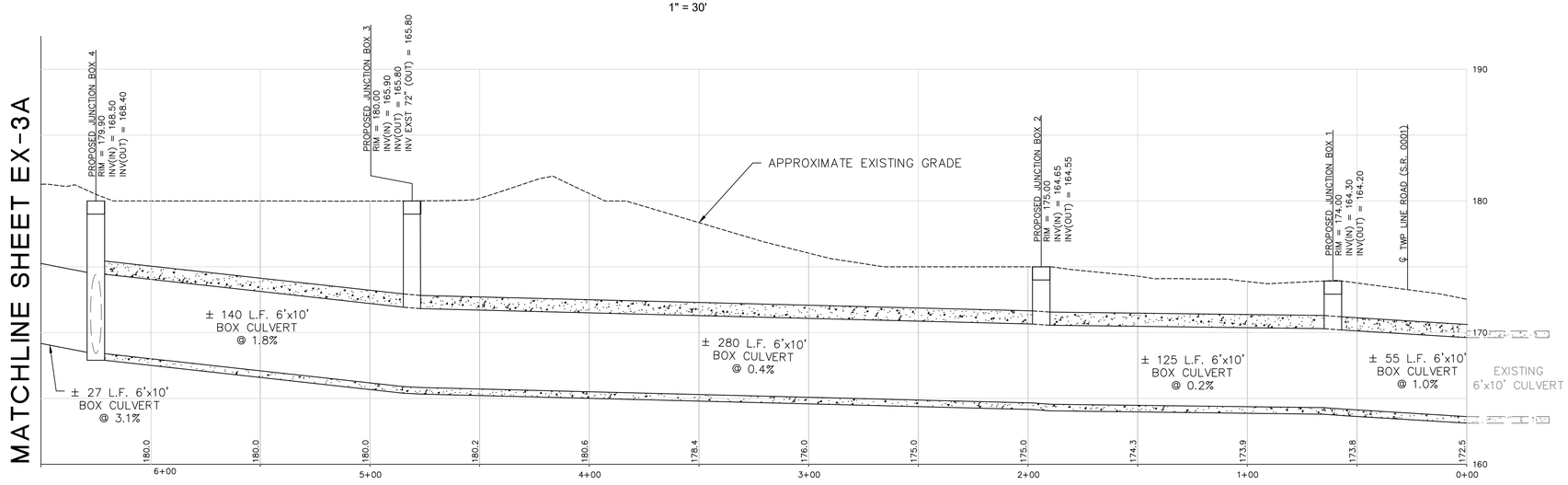
SHEET 1 OF 1

U:\Accounts\HAVTT\HAVTT20450\~2019 HGI GRANT APPLICATION\DESIGN_SHEETS\EXHIBIT_20121-31.dwg PLOTTED: 12/12/2019 5:47 PM, BY: Ryan Gapuzan PLOTSTYLE: PABlack-FULLCOLOR.ctb PROJECT STATUS: —



PLAN

1" = 30'



PROFILE

HORZ: 1" = 30'
VERT: 1" = 5'

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

CHATHAM GLEN INFRASTRUCTURE IMPROVEMENTS

PRELIMINARY CONSTRUCTION PLAN

HAVERFORD TOWNSHIP
DELAWARE COUNTY, PA

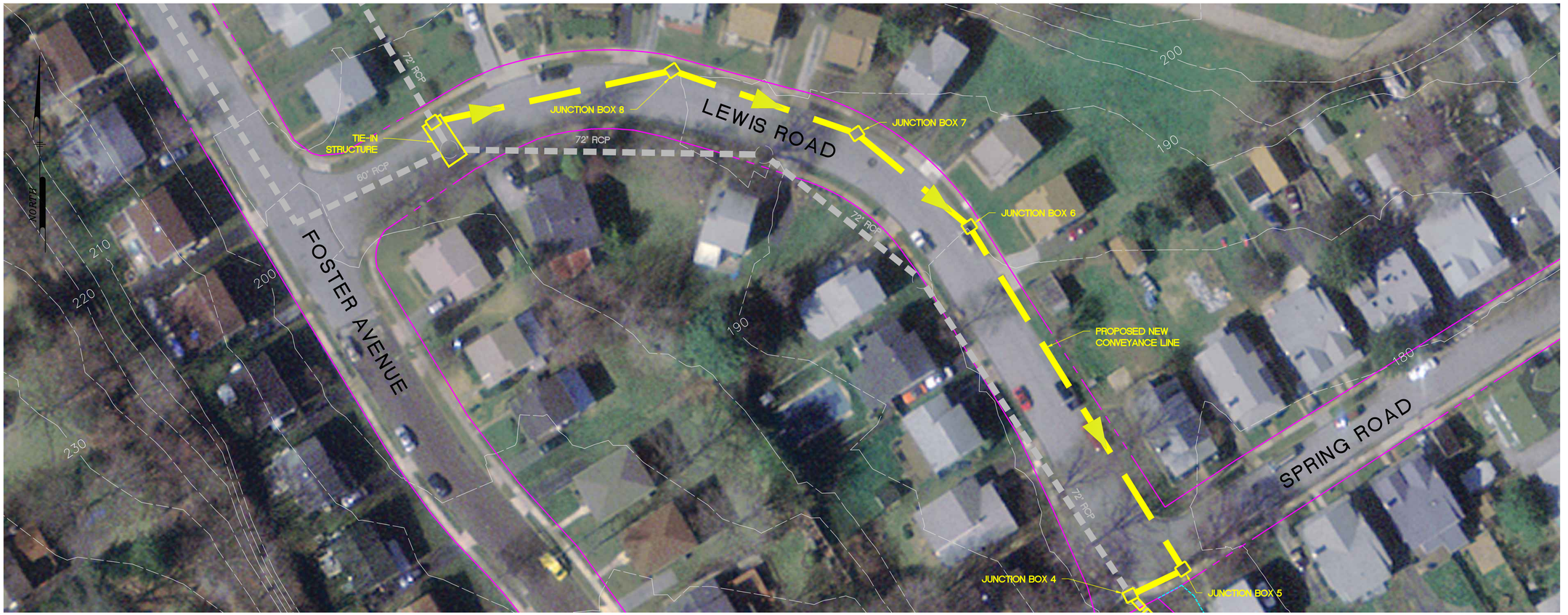
NO.	REVISIONS	BY	DATE

PROJECT	HAVTT20450
DATE	2019-12-13
DRAWING SCALE	AS NOTED
DRAWN BY	RG
APPROVED BY	CF

EX-3

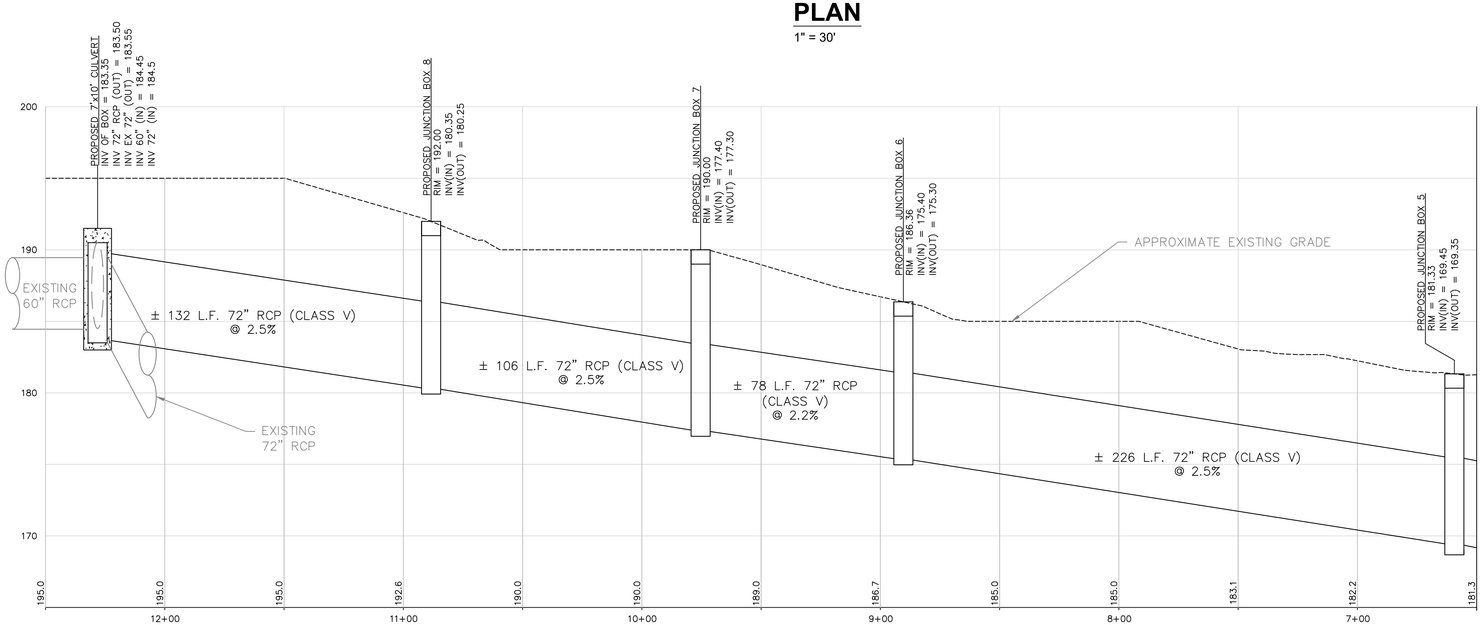
SHEET 1 OF 2

U:\Accounts\HAVTT\HAVTT20450 - 2019 H2O GRANT APPLICATION\DESIGN_SHEETS\Plan+Section Culvert.dwg PLOTTED: 4/30/2014 1:23 PM, BY: Ryan Giaquinto PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —



PLAN

1" = 30'



PROFILE

HORZ: 1" = 30'
VERT: 1" = 5'

MATCHLINE SHEET EX-3

NOT FOR CONSTRUCTION

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

CHATHAM GLEN INFRASTRUCTURE IMPROVEMENTS

PRELIMINARY CONCEPT PLAN

HAVERFORD TOWNSHIP
DELAWARE COUNTY, PA

NO.	DATE	REVISIONS	BY

PROJECT	HAVTT20450
DATE	2019-12-13
DRAWING SCALE	AS NOTED
DRAWN BY	RG
APPROVED BY	CF

EX-3A

SHEET 2 OF 2

U:\Accounts\HAVTT\HAVTT20450 - 2019 HOD GRANT APPLICATION\DESIGN_SHEETS\Plan+Section Culvert.dwg PLOTTED: 4/30/2014 1:23 PM, BY: Ryan Giaquinto PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, July 9, 2020, at 7:00pm in the Commissioners' Meeting Room and Via Telecommunication 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development

Kelly Kirk calls roll.

Mr. Capuzzi calls the meeting to order at 7:22 P.M.

Mr. Capuzzi led the Pledge of Allegiance

Sleepy Valley Holdings, LLC.

Preliminary/Final Minor Subdivision Plan, Greenbriar Lane- D.C. Folio No. 22-09-01348-00

Continued review of the proposed subdivision of an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square lot parcel (Lot 2.) The subject property is zoned R-5 (Low-Medium Residential), and is located in the 1st Ward.

Presenting: Vincent Sposato, Christopher Yohn - Civil Engineer.

Plan reviewed at previous Panning Commission Meeting with some comments held until new plan including new house and stormwater management plan could be also reviewed.

Mr. Yohn explained the original plans reviewed were the proposed lots with existing conditions. Shortly after that meeting new plans were submitted and a review letter was received from Chuck Faulkner - Township Engineer.

The plan is to comply with all items in the review letter without seeking waivers. One house may need to move to the side 4 feet to comply with steep slopes (#3) and we will need to document that the permissible percent of steep slope disturbance has not been exceeded (#18).

Mr. Yohn addressed #5 by displaying his screen showing the layout of the driveways. The Township Design standards could be in compliance but would prefer to seek a waiver to avoid moving property lines or an angled driveway. Mr. Yohn expressed his view that the line of site in the current state of the plan would be sufficient with a three way stop at the intersection as it is.

Mr. Capuzzi stated his belief that the design criteria was more important to a driveway on the same side of the street as the intersecting road. Mr. Capuzzi suggested to move the house to the right approximate 3 feet and move the driveway with it to achieve 21 feet of clearance and seek a waiver for the 30 foot requirement.

Mr. Reardon agreed with Mr. Capuzzi.

Ms. Dobbs offered a different opinion of a shared driveway with side loading garage to match the community character, reduce curb cuts and achieve the 30 foot distance from the intersection without needing a waiver.

Mr. Chanin agrees with both Ms. Dobbs and Mr. Capuzzi but if opting for the single driveway, preferably more space between them.

Mr. Reardon spoke of the first home he had with a shared driveway and that he would never buy another house with a shared drive.

Mr. Fiordimondo agreed with Mr. Reardon in that the marketability would be much less in a home with a shared drive. Moving the drive as close to the property line and asking for a waiver would be his approach.

Mr. Sposato spoke to the idea of a common driveway and is not agreeable to it stating it was a common practice 50 years ago but not prevalent today.

Mr. Capuzzi suggested the idea of adding a “rooster tail” to the end of the driveway so there would be room to turn around and pull out therefore removing the issue of backing out close to the intersection. Mr. Sposato agreed it was a good idea.

Mr. Capuzzi asked that Mr. Sposato and Mr. Yohn consider the options regarding the driveway and a decision would be made at the next meeting.

Ms. Dobbs inquired if the Shade Tree Commission had reviewed the plan as of yet. Ms. Kirk responded that they have not yet met. Mr. Yohn verified that the Commission was in receipt of the plans.

Ms. Dobbs questioned the “viable and non-viable” trees on the plan. Mr. Yohn stated the applicant met with an arborist from MG Tree and walked the site to see what trees were of concern concluding with a report designating the non-viable trees. The report was forwarded to the Township. Mr. Sposato confirmed there were many dead trees, some with hollow trunks and several that were sizable and dangerous. Ms. Dobbs noted her wish for the Shade Tree Commission to review the plan to determine what is viable and non-viable.

Ms. Dobbs brought the attention to the shade tree proposed on the property line and the concern over who will maintain it. Ms. Dobbs suggested the tree to be shifted to Lot 2 away from the property line to ensure it clearly belongs to that property.

Ms. Dobbs asked if the fireplace and the out building on the property would remain. Mr. Yohn explained that it was the original intention but the fireplace will be removed in order to accommodate the stormwater management system. Mr. Sposato clarified that the outbuilding will remain but the fireplace was damaged by a tree beyond repair.

Ms. Dobbs mentioned maintenance of the stormwater management should be recorded in the deed and would be the responsibility of the property owner. Mr. Faulkner explained since 2005 when stormwater code changed, every property owner must have an O&M agreement with the Township and it is recorded. The agreement comes with a fee enabling the Township to inspect all the management facilities on the property. These inspections occur 3 times over a 10 year period. The township has precise records of installation and inspection dates for systems installed on commercial and residential properties.

Mr. Reardon thanked Ms. Dobbs for excellent comments and questions. Mr. Dobbs also stated the many dead trees on the property should be removed promptly before there is damage to the nearby properties. Negligence can be proved if trees are not maintained or removed.

Mr. Capuzzi confirmed the applicant intends to dedicate 2.5’ of right of way to the Township. Mr. Capuzzi explains the applicant needs to provide on sheet 2 the metes and bounds data for the dedicated right of way and to note on the record plan the continuous and non-revocable dedication of the right of way to the township.

Mr. Faulkner agreed with others opinion regarding the driveway and stated he prefers a straight driveway.

Mr. Pointon also agreed with what had been pointed out by the rest of the Commission.

Mr. Capuzzi stated there were too many items yet to address for a vote to be taken. Mr. Capuzzi asked for the plans to be revised and to get the comments down to a few in order to

revisit at the next meeting on August 13th. A time extension may be needed in order to get a clean letter for the Board of Commissioners

Mr. Sposato asked for verification that everyone was of the same thought regarding the driveway. Ms. Dobbs agreed with pushing the house and driveway over too reduce the waiver as much as possible.

Will review again on August 13th.

DCED H2O Pa-Flood Control Projects Grant Application Review grant application to upgrade the existing storm system through the Chatham Glen neighborhood to permit conveyance of a 100-year storm event and determined if the proposal is consistent with the Comprehensive Plan.

Mr. Faulkner- Pannoni Associates, represented the Township and presented the proposed grant application plans.

Mr. Faulkner began with the Chatham Glen area is very susceptible to flooding. The storm sewer system is unable to handle the runoff of the almost 380 acres that comes down to it in various locations. Over the past 15 years the Township has sought various grants for this issue including the removal of houses, upgrading of infrastructure, installation of detention facilities and have only received one to remove a single home. There are 5 to 10 properties that receive flooding during these intense storms. The Township continues to pursue these grants.

This H2O Grant is to upgrade the storm sewer infrastructure in that particular area to handle the 100-year storm. The upgrade would require a large box culvert that would be of the magnitude of 5 million dollars; that is what the grant application is for. Part of the application requirement is that the Planning Commission look at it, weigh in and make sure it is conformance with the Townships Comprehensive Plan.

Mr. Fiordimondo asked what is the plan for the upgrade. Mr. Faulkner described the parallel pipes to what is already in place and a replacement of some pipes with larger pipes in addition to the large box culvert. It's an upgrade for capacity.

Mr. Reardon stated 100 year storms seem more frequent and we should continue pursue these grants. Chatham Park was built for veterans of WWII and the area never had the proper infrastructure. It has been a problem from the very beginning and the houses at the very bottom are at risk. The possibility of getting a better system is the answer.

Ms. Dobbs inquired what the match requirement is with this grant. Mr. Faulkner informed the match to be 15% which end up being about 1.6 million dollars. Mr. Faulkner added the grant had already been applied for and this is a retroactive review. The Township Manager had been in communication with the DCED regarding that match. This will be an agenda item on the Board of Commissioners Meeting.

Mr. Chanin asked if the existing pipes were from the 1940's. Mr. Faulkner noted some had been upgraded but not far off that vintage. Mr. Faulkner added, when this community was developed there were less robust zoning laws and this development would not be allowed today.

Ms. Dobbs asked about road work after pipes are repaired and coordinated with a larger road maintenance repair plan. Mr. Faulkner explained that the plan in review is a concept plan. Likely the road and curbing would be ripped up with the repair and replacement work needed.

Mr. Capuzzi asked if there would be a need for coordination with Upper Darby Township on this. Mr. Faulkner said yes there would need to be coordination with Upper Darby as well as the state of Pennsylvania as Township Line is a state highway.

Mr. Capuzzi made a motion to recommend to the Board of Commissioners that the proposed flood control improvements project for the Chatham Glen neighborhood is consistent with the Comprehensive Plan, Mr. Reardon seconded, approved unanimously.

Review of Minutes:

Mr. Reardon made a motion to approve the June 11, 2020 minutes as distributed with changes, Mr. Pointon seconded, approved unanimously.

Planning Commission letter to the Zoning Hearing Board regarding the 57 S. Eagle Road project reviewed on June 11, 2020

Ms. Kirk will seek comments from all Planning Commission members. Mr. Capuzzi asked each member to provide comment on their most important issue so all member voices will be compiled into the letter.

Next Scheduled Meeting:

August 13, 2020 7:00 P.M. (In person or remote to be determined)

Adjournment:

Mr. Capuzzi made motion to adjourn, Ms. Dobbs seconded. All if favor.

Adjourned at 8:23 P.M.

AGENDA

Haverford Township
Planning Commission Meeting

August 13, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Sleepy Valley Holdings, LLC**
   Preliminary/Final Minor Subdivision Plan
   Greenbriar Lane- D.C. Folio No. 22-09-01348-00
   Applicant proposes to subdivide an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel contains a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a 16,075 square foot parcel (Lot 2.) The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

3. **Proposed Ordinance Amendment Review/Recommendation, Chapter 170, Trees**
   Shade Tree Commission
   A review of the amendments to the existing Shade Tree Ordinance proposed by the Haverford Township Shade Tree Committee, as requested by the Board of Commissioners for consistency with the requirements of the Subdivision and Land Development Ordinance (Chapter 160.)

4. **DELCORA Asset Transfer- Act 537 Plan Update**
   Planning Commission Review and Comments
   Public-to-private wastewater disposal system transfer to Aqua PA
   The Delaware County Regional Water Quality Control Authority (DELCORA) is preparing an Act 537 Plan Update for the entire service area. This plan is to address the PA DEP Act 537 requirements for the public-to-private wastewater disposal system transfer of the DELCORA system to Aqua Pennsylvania Wastewater, Inc.

5. **Review of Minutes**

Adjournment

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, August 13, 2020, at 7:00pm in the Commissioners' Meeting Room and Via Telecommunication 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo, Absent
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development

Mr. Capuzzi calls the meeting to order 7:02 p.m.

Ms. Kirk calls roll.

Mr. Capuzzi leads The Pledge of Allegiance

Sleepy Valley Holdings, LLC. Preliminary/Final Minor Subdivision Plan
Greenbriar Lane-D.C. FolioNo. 22-09-01348-00
Continues review of the proposed subdivision of an existing, undeveloped parcel (adjacent to 201 Greenbriar Lane) into two (2) lots. The existing parcel containers a net lot area of 32,046 square feet, resulting in the creation of a 15,971 square foot parcel (Lot 1), and a16,075 square foot parcel (Lot 2). The subject property is zoned R-5 (Low-Medium Residential), and is located in the 1st Ward.

Presented for the project: Vincent Sposato - Christopher Yohn, Civil Engineer
Plans have been resubmitted from the previous 2 reviews.

Mr. Yohn presented the 3rd review letter of August 12, 2020, from The Township Engineer, Pennoni Associates.

Mr. Yohn stated the letter was reviewed with Chuck Faulkner, Pennoni Assoc.

Item #1 Steep Slopes, additional locations on Lot 2 need to be designated as steep slope. The total steep slope disturbance on Lot 2 is close to the 15% limit of steep slope disturbance. This comment should be resolved without issue.

Item #2 Questionable title issue will be resolved prior to the final plan submission. The ownership of the area in question will be shown as belonging to the adjacent property owner.

Item #3 An approved Pennsylvania Department of Environmental Protection Sewage Facilities Planning module or exemption is required and are waiting on approvals RHM, DELCORA and from the City of Philadelphia. When all the letters are received, they will be submitted as a complete package.

Item #4 Driveway reconfiguration to Lot 1 - will be revised to reduce the width to 25' and adding a turning movement for a car to pull out.

Item #5 Tree removal, Mr. Yohn stated that he believed the report from the Certified Arborist regarding the 13 trees to be removed was forwarded to the Shade Tree Commission however since that time two neighbors expressed concerns to Mr. Sposato and the Arborist has been to the location two more times and has issued 2 new reports. The reports will need to be sent to the Shade Tree Commission. Paul Davit (Shade Tree Commission member present) had not seen any plans for the project.

Item #7 Impervious coverage will comply. Lot 2 has existing detached structure adding to the square footage. The plans will be revised to show what each lot was designed for and what the future amounts are.

Item #8 Uncontrolled drainage will be in compliance.

Item #9 Locations of level spreaders, will show some regrading on the high side of the wall to be sure that runoff reaches the swale on the lower side of the lot.

Item #12 Monuments will be added at title areas.

Item #13 The proposed chimneys on both properties will have a maximum overhang of 18".

Item #14 A note shall be provided indicating the dedication of the additional right-of-way proposed for Greenbriar Lane.

Ms. Dobbs asked for confirmation regarding the shade tree being moved to one property.

Next Shade Tree Commission meeting will be August 24, 2020. 8 copies of the plan and arborist report are to be submitted by August 17th.

Mr. Capuzzi made a motion that the proposed minor subdivision of Sleepy Valley Holdings, LLC. be recommended to the Board of Commissioners for final approval subject to the following conditions:

1) All comments in the August 12, 2020 Township Engineer review letter are addressed to the Township's satisfaction.

2) The metes and bounds of the right-of-way proposed for dedication to the Township be added to the record plan.

3) Move the shade trees 2' from the property line.

4) Two waivers the applicant is requesting regarding location of storm drainage facilities within 400 feet of the site and the minimum caraway width of 27 feet be approved.

Seconded by Mr. Reardon.

Unanimously approved.

Proposed Ordinance Amendment Review/Recommendation, Chapter 170, Trees Shade Tree Commission

A review of the amendments to the existing Shade Tree Ordinance proposed by the Haverford Township Shade Tree Committee, as requested by the Board of Commissioners for consistency with requirements of the Subdivision and Land Development Ordinance (Chapter 160.)

Attending and presenting on behalf of The Shade Tree Commission were Board of Commissioners member Gerald Hart and Shade Tree Commission member Paul Davit.

The Planning Commission reviewed and discussed the proposed amendments to **Code Chapter 170-Trees** and made several recommendations to the Shade Tree Commission for their consideration; including revisions to definitions, when permitting should be required for tree pruning, supporting the fee in lieu of inability to replant, the clarification of a tree in the-right-of-way and a tree that overhangs into the right-of-way.

Ms. Kirk read two public comments received:

Marion Golf Course,
Paul Latshaw, CGCS, Director of Golf Course Operations
Paula Kelly, CCM, CCE, General Manager/COO

-In full support of protecting healthy trees and appreciate allowance for hardship in the ordinance. Some healthy trees do compete with the golf course turf which is the primary focus of the course.

Llanerch Country Club,
Brendan Byrne, COO of External Activities/GCS

-Would like to see a variance for golf courses from the ordinance due to unique circumstances they face.

No official recommendations were made.

Ms. Kirk will forward the letters to the Shade Tree Commission and Board of Commissioners.

DELCORA Asset Transfer-Act 537 Plan Update
Planning Commission Review and Comments
Public-to-private wastewater disposal system transfer to Aqua PA.
The Delaware County Regional Water Quality Control Authority (DELCORA) is preparing an Act 537 Plan Update for the entire service area. This Plan is to address the PA DEP Act 537 requirements for the public-to-private wastewater disposal system transfer of the DELCORA system to Aqua Pennsylvania Wastewater, Inc.

Chuck Faulkner, Pennoni Associates, began with the explanation of DELCORA.

The Delaware County Regional Authority, operates in the area, it receives sewage from Haverford Township as well as other municipalities. Their purpose is conveyance and treatment of sewage; servicing 40-60 million gallons a day.

DELCORA has made an agreement with AQUA to sell the system. The DEP requires that the planning aspects of this process be reviewed to evaluate all the alternatives and, with this, receives input from all the municipalities.

DEP is looking for specific input from the Planning Commission regarding the sale.

The Township sewage facilities drain towards two watersheds; Darby Creek Basin and Cobbs Creek Basin. DELCORA services the Darby Creek Basin and that services approximately 1\3 of Haverford Township. The other 2\3 goes through Upper Darby and directly to the City of Philadelphia.

With the Darby Creek Basin, sewage from Haverford Township first goes to the RHM Sewer Authority which owns interceptors along Darby Creek, discharging to interceptors owned by Darby Creek Joint Authority and eventually to DELCORA's Pumping Stations and pumped to the City of Philadelphia's wastewater treatment plant.

When a sewer module is sought, there are many entities that must sign off.

Haverford Township owns their own sanitary sewer system and the planning aspects that will not change post sale with DEP approval. The only change would be when a

planning module is submitted and needs capacity sign-off, the approving entity would change from DELCORA to AQUA.

DELCORA, in order to avoid costly maintenance to the old system, would like to sell.

Mr. Capuzzi stated the Haverford Township Planning Commission has no official comments and no public comments were received. There is, however, one inconsistency in the wording of the proposed Resolution; the reference to the selected plan should be Alternative #2 (not Alternative #1).

Ms. Kirk will notify DELCORA.

Mr. Capuzzi motioned to approve the July 9th minutes as distributed with changes, seconded by Mr. Pointon. Unanimously approved.

Next scheduled meeting September 10, 2020, 7:00pm.

Mr. Capuzzi motioned to adjourn, Mr. Reardon seconded. All in favor.

Meeting adjourned at 8:34pm.

AGENDA

Haverford Township
Planning Commission Meeting

September 10, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Thomas Thornton**
   Preliminary/Final Minor Subdivision Plan
   1613 Pelham Avenue- D.C. Folio No. 22-06-01738-00
   Applicant proposes to subdivide the existing 14,252 square foot parcel into two (2) lots. The existing single family dwelling will remain on Lot "1" and is proposed to contain a net lot area of 6,928 square feet, resulting in the creation of a 7,324 square foot parcel (Lot 2) with one new single family dwelling. The applicants request to permit the exiting single family dwelling to remain non-conforming due to encroachments within the required front yard setbacks on Homestead Road and Pelham Avenue was granted by the Zoning Hearing Board on July 30, 2020. The subject property is zoned R-4 (Low-Med Residential), and is located in the 6th Ward.

3. **Review of Minutes**

Adjournment

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN APPROVED FOR RECORDING BY THE HAVERFORD TOWNSHIP BOARD OF COMMISSIONERS THIS_____DAY OF_____, 2020.

_____
CHAIRMAN

_____
SECRETARY

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN RECOMMENDED FOR APPROVAL BY THE HAVERFORD TOWNSHIP PLANNING COMMISSION THIS_____DAY OF_____, 2020.

_____
CHAIRMAN

_____
SECRETARY

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN REVIEWED BY THE DELAWARE COUNTY PLANNING COMMISSION THIS_____DAY OF_____, 2020.

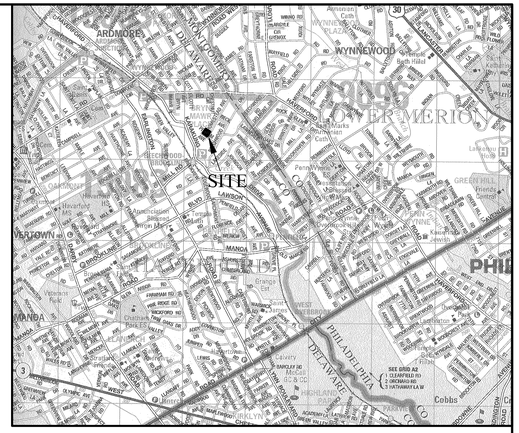
_____

_____

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN REVIEWED BY THE HAVERFORD TOWNSHIP ENGINEER THIS_____DAY OF_____, 2020.

_____
TOWNSHIP ENGINEER

AERIAL PHOTO



LOCATION MAP
1" = 2000'

TRACT AREA:
14,252 S.F. NET

ZONING REGULATIONS

R-4 ZONING DISTRICT	
LOT AREA	6000 S.F. MIN.
LOT WIDTH AT STREET	38 FT. MIN.
LOT WIDTH AT BLDG. LINE	50 FT. MIN.
BLDG. AREA	30% MAX.
FRONT YARD	30 FT. MIN.
SIDE YARD	8 FT. MIN., 20 FT. AGG.
REAR YARD	25 FT. MIN.
IMPERVIOUS COVER	45% MAX.
BLDG. HEIGHT	35 FT. MAX.

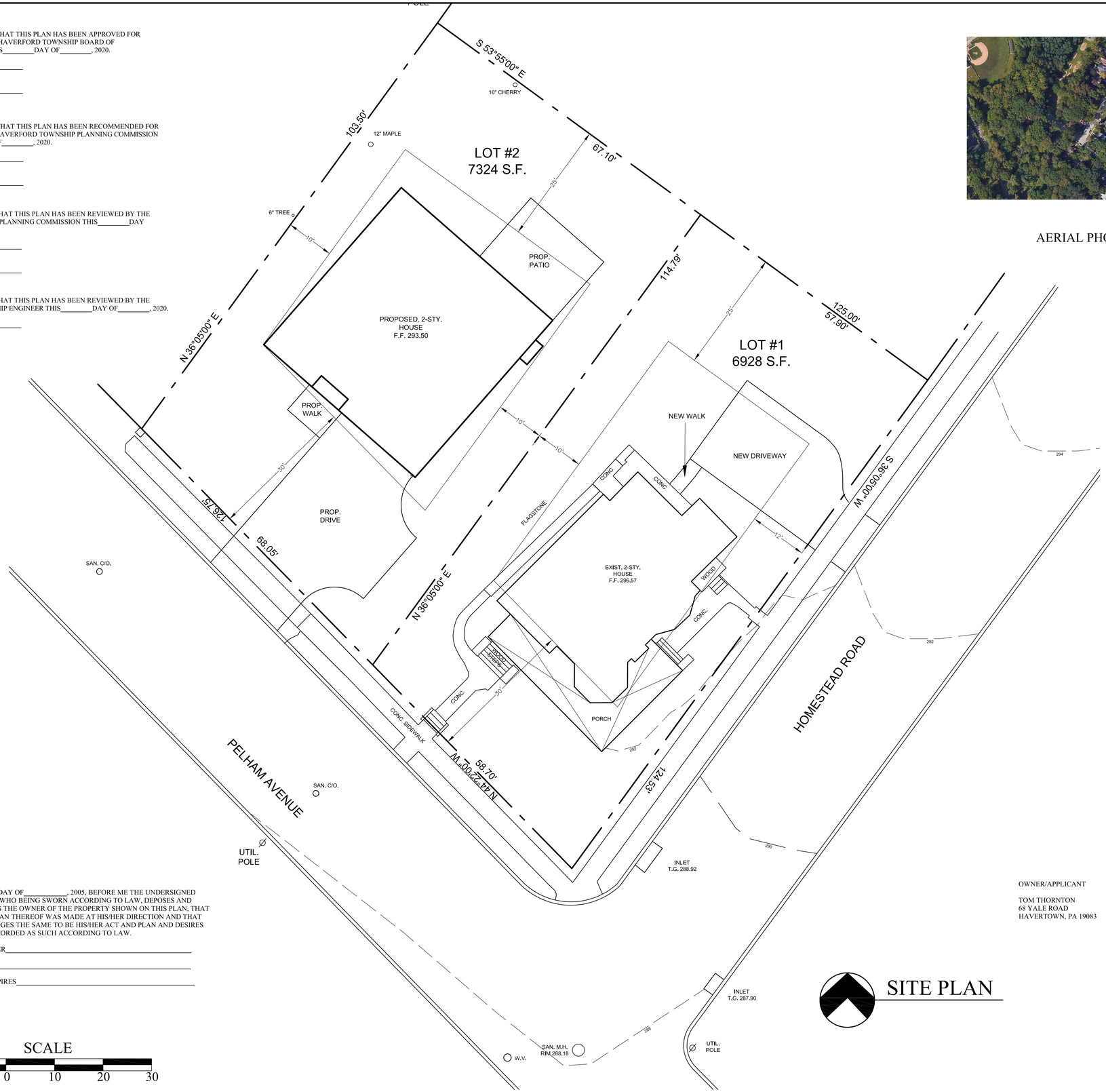
IMPERVIOUS COVER	LOT AREA 14,252 S.F.
EXISTING	
HOUSE	1516 S.F.
GARAGE	385 S.F.
DRIVE	675 S.F.
PATIOS	538 S.F.
WALKS	348 S.F.
TOTAL IMPERVIOUS	3462 S.F. (24.29)
TOTAL BLDG. AREA	1901 S.F. (13.34%)

IMPERVIOUS COVER	LOT AREA 6928 S.F.
PROPOSED - LOT 1	
HOUSE	1516 S.F.
WALKS	437 S.F.
DRIVE	574 S.F.
TOTAL IMPERVIOUS	2527 S.F. (36.48%)
TOTAL BLDG. AREA	1516 S.F. (21.88%)

IMPERVIOUS COVER	LOT AREA 7324 S.F.
PROPOSED - LOT 2	
HOUSE	1793 S.F.
DRIVE	819 S.F.
PATIO	319 S.F.
WALK	60 S.F.
TOTAL IMPERVIOUS	2991 S.F. (40.84%)
TOTAL BLDG. AREA	1793 S.F. (24.48%)

ZONING REGULATIONS

R-4 ZONING DISTRICT	REQUIRED	LOT 1(PROP.)	LOT 2(PROP.)
LOT AREA	6000 S.F. MIN.	6928 S.F.	7324 S.F.
LOT WIDTH @ STREET	38 FT. MIN.	58.70 FT.	68.05 FT.
LOT WIDTH @ BLDG. LINE	50 FT. MIN.	57 FT.	68 FT.
BLDG. COVERAGE	30% MAX.	21.88%	24.48%
FRONT YARD	30 FT. MIN.	20.64 FT.	30 FT.
SIDE YARD	8 FT. MIN., 20 FT. AGG.	5.56 FT., 18.48 FT.	8 FT., 20 FT.
REAR YARD	25 FT. MIN.	25 FT.	25 FT.
IMPERVIOUS COVER	45% MAX.	36.48%	40.84%



SITE PLAN

OWNER/APPLICANT

TOM THORNTON
68 YALE ROAD
HAVERTOWN, PA 19083

ON THIS, THE_____DAY OF_____, 2005, BEFORE ME THE UNDERSIGNED OFFICER APPEARED, WHO BEING SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN THEREOF WAS MADE AT HIS/HER DIRECTION AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

SIGNATURE OF OWNER_____

NOTARY PUBLIC_____

MY COMMISSION EXPIRES_____

SCALE
10 0 10 20 30

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ROBERT K. WAGER
ENGINEER
PE-029150E

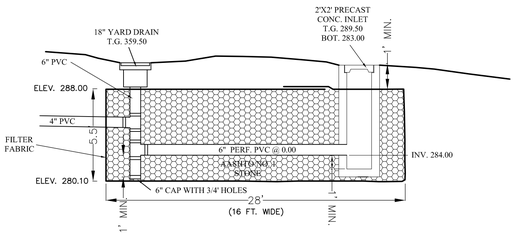
SHEET 1 OF 3

REVISIONS	ADD LOT 1 DRIVEWAY	7/28/20

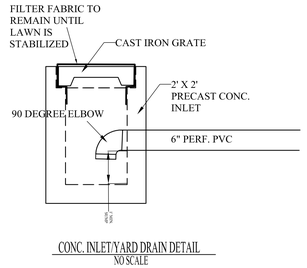
RKW ENGINEERING SERVICES
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

MINOR SUBDIVISION
RECORD PLAN
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

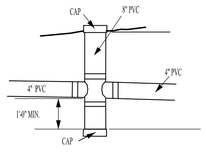
DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/31/20	1"=10'-0"	RKW	19063



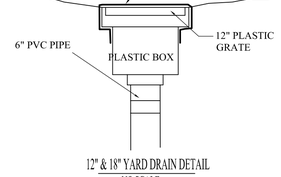
SEEPAGE BED
NO SCALE



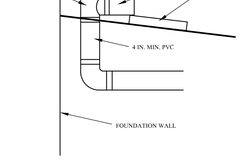
CONC. INLET/YARD DRAIN DETAIL
NO SCALE



SEDIMENT TRAP DETAIL
NO SCALE



12" & 18" YARD DRAIN DETAIL
NO SCALE



DOWNSPOUT DETAIL
NO SCALE

TREE REPLACEMENT:

TWO TREES IN THE TREE PROTECTION ZONE ARE TO BE REMOVED.
THE TOTAL CALIPER IS 20 IN. THE REPLACEMENT CALIPER IS 20/4 = 5.0 IN. THE ACTUAL REPLACEMENT CALIPER IS 6 IN.

COMPENSATORY TREE PLANTING SCHEDULE

BOT. NAME	COM. NAME	QUANT.	CALIPER	SYM.
ACER SACCHARUM	SUGAR MAPLE	1	2"	AS
QUERCUS BICOLOR	SWAMP WHITE OAK	2	2"	QB
TOTAL		3	6"	

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL LEGAL AND SAFETY REQUIREMENTS GOVERNING THE WORK SHOWN.
2. THE CONTRACTOR MUST VERIFY THE LOCATIONS AND DEPTHS OF ALL UNDERGROUND FACILITIES BEFORE THE START OF WORK.
3. GEOTEXTILE FILTER FABRIC SEDIMENT CONTROL BARRIERS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
4. DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS SHALL BE MULCHED AND SEEDED.
5. EXISTING FEATURES FROM FIELD SURVEY BY RKWENGINEERING SERVICES, INC., OCT. 2019.
6. ELEVATIONS ARE BASED UPON APPROXIMATE USGS VERTICAL DATUM.
7. BOUNDARY INFORMATION FROM DEED PROVIDED BY CLIENT.
8. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE ON SITE AT ALL TIMES.
9. ALL DOWNSPOUTS SHALL BE EQUIPPED WITH LEAF STRAINING DEVICES.
10. ALL EXCESS FILL SHALL BE REMOVED FROM THE JOB SITE.
11. ALL ROOF DRAIN AND DETENTION BASIN PIPING SHALL BE SCHEDULE 40 OR BETTER.
12. ALL PERIMETER SILT FENCE SHALL BE SUPER SILT FENCE.
13. ALL SUBSTANDARD CURB AND SIDEWALK SHALL BE REPLACED.
14. A TOWNSHIP ROAD OPENING PERMIT WILL BE REQUIRED FOR THE DRIVEWAY AND UTILITY CONNECTIONS.

SCALE
10 0 10 20 30

I, _____, THE APPLICANT, DO HEREBY ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY HAVERFORD TOWNSHIP

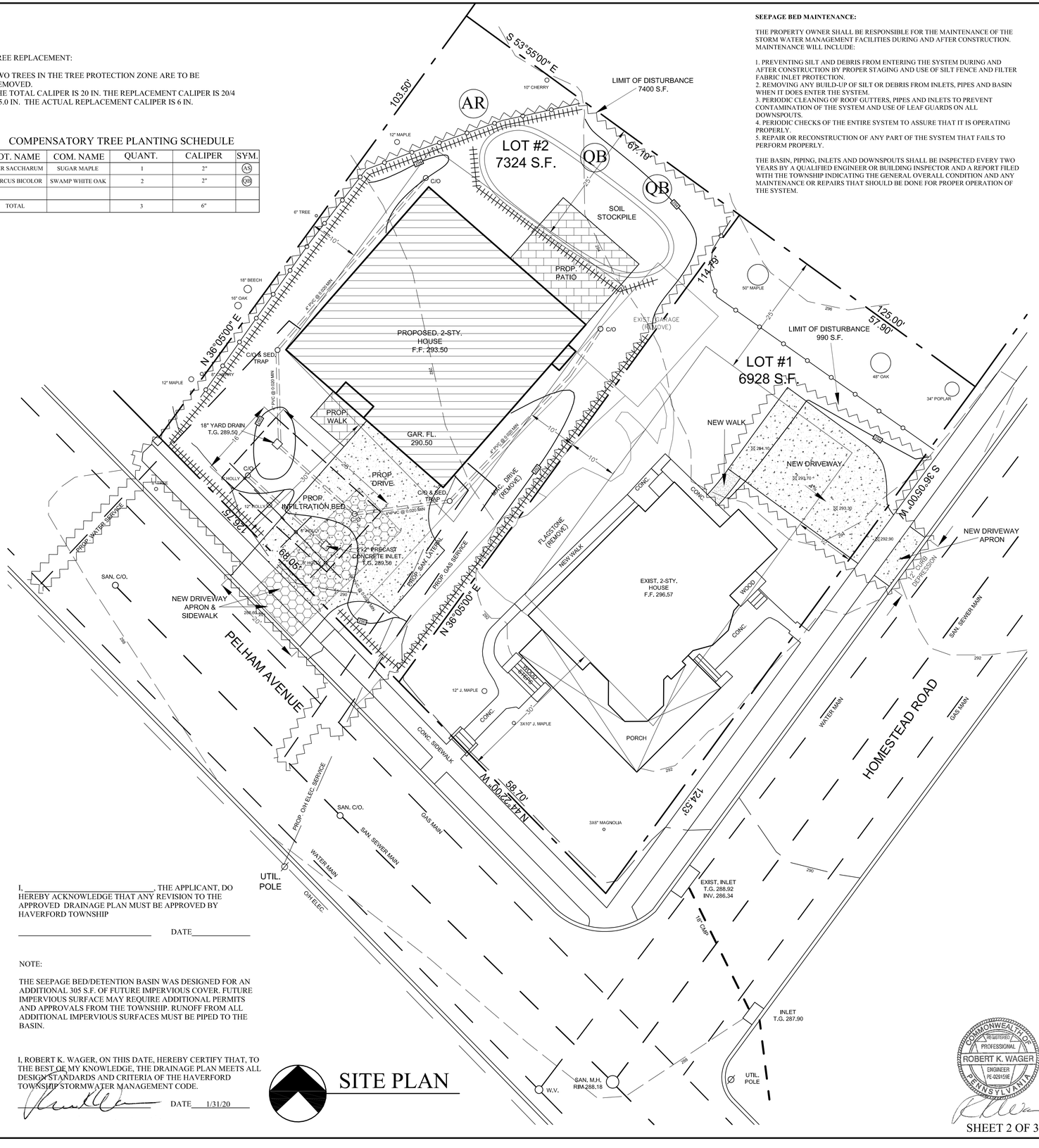
_____ DATE_____

NOTE:

THE SEEPAGE BED/DETENTION BASIN WAS DESIGNED FOR AN ADDITIONAL 305 S.F. OF FUTURE IMPERVIOUS COVER. FUTURE IMPERVIOUS SURFACE MAY REQUIRE ADDITIONAL PERMITS AND APPROVALS FROM THE TOWNSHIP. RUNOFF FROM ALL ADDITIONAL IMPERVIOUS SURFACES MUST BE PIPED TO THE BASIN.

I, ROBERT K. WAGER, ON THIS DATE, HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE HAVERFORD TOWNSHIP STORMWATER MANAGEMENT CODE.

_____ DATE 1/31/20



SITE PLAN

SEEPAGE BED MAINTENANCE:

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORM WATER MANAGEMENT FACILITIES DURING AND AFTER CONSTRUCTION. MAINTENANCE WILL INCLUDE:

1. PREVENTING SILT AND DEBRIS FROM ENTERING THE SYSTEM DURING AND AFTER CONSTRUCTION BY PROPER STAGING AND USE OF SILT FENCE AND FILTER FABRIC INLET PROTECTION.
2. REMOVING ANY BUILD-UP OF SILT OR DEBRIS FROM INLETS, PIPES AND BASIN WHEN IT DOES ENTER THE SYSTEM.
3. PERIODIC CLEANING OF ROOF GUTTERS, PIPES AND INLETS TO PREVENT CONTAMINATION OF THE SYSTEM AND USE OF LEAF GUARDS ON ALL DOWNSPOUTS.
4. PERIODIC CHECKS OF THE ENTIRE SYSTEM TO ASSURE THAT IT IS OPERATING PROPERLY.
5. REPAIR OR RECONSTRUCTION OF ANY PART OF THE SYSTEM THAT FAILS TO PERFORM PROPERLY.

THE BASIN, PIPING, INLETS AND DOWNSPOUTS SHALL BE INSPECTED EVERY TWO YEARS BY A QUALIFIED ENGINEER OR BUILDING INSPECTOR AND A REPORT FILED WITH THE TOWNSHIP INDICATING THE GENERAL OVERALL CONDITION AND ANY MAINTENANCE OR REPAIRS THAT SHOULD BE DONE FOR PROPER OPERATION OF THE SYSTEM.

CONSTRUCTION STAGING

EROSION AND SEDIMENT CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE MAY BEGIN. ONLY LIMITED DISTURBANCE WILL BE PERMITTED FOR THE CONSTRUCTION OF THE SEDIMENT CONTROL FACILITIES. CONSTRUCTION PROCEDURES AND STAGING MUST BE ADHERED TO CAREFULLY TO MINIMIZE THE TIME THAT SOIL IS EXPOSED TO EROSION. CONSTRUCTION IS TO BE STAGED AS FOLLOWS:

1. PLACE SEDIMENT CONTROL BARRIERS IMMEDIATELY DOWNHILL OF EARTHMOVING ACTIVITIES.
2. CLEAR AND GRUB CONSTRUCTION AREA AND REMOVE EXISTING STRUCTURES, REMOVING THE MINIMUM AMOUNT OF VEGETATION NECESSARY FOR CONSTRUCTION.
3. STRIP AND STOCKPILE TOPSOIL FROM CONSTRUCTION AREA.
4. THE TOPSOIL STOCKPILE SHALL BE TEMPORARILY SEEDED WITH ANNUAL RYE GRASS AT A RATE OF 4 LBS. PER 1000 SQ. FT.
5. EXCAVATE FOUNDATION, LOT 2
6. ROUGH GRADE NEW DRIVEWAY.
7. CONSTRUCT BUILDING, LOT 2.
8. INSTALL PIPING TO SEEPAGE BED.
9. STONE NEW DRIVEWAY.
10. REMOVE EXISTING DRIVEWAY.
11. CONSTRUCT SEEPAGE BED.
12. SPREAD TOPSOIL AND FINISH GRADE.
13. SEED AND MULCH DISTURBED AREAS IN ACCORDANCE WITH PADOT FORMULA B.
14. PAVE DRIVEWAY
15. REMOVE EROSION AND SEDIMENTATION CONTROLS AND STABILIZE ANY REMAINING DISTURBED AREAS.

SOILS:

UrmB - URBAN LAND, GLENELG COMPLEX, 0 TO 8 PERCENT SLOPES, HYDROLOGIC GROUP B.

OWNER/APPLICANT

AFFIRMED INVESTMENT GROUP LLC
1133 LINDALE AVE.
DREXEL HILL, PA 19026

SEEDING SPECIFICATIONS

PERMANENT SEEDING
60% KENTUCKY BLUEGRASS
30% RED FESCUE
10% PERENNIAL RYE GRASS 260 LB./AC.

FERTILIZER
10-20-20 1000 LB./AC.

LIME 2 TONS/AC.

MULCH
HAY OR STRAW 3 TONS/AC.

TEMPORARY SEEDING
ANNUAL RYEGRASS 40 LB./AC.

FERTILIZER
5-5-5 1000 LB./AC.

MULCH
HAY OR STRAW 3 TONS/AC.

LEGEND

EXIST. CONTOUR 414
PROP. CONTOUR
EXIST. TREE TO BE REMOVED 12" TREE
SILT FENCE
TREE PROTECTION FENCE
UTILITIES
PROP. STORM DRAINS
CONSTRUCTION ENTRANCE TIRE CLEANER
PROPERTY LINES
LIMIT OF DISTURBANCE

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT K. WAGER ENGINEER PE-029159E

SHEET 2 OF 3

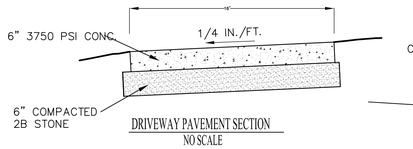
REVISIONS	ADD LOT 1 DRIVEWAY	7/28/20

RKW ENGINEERING SERVICES

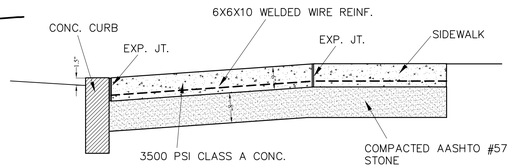
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

MINOR SUBDIVISION
GRADING PLAN
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

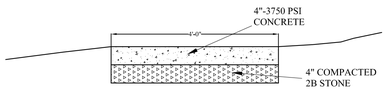
DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/30/20	1"=10'-0"	RKW	19063



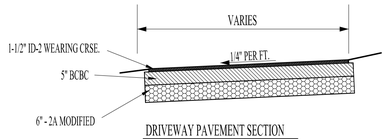
DRIVEWAY PAVEMENT SECTION
NO SCALE



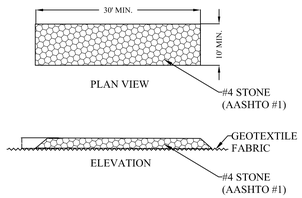
DRIVEWAY APRON DETAIL
NO SCALE



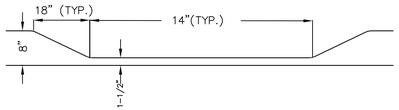
SIDEWALK DETAIL
NO SCALE



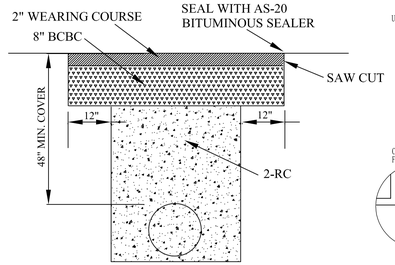
DRIVEWAY PAVEMENT SECTION
NO SCALE



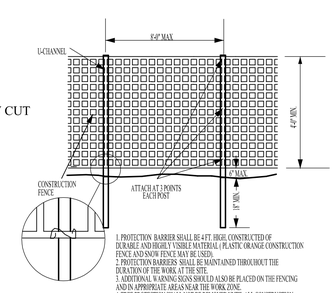
TIRE CLEANER DETAIL
NTS



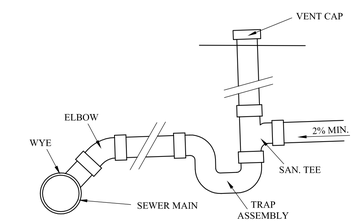
DEPRESSED CURB DETAIL
NO SCALE



FLEXIBLE PAVEMENT RESTORATION
N.T.S.

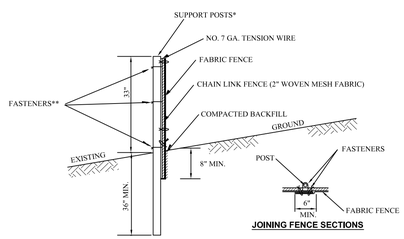


TREE PROTECTION FENCE
NO SCALE



NOTE: ALL PIPE IS 4" SDR-35

SAN. LATERAL CONNECTION
NO SCALE



JOINING FENCE SECTIONS

*** Posts spaced @ 10' max. Use 2 1/2" dia. galvanized or aluminum posts.**

**** Chain Link to Post Fasteners spaced @ 14" max. Use No. 6 Ga. aluminum wire or No. 9 galvanized steel pre-formed clips. Chain Link to Tension Wire Fasteners spaced @ 60" max. Use No. 10 Ga. galvanized steel wire. Fabric to Chain Fasteners spaced @ 24" max. C to C.**

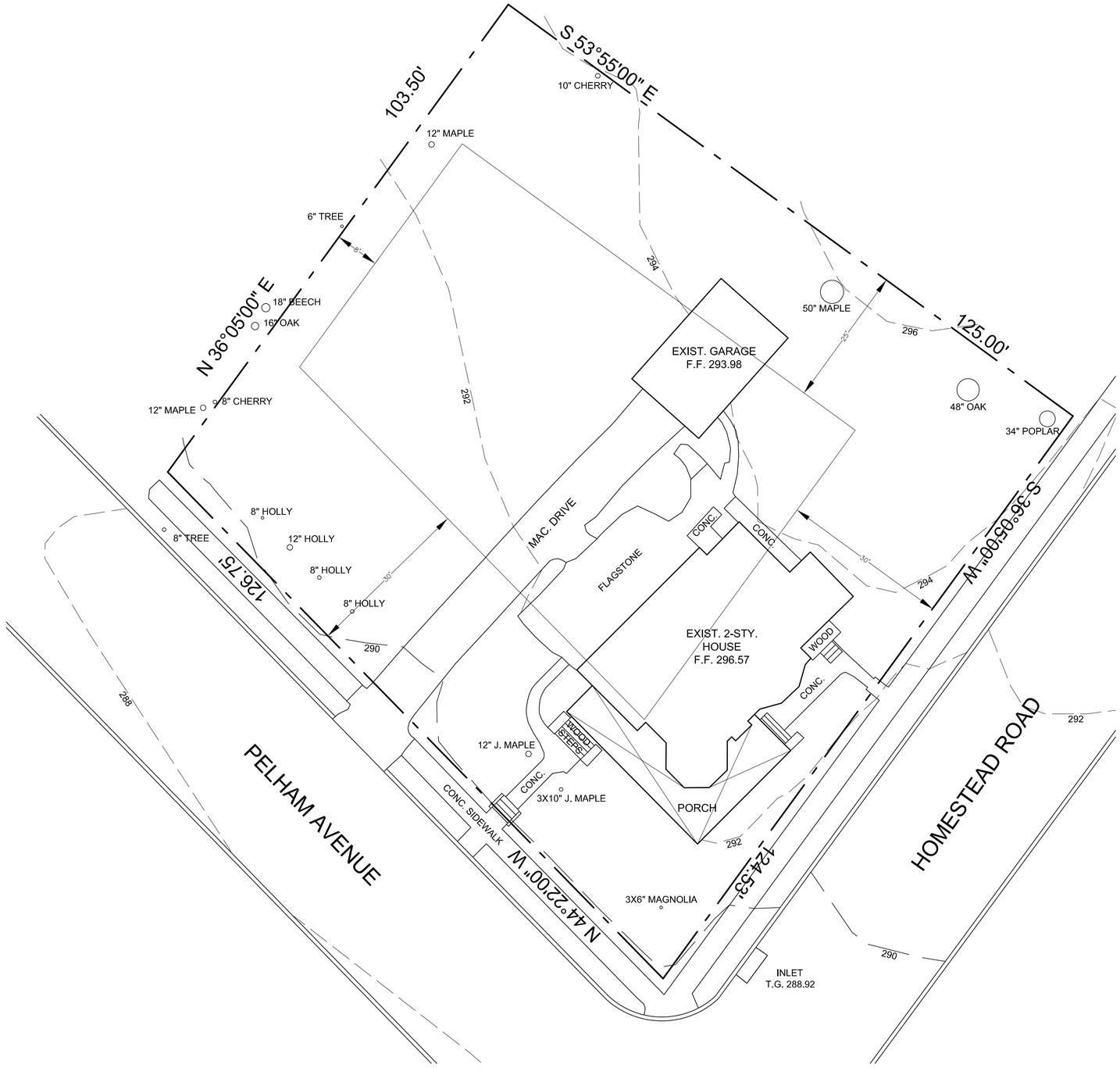
No. 7 Ga. Tension Wire installed horizontally at top and bottom of chain-link fence.

Filter Fabric Fence must be placed at existing level grade. Both ends of the barrier must be extended at least 8 feet upslope at 45 degrees to the main barrier alignment.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

SUPER SILT FENCE
NTS

SCALE
10 0 10 20 30



SITE PLAN

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ROBERT K. WAGER
ENGINEER
PE-029156E

SHEET 3 OF 3

REVISIONS	ADD LOT 1 DRIVEWAY	7/28/20

RKW ENGINEERING SERVICES
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

MINOR SUBDIVISION
EXISTING CONDITIONS & DETAILS
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/30/20	1"=10'-0"	RKW	19063

1613 Pelham Avenue
Haverford Township
Stormwater Management Calculations

1/30/20

RKW Engineering Services, Inc.
1610 Pelham Ave.
Havertown, PA 19083
(610) 642-0961

1/30/20

1613 Pelham Avenue
Haverford Township

Stormwater Management Calculations

Introduction

The basin was sized to control the runoff from the proposed construction of a new single family home. The proposed impervious surface area is 3296 s.f., including 305 s.f. of future impervious surface.

All calculations are based on the SCS TR-20 Method. All hydrograph generation and basin routing was done using a stormwater modeling program called "HydroCAD" by Applied Microcomputer Systems.

Soils and Runoff Coefficients

The predominant soil type is urban land, Glenelg complex (hydrologic group B). The coefficients used are as follows:

Lawn (good condition)	61
Impervious surface	98

Rainfall

The peak discharges for the pre-development condition are based on a Type II 24-hour storm.

Rainfall depths:

Storm Frequency (yr.)	Rainfall (in.)
1	2.64
2	3.36
5	4.32
10	5.28
25	6.24
100	8.40

Infiltration Tests

Infiltration tests have been scheduled.

Rate Control

The project is located in Management District A. The basin was sized and the outlet designed so that the post development discharges did not exceed the pre-development discharges for the following storms:

Post-Development Storm	less than	Pre-Development Storm
100		100
25		25
10		10
5		2
2		1

Re-charge Volume

Pre-develoment runoff = 305 c.f.
Post development runoff = 846 c.f.
Excess = 541 c.f.
Provided = 1425 c.f.

Water Quality

Water Quality Volume = WQv = ((P)(Rv)(A))/12

P =	1	in.			
A =	3370	s.f.	Imp. =	2977	s.f.
I =	88.34	%			
Rv =	0.85				
WQv =	237	c.f.	Provided=	1425	c.f.

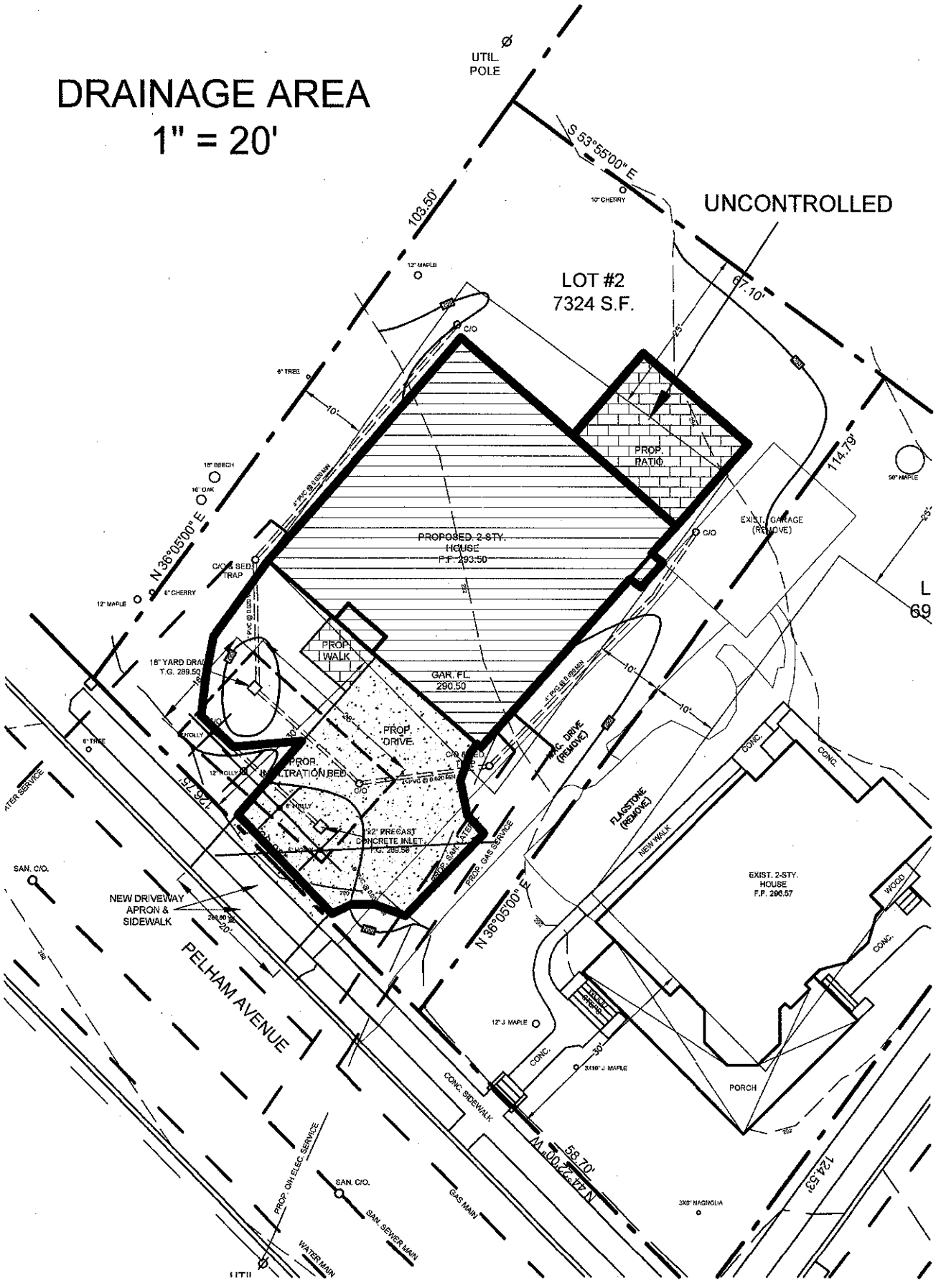
1613 Pelham Ave.
Haverford Township

1/30/2020

Detention Basin

Storm year	Pre-devel cfs	Post-devel. Uncontrolled	Allowable Discharge cfs	Basin Discharge cfs
100	0.73	0.09	0.64	0.63
25	0.47	0.07	0.40	0.02
10	0.36	0.06	0.30	0.00
5	*	0.05	0.11	0.00
2	0.16	0.04	0.05	0.00
1	0.09		*	*

DRAINAGE AREA
1" = 20'



Summary for Subcatchment 1S: PRE-DEVEL

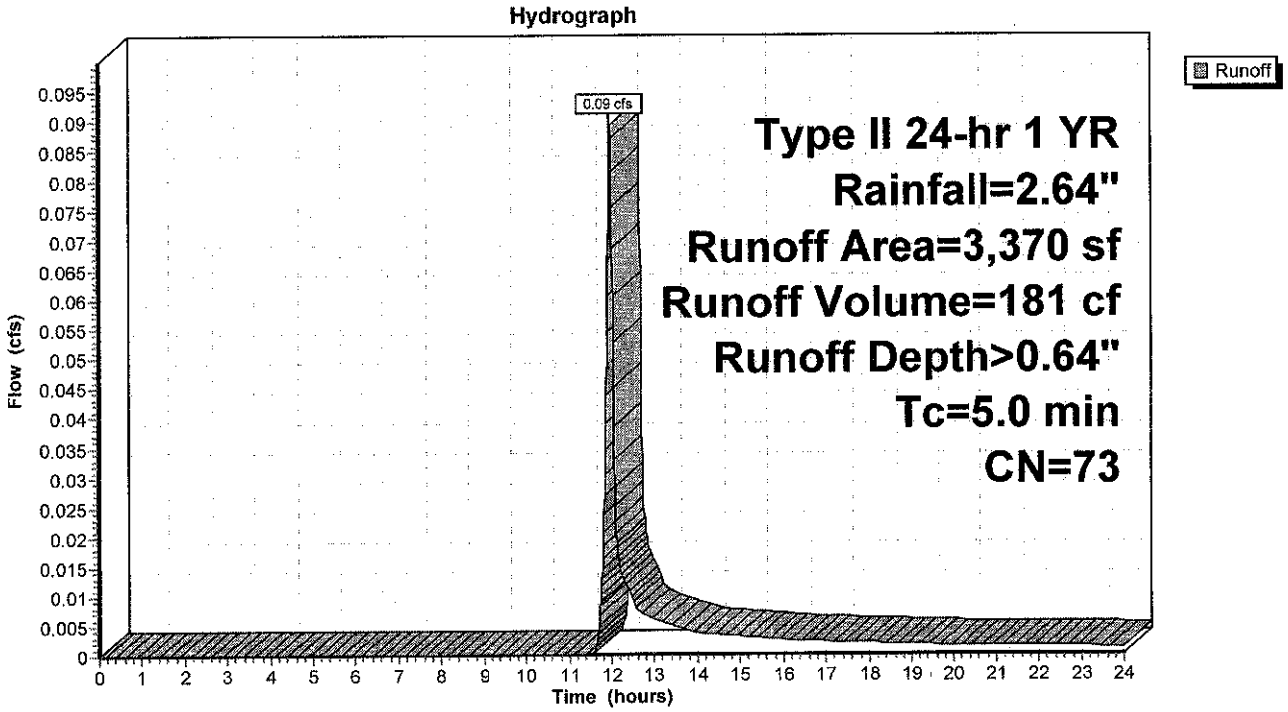
Runoff = 0.09 cfs @ 11.97 hrs, Volume= 181 cf, Depth> 0.64"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 1 YR Rainfall=2.64"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 1S: PRE-DEVEL

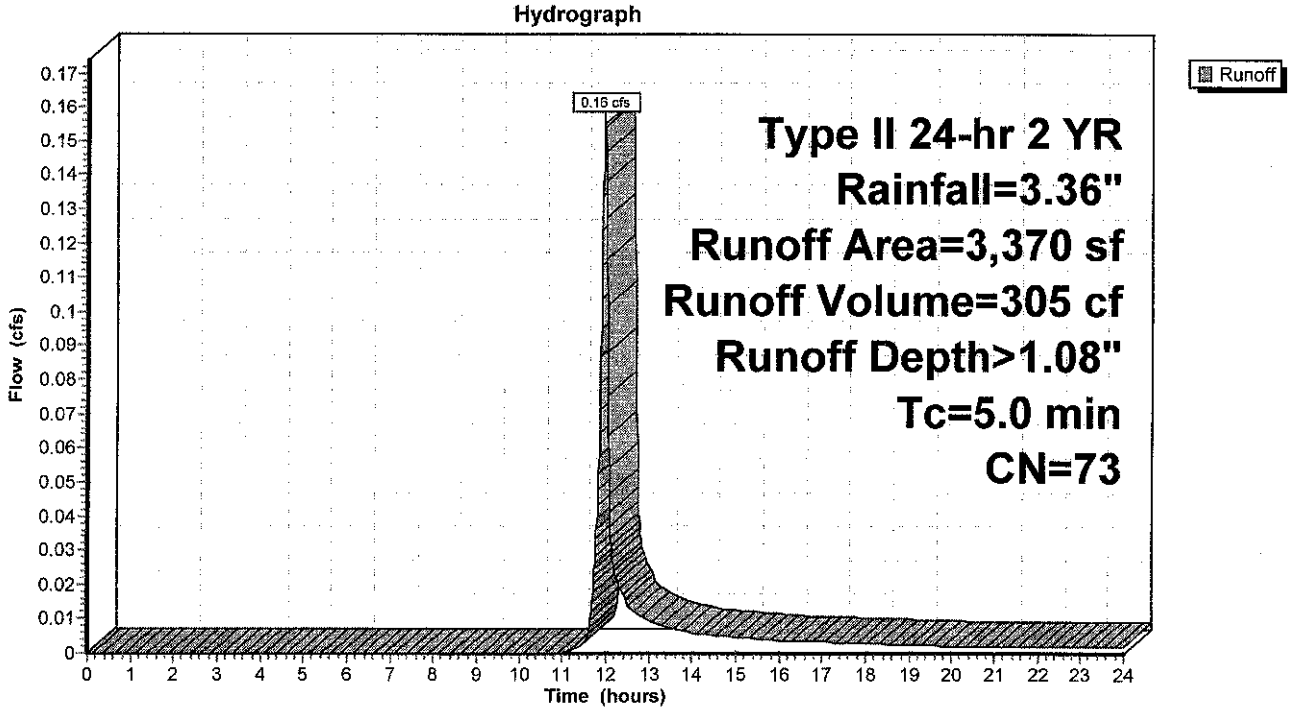
Runoff = 0.16 cfs @ 11.97 hrs, Volume= 305 cf, Depth> 1.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.36"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 1S: PRE-DEVEL

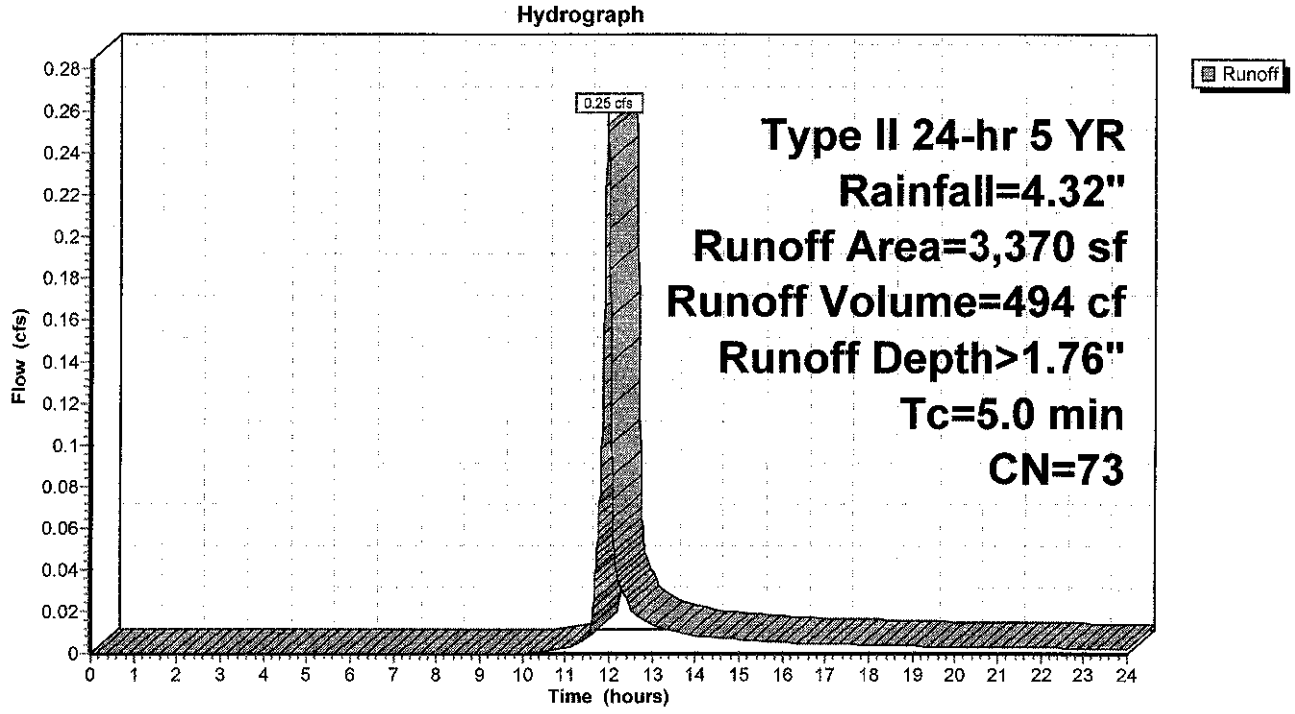
Runoff = 0.25 cfs @ 11.96 hrs, Volume= 494 cf, Depth> 1.76"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 YR Rainfall=4.32"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 1S: PRE-DEVEL

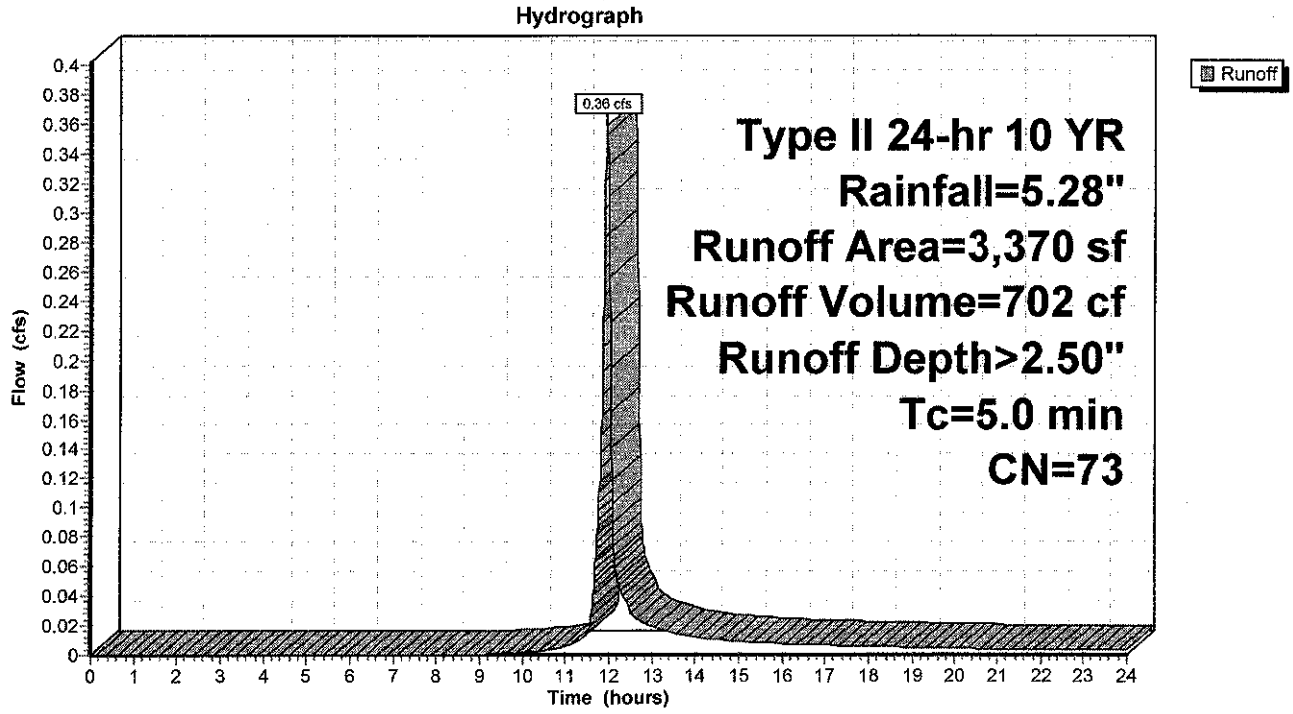
Runoff = 0.36 cfs @ 11.96 hrs, Volume= 702 cf, Depth> 2.50"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.28"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 1S: PRE-DEVEL

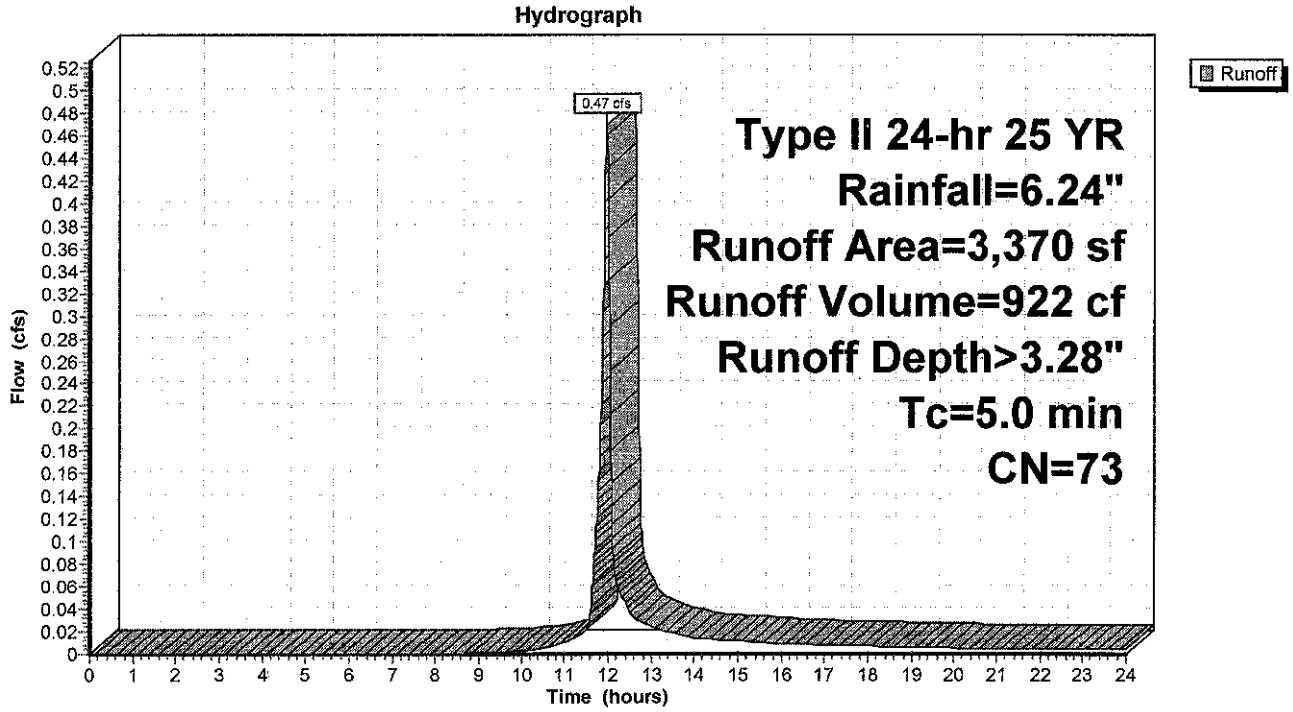
Runoff = 0.47 cfs @ 11.96 hrs, Volume= 922 cf, Depth> 3.28"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 YR Rainfall=6.24"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 1S: PRE-DEVEL

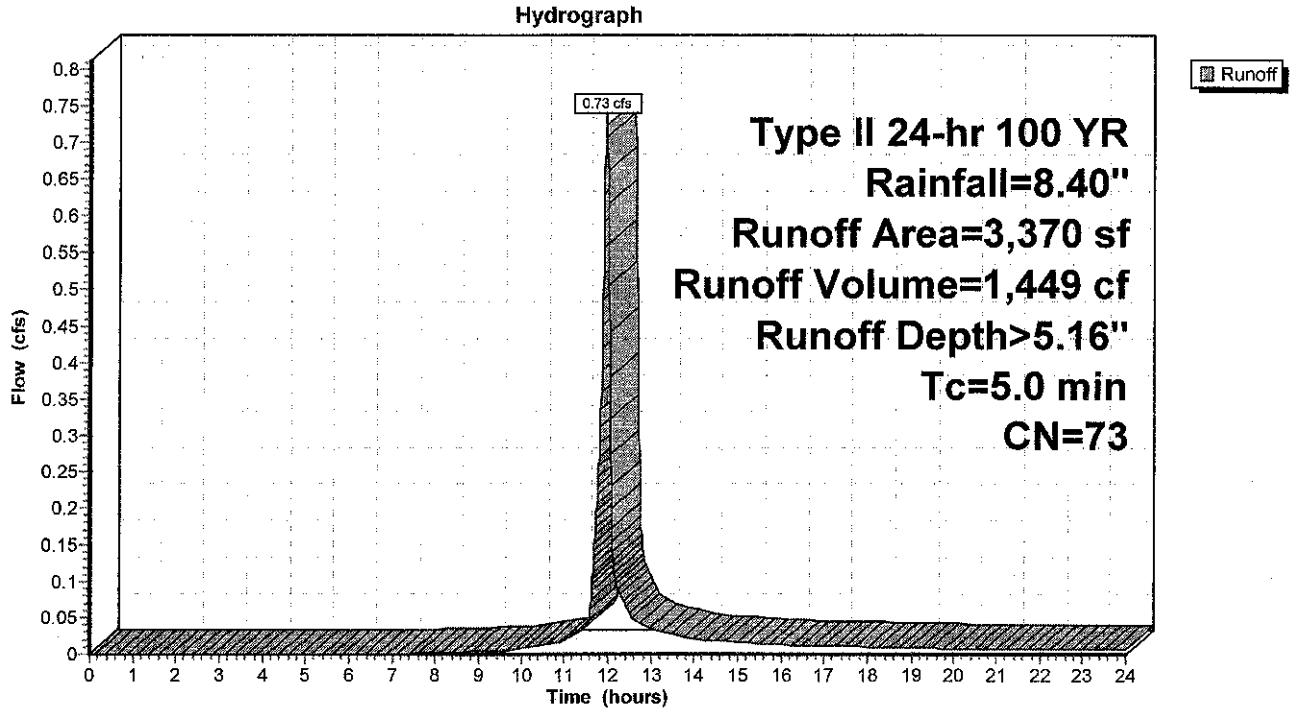
Runoff = 0.73 cfs @ 11.96 hrs, Volume= 1,449 cf, Depth> 5.16"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=8.40"

	Area (sf)	CN	Description
*	1,030	98	IMPERVIOUS
*	2,340	62	LAWN
	3,370	73	Weighted Average
	2,340		Pervious Area
	1,030		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 1S: PRE-DEVEL



Summary for Subcatchment 3S: POST-DEVEL. - UNC.

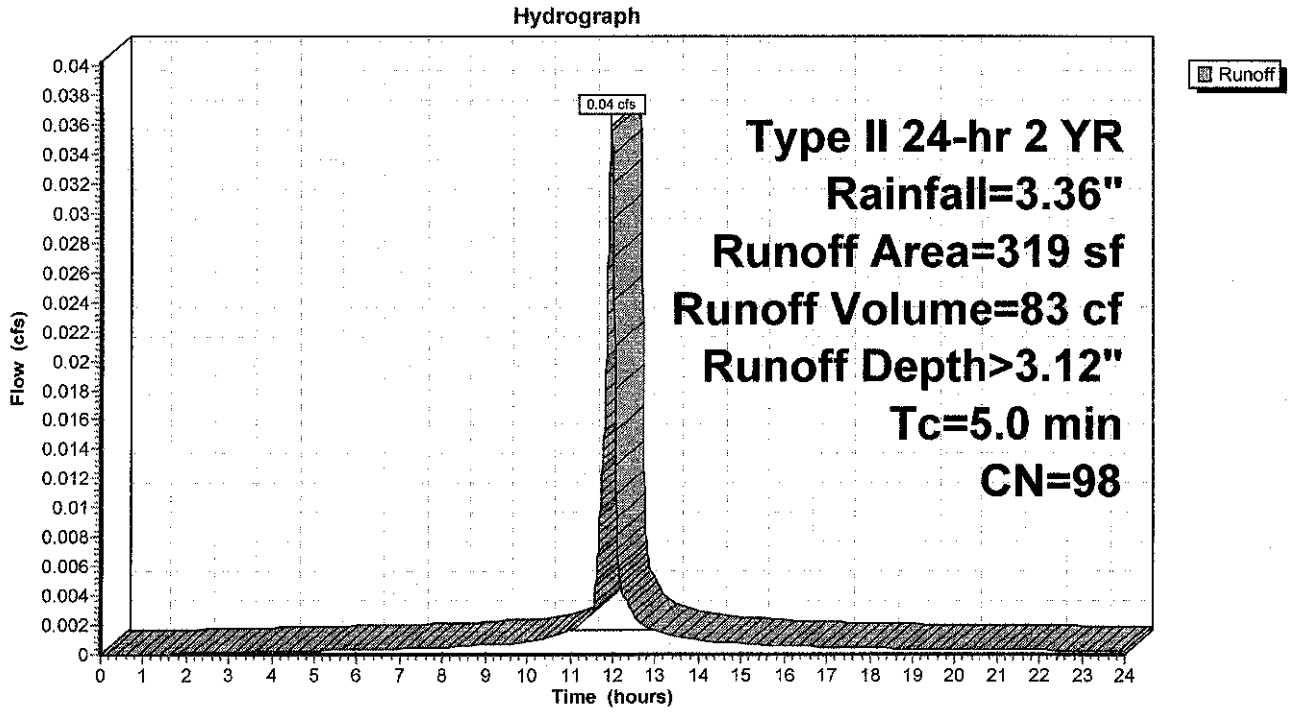
Runoff = 0.04 cfs @ 11.96 hrs, Volume= 83 cf, Depth> 3.12"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.36"

	Area (sf)	CN	Description
*	319	98	IMPERVIOUS
	319		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: POST-DEVEL. - UNC.



Summary for Subcatchment 3S: POST-DEVEL. - UNC.

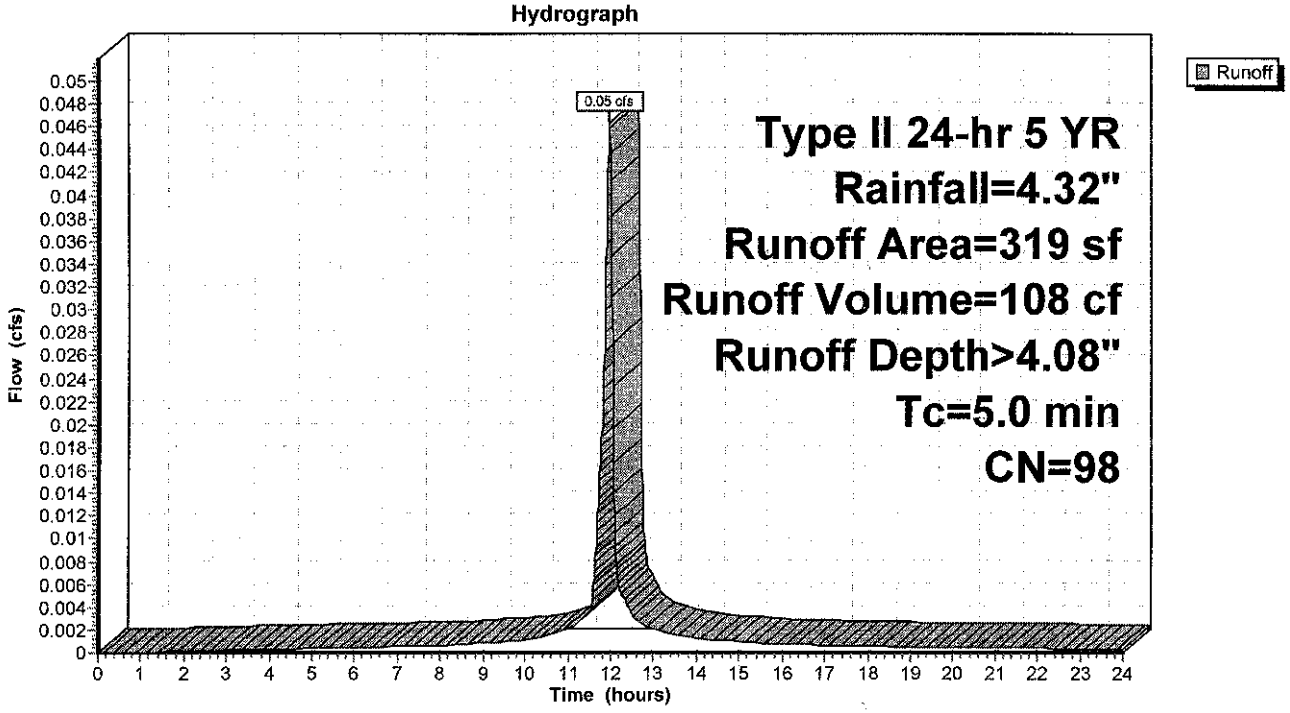
Runoff = 0.05 cfs @ 11.96 hrs, Volume= 108 cf, Depth> 4.08"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 YR Rainfall=4.32"

	Area (sf)	CN	Description
*	319	98	IMPERVIOUS
	319		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: POST-DEVEL. - UNC.



Summary for Subcatchment 3S: POST-DEVEL. - UNC.

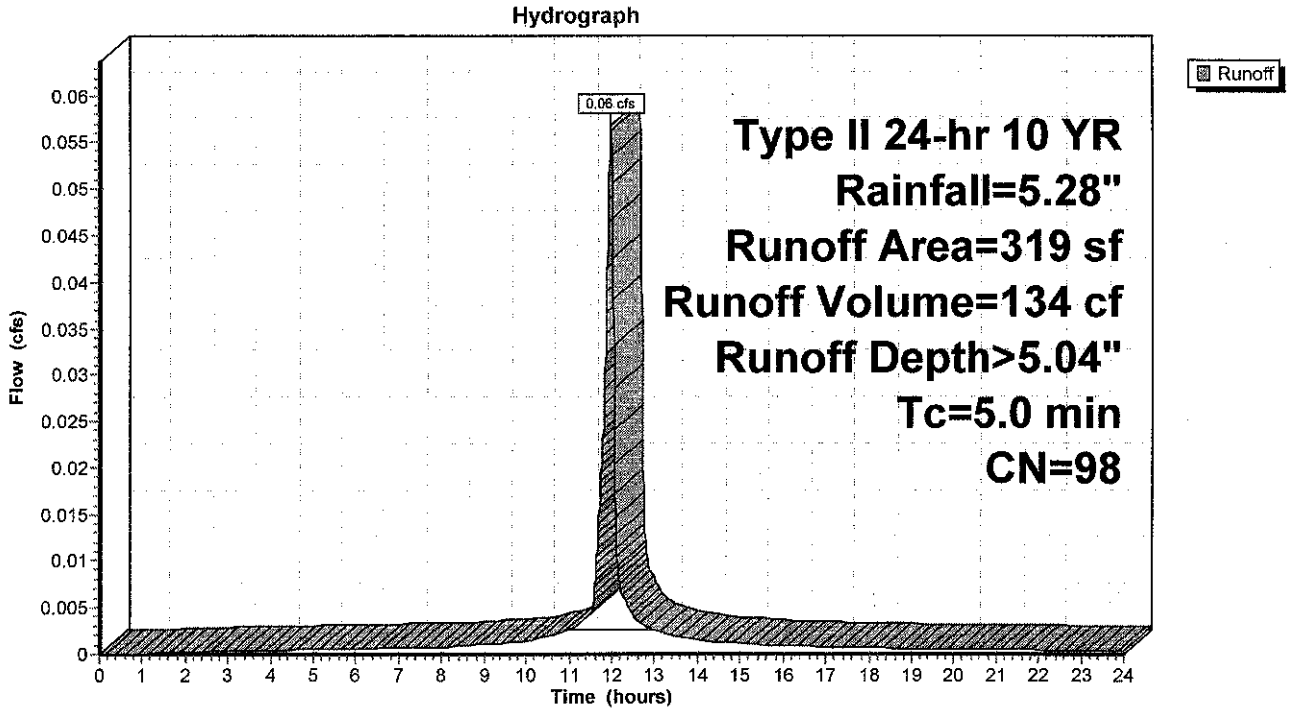
Runoff = 0.06 cfs @ 11.96 hrs, Volume= 134 cf, Depth> 5.04"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.28"

	Area (sf)	CN	Description
*	319	98	IMPERVIOUS
	319		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: POST-DEVEL. - UNC.



Summary for Subcatchment 3S: POST-DEVEL. - UNC.

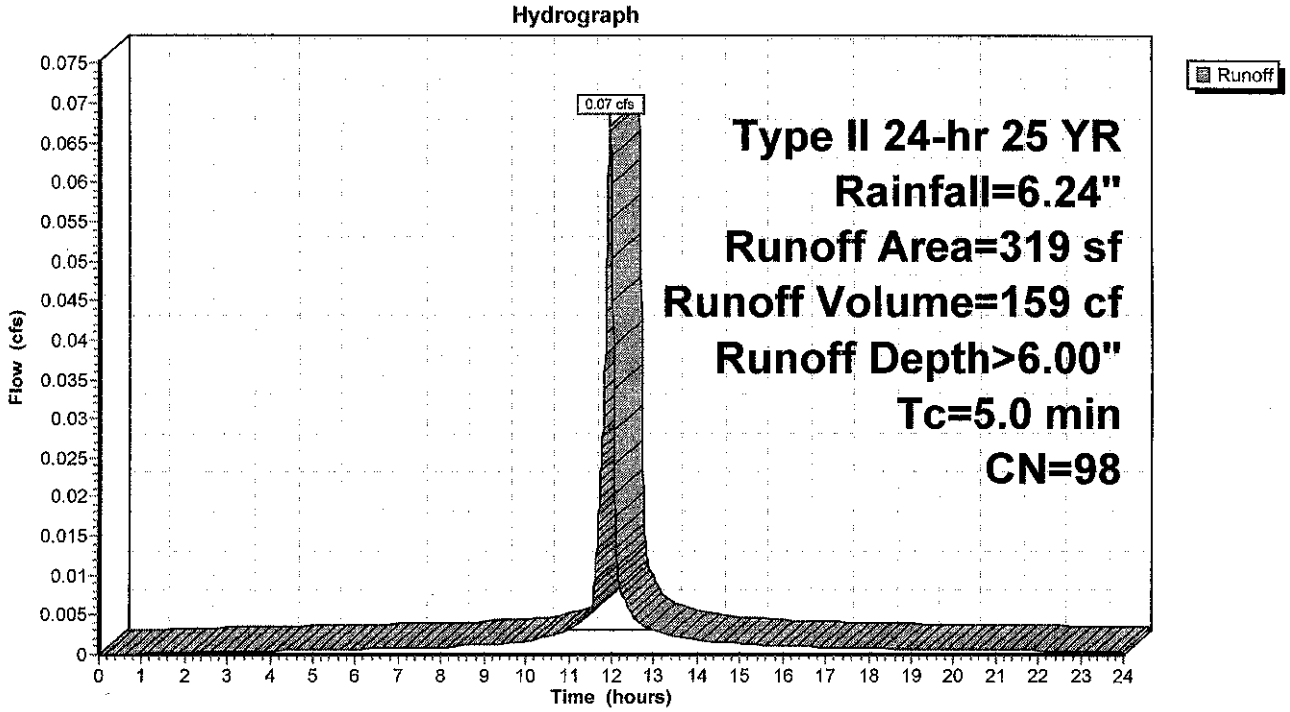
Runoff = 0.07 cfs @ 11.96 hrs, Volume= 159 cf, Depth> 6.00"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 YR Rainfall=6.24"

	Area (sf)	CN	Description
*	319	98	IMPERVIOUS
	319		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: POST-DEVEL. - UNC.



Summary for Subcatchment 3S: POST-DEVEL. - UNC.

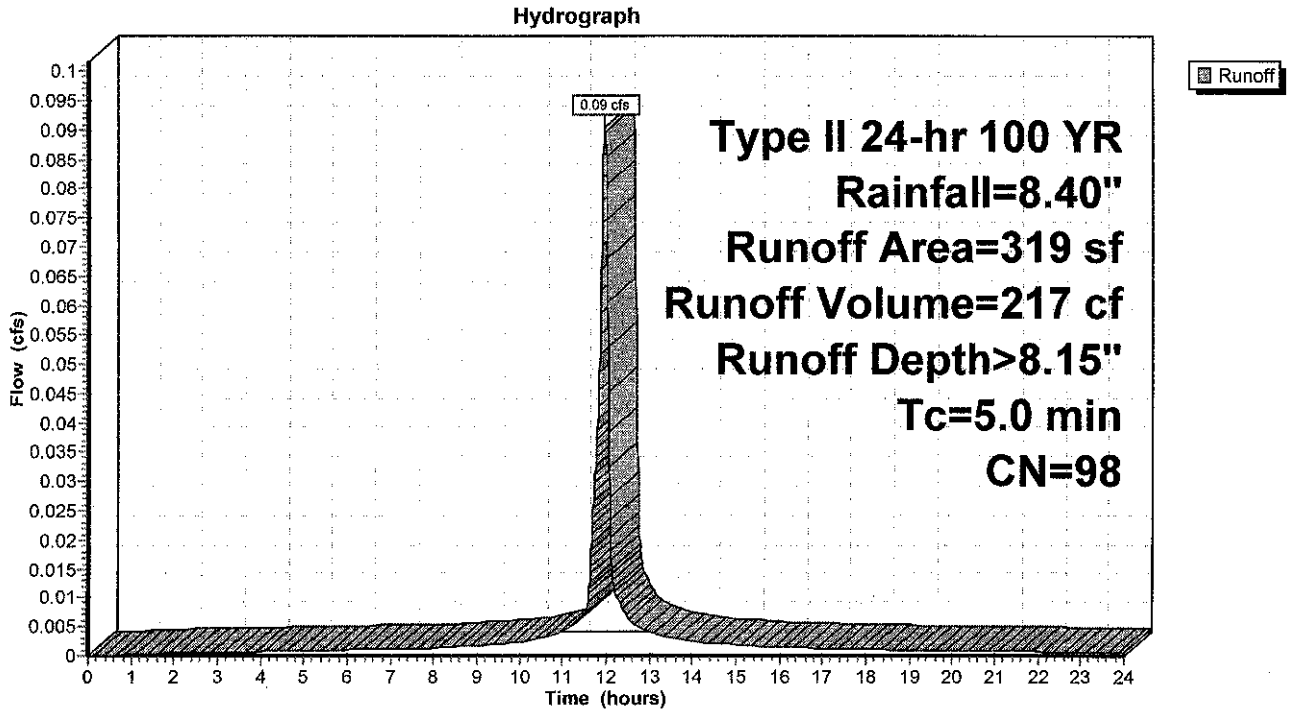
Runoff = 0.09 cfs @ 11.96 hrs, Volume= 217 cf, Depth> 8.15"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=8.40"

	Area (sf)	CN	Description
*	319	98	IMPERVIOUS
	319		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 3S: POST-DEVEL. - UNC.



Summary for Subcatchment 2S: POST-DEVEL

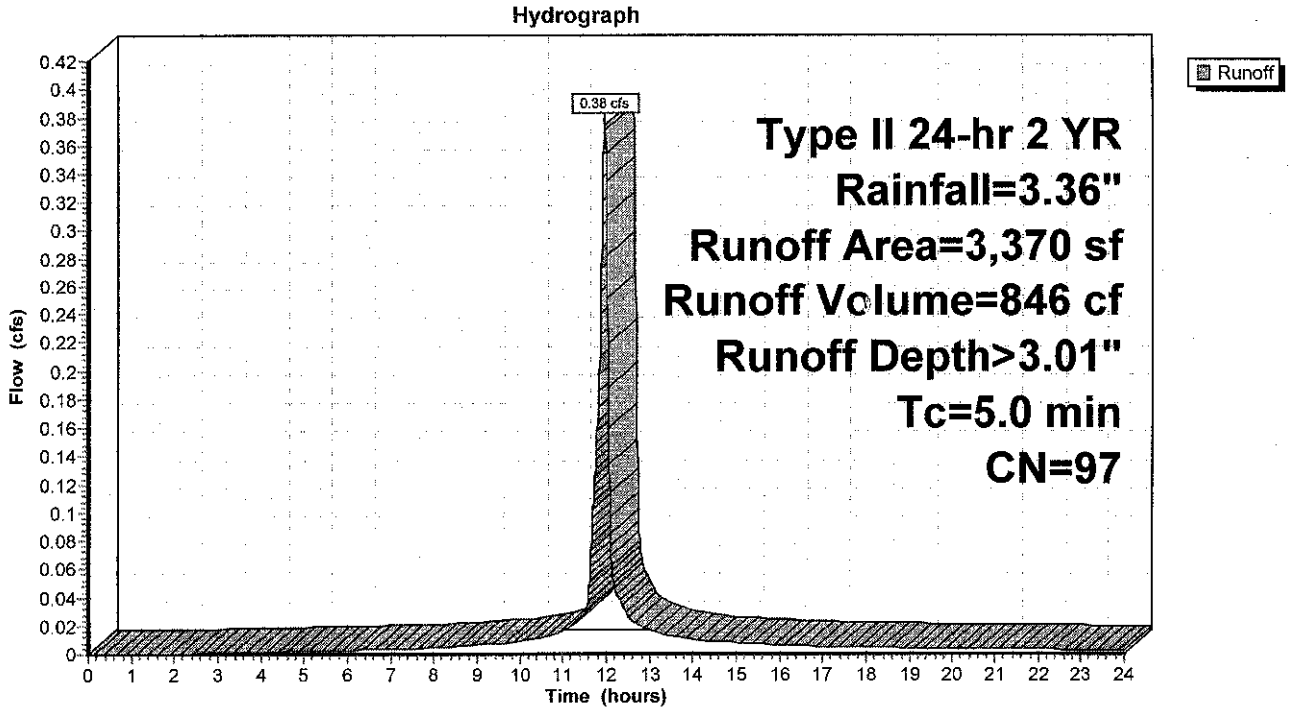
Runoff = 0.38 cfs @ 11.96 hrs, Volume= 846 cf, Depth> 3.01"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 2 YR Rainfall=3.36"

	Area (sf)	CN	Description
*	3,296	98	IMPERVIOUS
*	74	62	LAWN
	3,370	97	Weighted Average
	74		Pervious Area
	3,296		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: POST-DEVEL



Summary for Pond 4P: SEEPAGE BED

Inflow Area = 3,370 sf, 97.80% Impervious, Inflow Depth > 3.01" for 2 YR event
Inflow = 0.38 cfs @ 11.96 hrs, Volume= 846 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 284.82' @ 24.00 hrs Surf.Area= 448 sf Storage= 846 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

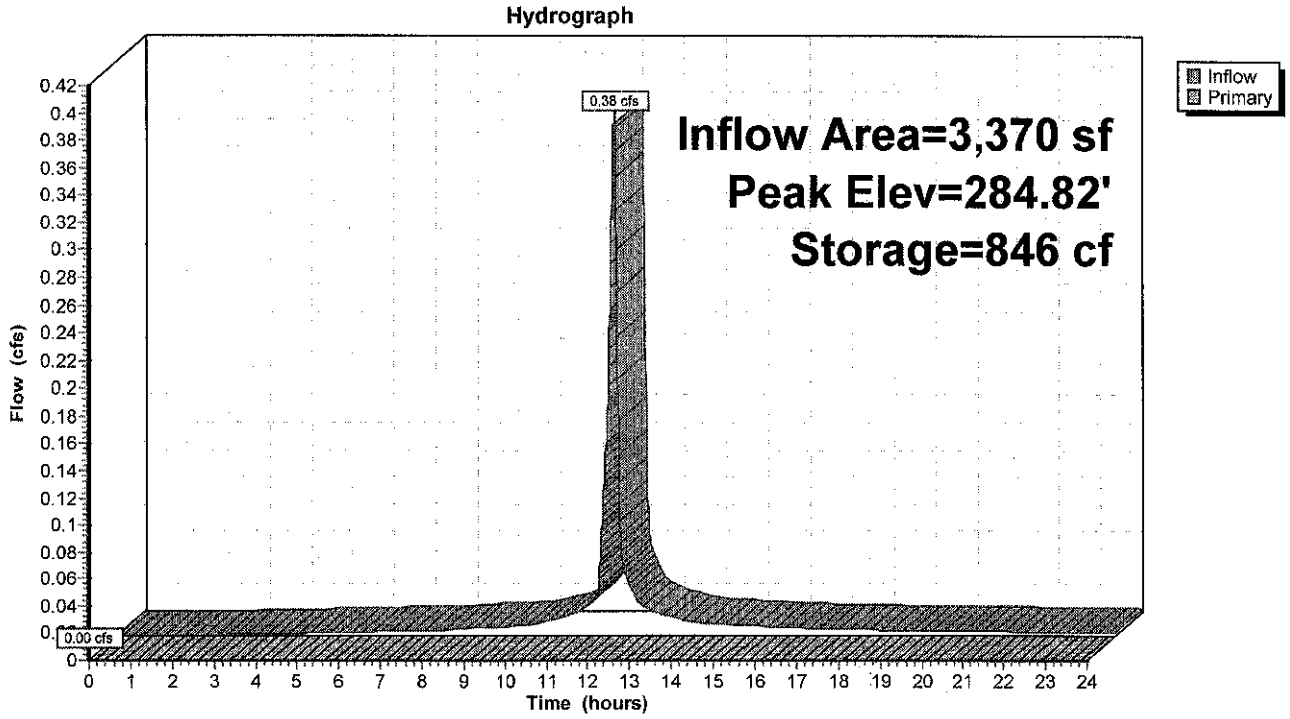
Volume	Invert	Avail.Storage	Storage Description
#1	280.10'	1,425 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,564 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
280.10	448	0	0
283.00	448	1,299	1,299
284.00	448	448	1,747
285.00	448	448	2,195
286.00	448	448	2,643
287.00	448	448	3,091
288.00	448	448	3,539
288.10	1	22	3,562
290.00	1	2	3,564

Device	Routing	Invert	Outlet Devices
#1	Primary	289.50'	**2.00' x 2.00' Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=280.10' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 4P: SEEPAGE BED



Summary for Subcatchment 2S: POST-DEVEL

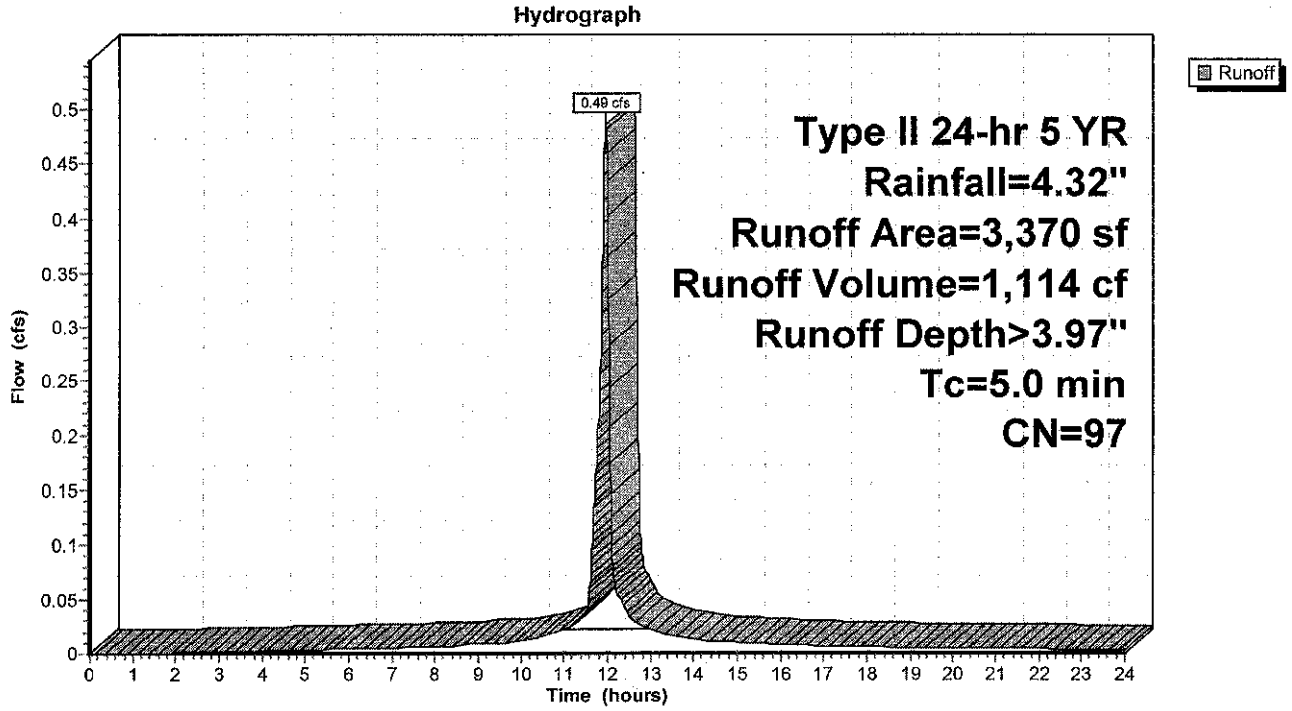
Runoff = 0.49 cfs @ 11.96 hrs, Volume= 1,114 cf, Depth> 3.97"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 5 YR Rainfall=4.32"

	Area (sf)	CN	Description
*	3,296	98	IMPERVIOUS
*	74	62	LAWN
	3,370	97	Weighted Average
	74		Pervious Area
	3,296		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: POST-DEVEL



Summary for Pond 4P: SEEPAGE BED

Inflow Area = 3,370 sf, 97.80% Impervious, Inflow Depth > 3.97" for 5 YR event
Inflow = 0.49 cfs @ 11.96 hrs, Volume= 1,114 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 286.32' @ 24.00 hrs Surf.Area= 448 sf Storage= 1,114 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

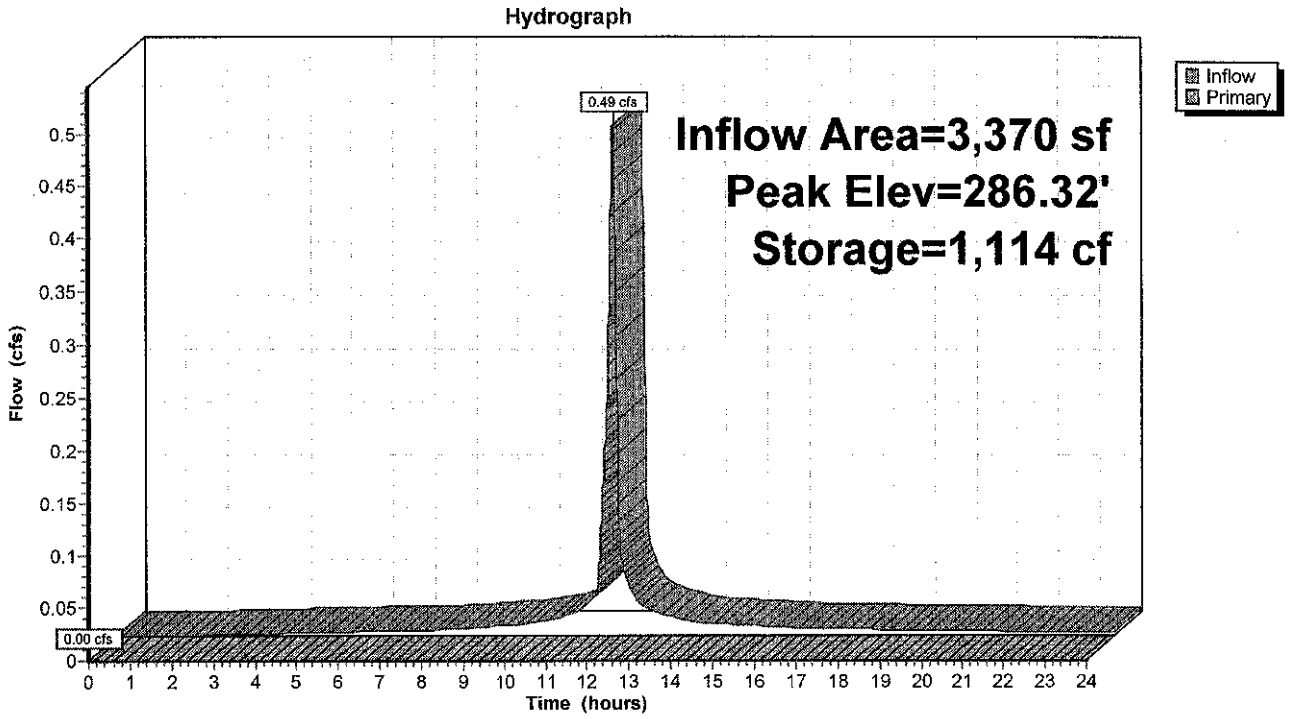
Volume	Invert	Avail.Storage	Storage Description
#1	280.10'	1,425 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,564 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
280.10	448	0	0
283.00	448	1,299	1,299
284.00	448	448	1,747
285.00	448	448	2,195
286.00	448	448	2,643
287.00	448	448	3,091
288.00	448	448	3,539
288.10	1	22	3,562
290.00	1	2	3,564

Device	Routing	Invert	Outlet Devices
#1	Primary	289.50'	**2.00' x 2.00' Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=280.10' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 4P: SEEPAGE BED



Summary for Subcatchment 2S: POST-DEVEL

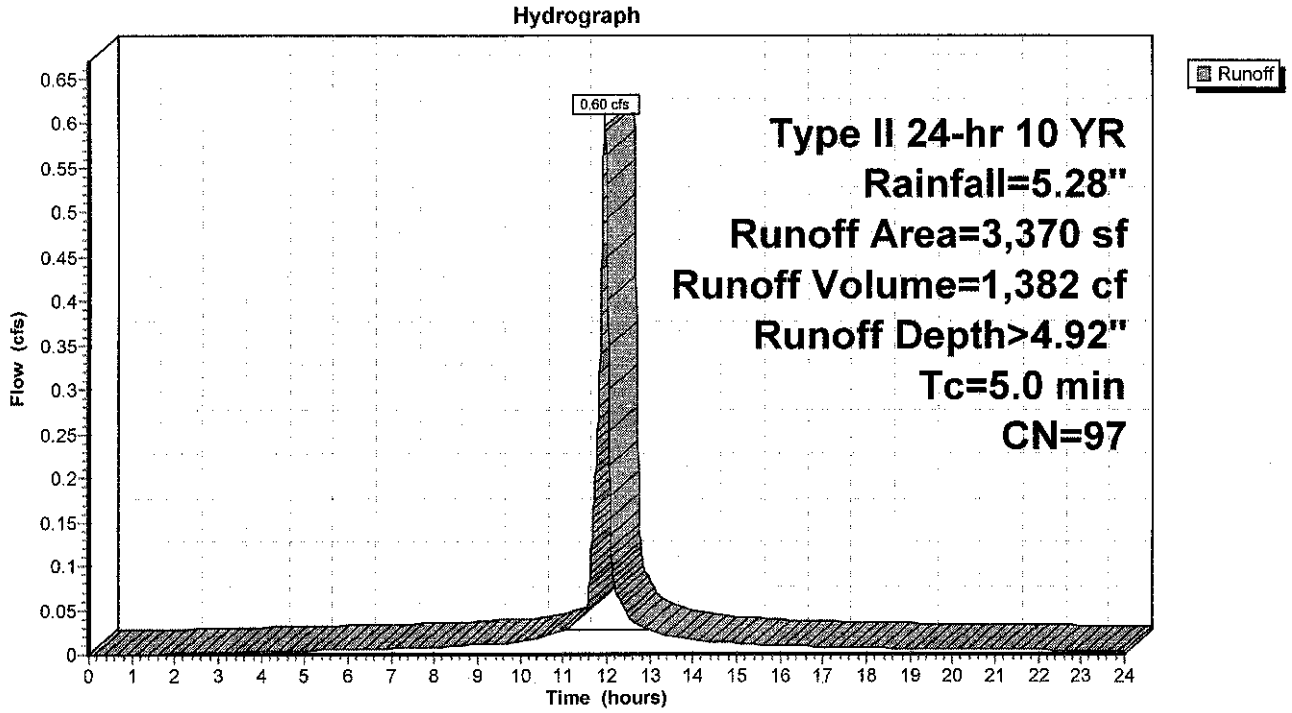
Runoff = 0.60 cfs @ 11.96 hrs, Volume= 1,382 cf, Depth> 4.92"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 10 YR Rainfall=5.28"

	Area (sf)	CN	Description
*	3,296	98	IMPERVIOUS
*	74	62	LAWN
	3,370	97	Weighted Average
	74		Pervious Area
	3,296		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: POST-DEVEL



Summary for Pond 4P: SEEPAGE BED

Inflow Area = 3,370 sf, 97.80% Impervious, Inflow Depth > 4.92" for 10 YR event
Inflow = 0.60 cfs @ 11.96 hrs, Volume= 1,382 cf
Outflow = 0.00 cfs @ 0.00 hrs, Volume= 0 cf, Atten= 100%, Lag= 0.0 min
Primary = 0.00 cfs @ 0.00 hrs, Volume= 0 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 287.81' @ 24.00 hrs Surf.Area= 448 sf Storage= 1,382 cf

Plug-Flow detention time= (not calculated: initial storage excedes outflow)
Center-of-Mass det. time= (not calculated: no outflow)

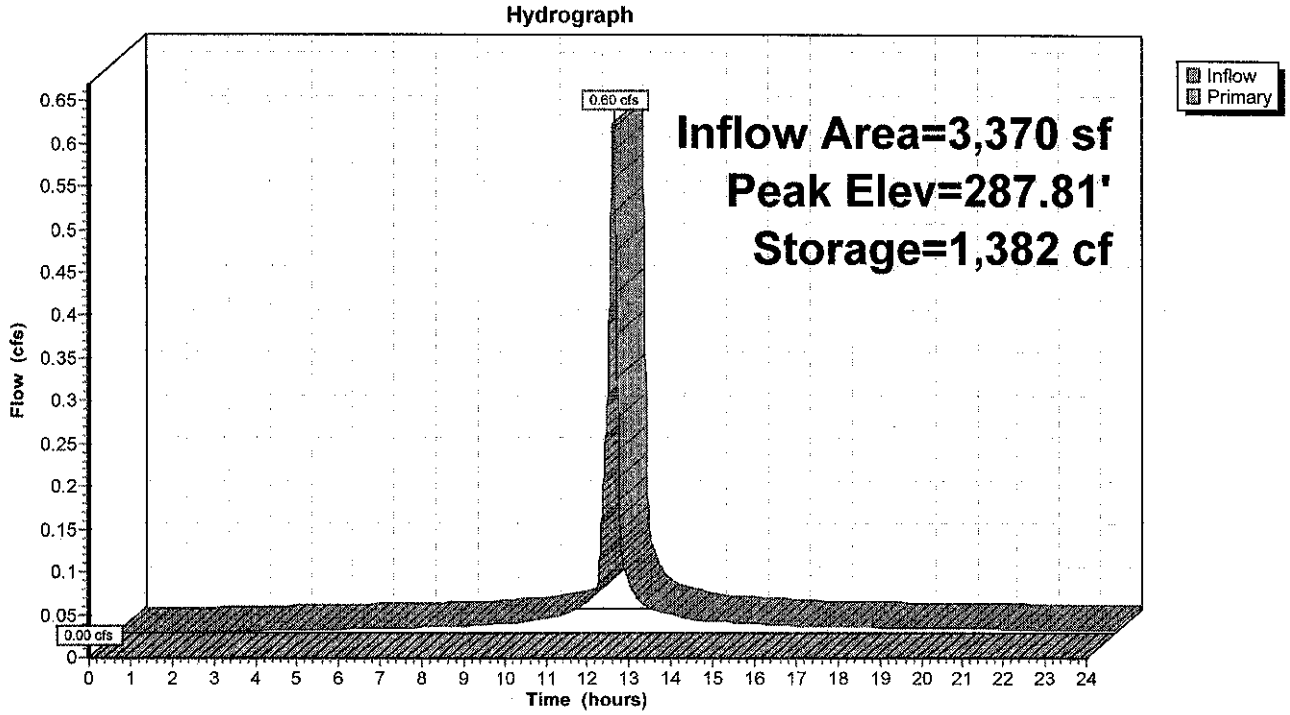
Volume	Invert	Avail.Storage	Storage Description
#1	280.10'	1,425 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,564 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
280.10	448	0	0
283.00	448	1,299	1,299
284.00	448	448	1,747
285.00	448	448	2,195
286.00	448	448	2,643
287.00	448	448	3,091
288.00	448	448	3,539
288.10	1	22	3,562
290.00	1	2	3,564

Device	Routing	Invert	Outlet Devices
#1	Primary	289.50'	**2.00' x 2.00' Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=280.10' (Free Discharge)
1=Orifice/Grate (Controls 0.00 cfs)

Pond 4P: SEEPAGE BED



Summary for Subcatchment 2S: POST-DEVEL

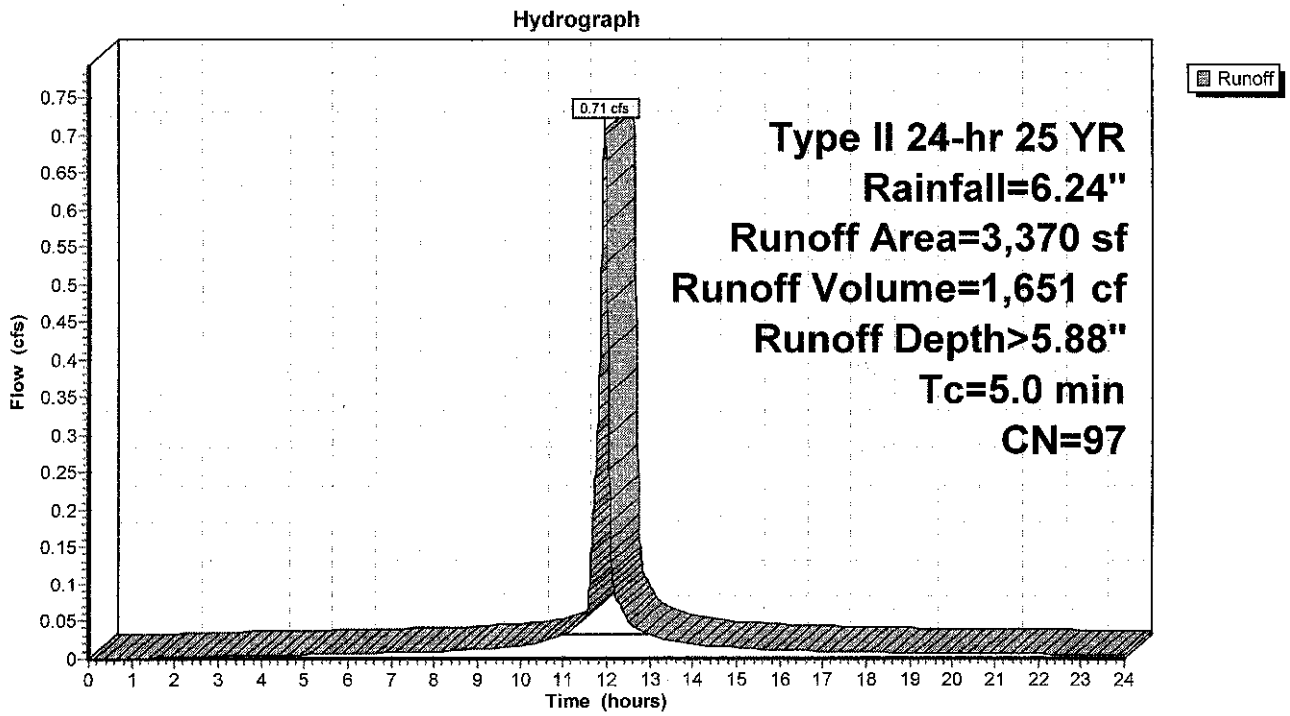
Runoff = 0.71 cfs @ 11.96 hrs, Volume= 1,651 cf, Depth> 5.88"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 25 YR Rainfall=6.24"

	Area (sf)	CN	Description
*	3,296	98	IMPERVIOUS
*	74	62	LAWN
	3,370	97	Weighted Average
	74		Pervious Area
	3,296		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: POST-DEVEL



Summary for Pond 4P: SEEPAGE BED

Inflow Area = 3,370 sf, 97.80% Impervious, Inflow Depth > 5.88" for 25 YR event
Inflow = 0.71 cfs @ 11.96 hrs, Volume= 1,651 cf
Outflow = 0.01 cfs @ 16.68 hrs, Volume= 216 cf, Atten= 99%, Lag= 283.3 min
Primary = 0.01 cfs @ 16.68 hrs, Volume= 216 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 289.51' @ 16.68 hrs Surf.Area= 1 sf Storage= 1,425 cf

Plug-Flow detention time= 747.9 min calculated for 216 cf (13% of inflow)
Center-of-Mass det. time= 416.4 min (1,162.3 - 745.9)

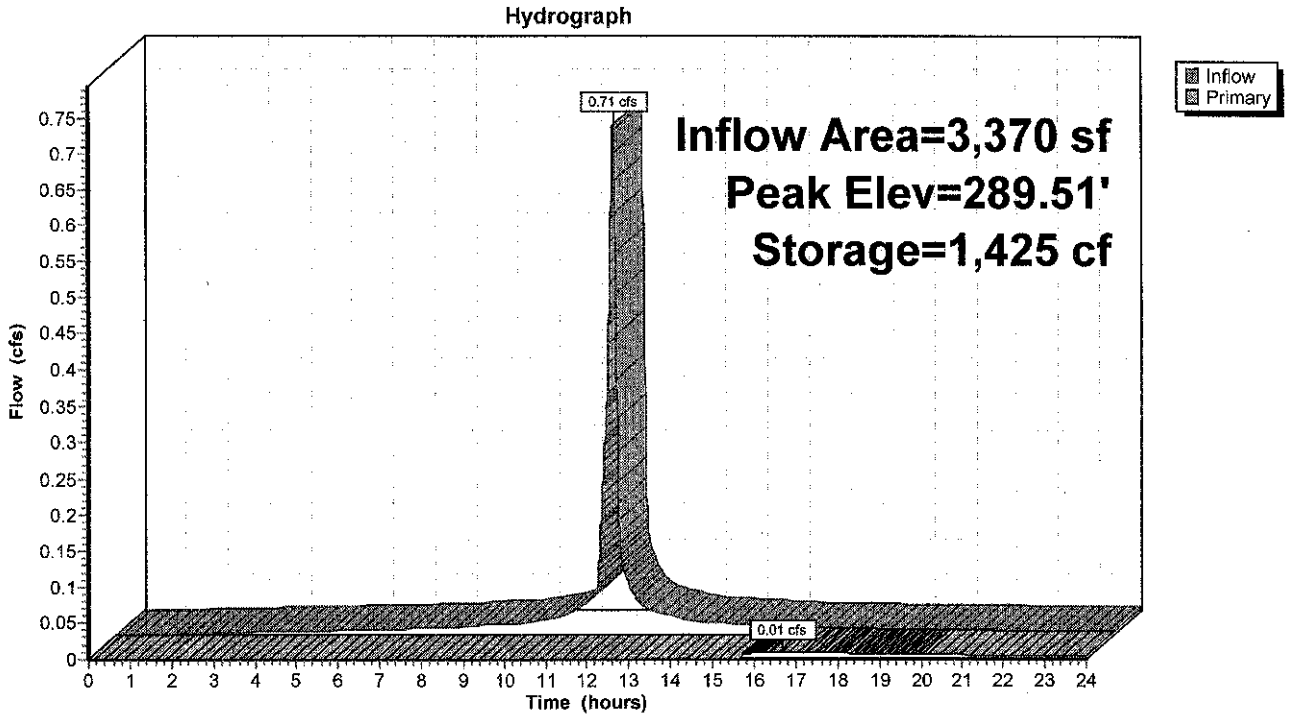
Volume	Invert	Avail.Storage	Storage Description
#1	280.10'	1,425 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,564 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
280.10	448	0	0
283.00	448	1,299	1,299
284.00	448	448	1,747
285.00	448	448	2,195
286.00	448	448	2,643
287.00	448	448	3,091
288.00	448	448	3,539
288.10	1	22	3,562
290.00	1	2	3,564

Device	Routing	Invert	Outlet Devices
#1	Primary	289.50'	**2.00' x 2.00' Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Primary OutFlow Max=0.01 cfs @ 16.68 hrs HW=289.51' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 0.01 cfs @ 0.23 fps)

Pond 4P: SEEPAGE BED



Summary for Subcatchment 2S: POST-DEVEL

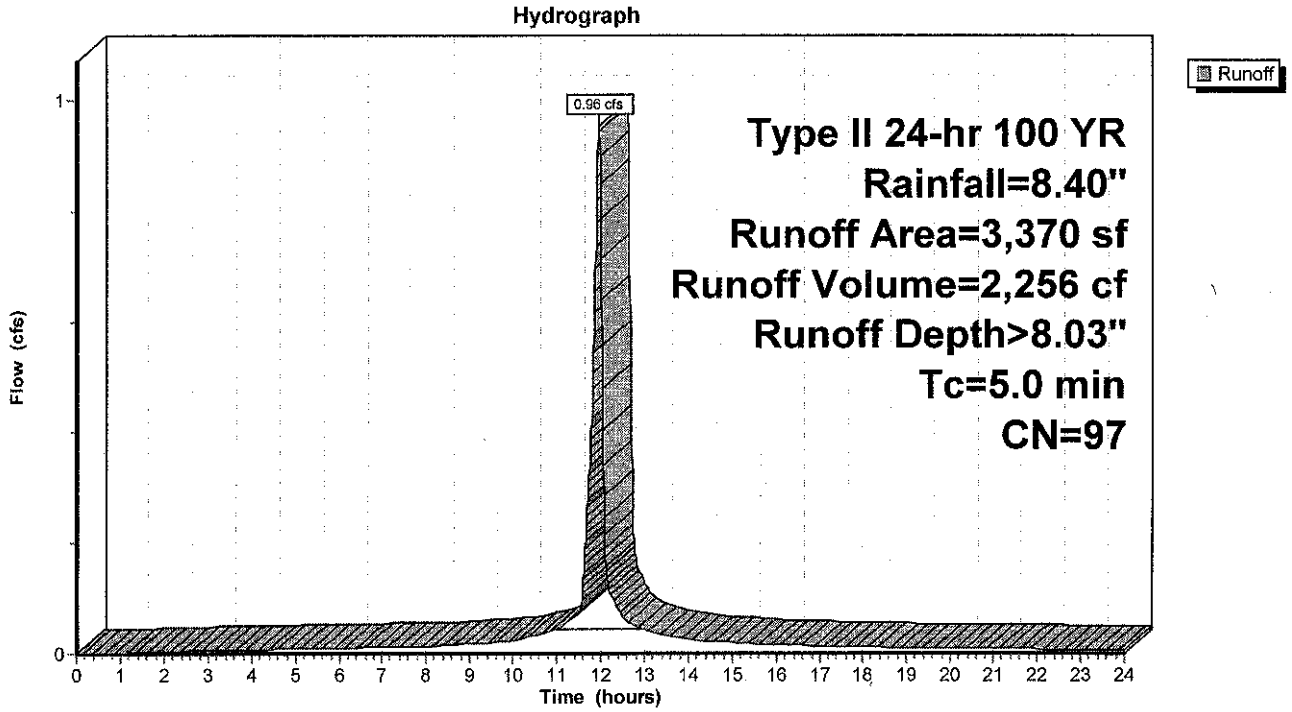
Runoff = 0.96 cfs @ 11.96 hrs, Volume= 2,256 cf, Depth> 8.03"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs
Type II 24-hr 100 YR Rainfall=8.40"

	Area (sf)	CN	Description
*	3,296	98	IMPERVIOUS
*	74	62	LAWN
	3,370	97	Weighted Average
	74		Pervious Area
	3,296		Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Subcatchment 2S: POST-DEVEL



Summary for Pond 4P: SEEPAGE BED

Inflow Area = 3,370 sf, 97.80% Impervious, Inflow Depth > 8.03" for 100 YR event
Inflow = 0.96 cfs @ 11.96 hrs, Volume= 2,256 cf
Outflow = 0.63 cfs @ 12.06 hrs, Volume= 1,117 cf, Atten= 35%, Lag= 6.5 min
Primary = 0.63 cfs @ 12.06 hrs, Volume= 1,117 cf

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.01 hrs / 2
Peak Elev= 289.57' @ 12.06 hrs Surf.Area= 1 sf Storage= 1,425 cf

Plug-Flow detention time= 269.7 min calculated for 1,117 cf (49% of inflow)
Center-of-Mass det. time= 139.2 min (880.0 - 740.7)

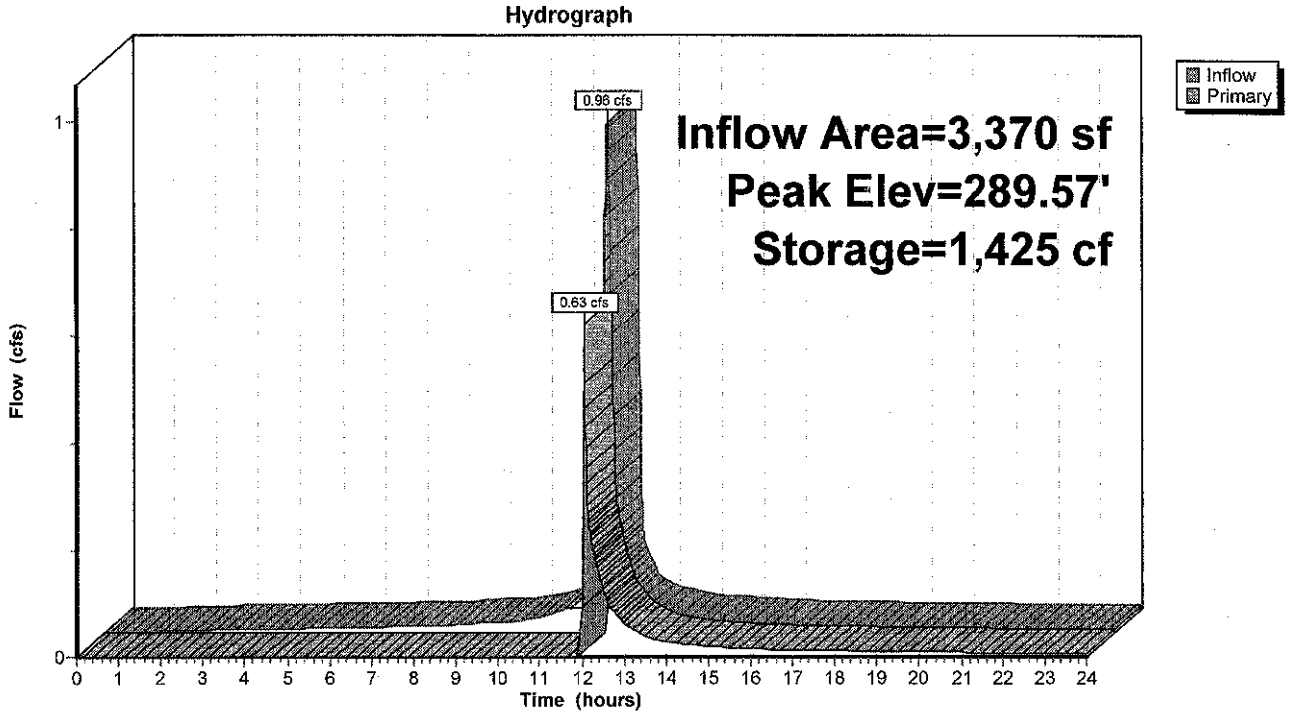
Volume	Invert	Avail.Storage	Storage Description
#1	280.10'	1,425 cf	**Custom Stage Data (Prismatic)** Listed below (Recalc) 3,564 cf Overall x 40.0% Voids

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
280.10	448	0	0
283.00	448	1,299	1,299
284.00	448	448	1,747
285.00	448	448	2,195
286.00	448	448	2,643
287.00	448	448	3,091
288.00	448	448	3,539
288.10	1	22	3,562
290.00	1	2	3,564

Device	Routing	Invert	Outlet Devices
#1	Primary	289.50'	**2.00' x 2.00' Horiz. Orifice/Grate** Limited to weir flow C= 0.600

Primary OutFlow Max=0.45 cfs @ 12.06 hrs HW=289.57' (Free Discharge)
↑**1=Orifice/Grate** (Weir Controls 0.45 cfs @ 0.84 fps)

Pond 4P: SEEPAGE BED



Stage-Area-Storage for Pond 4P: SEEPAGE BED

Elevation (feet)	Surface (sq-ft)	Storage (cubic-feet)
280.10	**448**	0
280.20	448	18
280.30	448	36
280.40	448	54
280.50	448	72
280.60	448	90
280.70	448	108
280.80	448	125
280.90	448	143
281.00	448	161
281.10	448	179
281.20	448	197
281.30	448	215
281.40	448	233
281.50	448	251
281.60	448	269
281.70	448	287
281.80	448	305
281.90	448	323
282.00	448	340
282.10	448	358
282.20	448	376
282.30	448	394
282.40	448	412
282.50	448	430
282.60	448	448
282.70	448	466
282.80	448	484
282.90	448	502
283.00	448	520
283.10	448	538
283.20	448	556
283.30	448	573
283.40	448	591
283.50	448	609
283.60	448	627
283.70	448	645
283.80	448	663
283.90	448	681
284.00	448	699
284.10	448	717
284.20	448	735
284.30	448	753
284.40	448	771
284.50	448	788
284.60	448	806
284.70	448	824
284.80	448	842
284.90	448	860
285.00	448	878
285.10	448	896
285.20	448	914
285.30	448	932
285.40	448	950
285.50	448	968
285.60	448	986
285.70	448	1,004
285.80	448	1,021
285.90	448	1,039
286.00	448	1,057
286.10	448	1,075
286.20	448	1,093
286.30	448	1,111
286.40	448	1,129
286.50	448	1,147
286.60	448	1,165
286.70	448	1,183
286.80	448	1,201
286.90	448	1,219
287.00	448	1,236
287.10	448	1,254
287.20	448	1,272
287.30	448	1,290
287.40	448	1,308
287.50	448	1,326
287.60	448	1,344
287.70	448	1,362
287.80	448	1,380
287.90	448	1,398
288.00	448	1,416
288.10	1	1,425
288.20	1	1,425
288.30	1	1,425
288.40	1	1,425
288.50	1	1,425
288.60	1	1,425
288.70	1	1,425
288.80	1	1,425
288.90	1	1,425
289.00	1	1,425
289.10	1	1,425
289.20	1	1,425
289.30	1	1,425
289.40	1	1,425
289.50	1	1,425
289.60	1	1,425
289.70	1	1,425
289.80	1	1,425
289.90	1	1,425
290.00	1	**1,425**

Minutes of the Planning Commission of Haverford Township

Meeting held on Thursday, September 10, 2020, at 7:00pm in the Commissioners' Meeting Room and Via Telecommunication 1014 Darby Road, Havertown, Pa. 19083.

BOARD MEMBERS PRESENT:

Angelo Capuzzi, Chairman
Chuck Reardon, Vice Chairman
Jesse Pointon, Secretary
Robert Fiordimondo
E. David Chanin
Maggie Dobbs
Jack Garrett

ALSO PRESENT:

Chuck Faulkner, Township Engineer, Pennoni Associates
Kelly Kirk, Zoning Officer and Community Development

Mr. Capuzzi calls the meeting to order 7:00 p.m.
Ms. Kirk calls roll.
Mr. Capuzzi leads The Pledge of Allegiance

Preliminary/Final Minor Subdivision Plan 1613 Pelham Avenue-D.C. Folio No. 22-06-01738-00

Applicant proposes to subdivide the existing 14,252 square foot parcel into two (2) lots. The existing single family dwelling will remain on lot "1" and is proposed to contain a net lot area of 6,928 square feet, resulting in the creation of a 7,324 square foot parcel (lot 2) with one new single family dwelling. The applicant's request to permit the existing single family dwelling to remain non-conforming due to the encroachments within the required front yard setbacks on Homestead Road and Pelham Avenue was granted by the Zoning Hearing Board on July 30, 2020. The subject property is zoned R-4 (Low-Med Residential), and is located in the 6th Ward.

Edward Gallagher representing Thomas Thornton, managing member of LLC-property owners.

Mr. Robert Wager-Engineer for the project.

Review of the Pennoni Letter September 9, 2020.

Mr. Wager stated he had no questions regarding the Letter and would comply with all items.

Mr. Capuzzi opened the comments to the board.

Mr. Garrett had no comment at that time.

Ms. Dobbs questioned the need for a driveway turnaround on Lot 2 with a dead end into a recreation area when it adds to impervious coverage and exceeds the maximum width for driveways.

Ms. Dobbs asked for clarification to the length of the driveway on Lot 1, Mr. Faulkner offered the driveway scales to 30'. Ms. Dobbs expressed concern with the positioning of the driveway and being able to fit two cars side by side and back up effectively. There was additional concern expressed regarding the new construction in proximity to the mature trees causing harm to them. Ms. Dobbs recommended moving the lot line to allow for the driveway off of Pelham Avenue. Ms. Dobbs also stated the Shade Tree Commission should give input on tree replacement calculation and the porch element of surrounding properties should be considered for the new home.

Mr. Pointon raised the possibility of the subject property being within 100 feet of a historical property therefore triggering Historical Commission review. The property belonging to Mr. Robert Wager, the project engineer, is corner to corner with the existing subject property at 66 feet. There was discussion regarding the applicability of the ordinance. Mr. Capuzzi asked Mr. Gallagher if he would be opposed to presenting the plan to the Historical Commission for recommendations. Mr. Wager did not believe it needed review. Ultimately, the review was agreed to.

Mr. Fiordimondo and Mr. Chanin had nothing to add to the previous comments at that time.

Ms. Kirk spoke regarding the Zoning Hearing Board meeting and the concerns of the property being on the southern boundary of the Gest Tract and the little league fields. The driveway placement is of concern to neighbors due to parking on Pelham due to the little league fields.

Mr. Capuzzi offered technical comments starting with Sheet 2, the grading plan. The sanitary lateral needs to have a clean out added at the bend in the line; add detail. The Contour at the back left of the house needs the correct elevation designation. Mr. Capuzzi suggested an arborist look at the trees on Lot 1 to offer their input on the impact to the viability of the trees relative to the grading proposed within their drip lines. Mr. Capuzzi added that the seepage bed detail needs to have exact dimensions and the observation port should go to the bottom of the bed and the pipes within the seepage bed should be interconnected so that the collected runoff would be more evenly distributed throughout the seepage bed.

Mr. Capuzzi asked about the Infiltration Test and if it was taken at the depth of 10 feet. Mr. Wager responded that that was the depth at which they hit bedrock, therefore they will be revising the dimension of the bed.

Mr. Capuzzi added fencing along the rear of the property would be a good idea in order to provide some privacy from the adjacent recreational area. Mr. Gallagher stated he would make the recommendation to Mr. Thornton and agreed it was a good idea.

Mr. Reardon added the fence should be an open fence to be able to be policed from the park for child safety.

Mr. Capuzzi stated the review from the Historical Commission (September 21, 2020) and the Shade Tree Commission (September 28, 2020) should be next on the project agenda. A revised plan should be submitted to Pennoni for review and then the Planning Commission will review again October 8, 2020 and make a recommendation if the Pennoni Review Letter is without issue.

Mr. Faulkner had nothing to add outside of the current review letter.

Ms. Kirk read a public comment from David Spears, Homestead Road, next to Lot 1. The comment stated disapproval to the subdivision due to loss of rear yard privacy by the new owner cutting down trees. Added, there should be screening as much as possible to the new house. The comment stated the new house should completely comply with setback requirements.

Mr. Capuzzi requested the comment to be passed on to the Shade Tree Commission.

Review of the Minutes:

Mr. Capuzzi Motioned to approve the Minutes of August 13, 2020.

Mr. Chanin seconded.

Approved unanimously.

Next scheduled meeting:

October 8, 2020, 7:00 P.M. (no agenda items for September 24, 2020).

Adjournment:

Mr. Capuzzi motioned to adjourn, Mr. Reardon seconded. All in favor.

Meeting adjourned at 7:39 P.M.

AGENDA

Haverford Township
Planning Commission Meeting

October 22, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Thomas Thornton**
   Preliminary/Final Minor Subdivision Plan
   1613 Pelham Avenue- D.C. Folio No. 22-06-01738-00
   Applicant proposes to subdivide the existing 14,252 square foot parcel into two (2) lots. The existing single family dwelling will remain on Lot "1" and is proposed to contain a net lot area of 6,928 square feet, resulting in the creation of a 7,324 square foot parcel (Lot 2) with one new single family dwelling. The applicants request to permit the exiting single family dwelling to remain non-conforming due to encroachments within the required front yard setbacks on Homestead Road and Pelham Avenue was granted by the Zoning Hearing Board on July 30, 2020. The subject property is zoned R-4 (Low-Med Residential), and is located in the 6th Ward.

3. **James Curran**
   Special Exception, Expansion of a Non-Conforming Use - Conformance with Comprehensive Plan
   1200 Darby Road- D.C Folio No. 22-07-00343-00
   The applicant has been granted a special exception (subject to conditions) to expand the floor area of the existing, non-conforming medical office use by 50% of the existing 858 sq ft building. The proposed addition will be 429 sq ft, for a total floor area of 1,287 sq ft. An expansion of a non-conforming use requires review by the Planning Commission for conformance with the Comprehensive Plan. The subject property is zoned R-4 (Low-Med Residential), and located in the 7th Ward.

Agenda Items

4. **PennDOT Multimodal Transportation Fund (MTF) Grant**
   Intersection Reconfiguration -Burmont and Glendale Roads
   Review the proposed reconfiguration of the intersection located at Burmont Road and Glendale Road and determine if the proposal is consistent with the Comprehensive Plan.

5. **DCED Multimodal Transportation Fund Program- Darby Creek Trail**
   Proposed Route with Acquisition of 1744 Burmont Road
   Review the proposed acquisition of the property located at 1744 Burmont Road for the reconfiguration of the Darby Creek Trail and determine if the proposal is consistent with the Comprehensive Plan.

6. **DCED Multimodal Transportation Fund Program- Pedestrian Intersection Improvements**
   Haverford Road and Ardmore Avenue
   Review the proposed improvements for pedestrian safety and walkability at the intersection of Haverford Road and Ardmore Avenue and determine if the proposal is consistent with the Comprehensive Plan.

7. **Review of Minutes**

Adjournment

RKW
ENGINEERING SERVICES
Robert K. Wager, P.E.
1610 Pelham Avenue
Havertown, PA 19083

Oct. 6, 2020

David G. Pennoni, P.E.
Haverford Township Engineer
1014 Darby Road
Havertown, PA 19083

Re: 1613 Pelham Ave.
Minor Subdivision

Dear Mr. Pennoni,

In response to your review letter of Sept. 9, 2020, we have made the following changes and additions to the submission and offer the following comments:

Zoning

1. A copy of the Zoning Decision has been added to the plan.
2. The driveway has been revised.
3. The setback has been computed and a note added.

Subdivision and Land Development.

4. An exemption has been applied for.
5. A waiver has been requested.
6. The right-of-way width and cartway have been added.
7. Monument locations have been added.
8. Horizontal sight distances have been added.
9. Tree replacement has been revised.
10. Shade trees have been added.
11. No comment necessary.

Stormwater Management

12. The proposed driveway and walk on Lot 1 have been included in the calculations.
13. Infiltration tests have been performed and dewatering times calculated.
14. The inlets have been revised.
15.The seepage bed and calculations have been revised.
16. The construction entrance has been moved.
17. The limit of disturbance has been revised.
18. Inlet protection has been shown on the inlet details.
19. Existing utilities have been added.
20. See note #15.
21. A Drainage Plan Application and checklist are attached.

22. No comment necessary.
23. No comment necessary.

General

24. The electric service has been revised.
25. The depressed curb length has been revised.
26. The sanitary sewer connection has been revised.
27. Invert elevation for the sanitary sewer have been added.
28. The grading has been revised.
29. The ADA ramp has been shown on the plan and a detail added.

Please call if you have any questions. 610 642-0961.

Robert K. Wager, P.E.

TOWNSHIP OF
HAVERFORD
DELAWARE COUNTY
1014 DARBY ROAD HAVERTOWN, PA 19083-2251
DEPARTMENT OF COMMUNITY DEVELOPMENT
(610) 446-1000 EXT. 2254

July 31, 2020

Mr. Thomas Thornton
68 Yale Road
Havertown, Pa 19083

Re: Zoning Hearing Board Case No. Z20-10

Dear Applicant:

You are hereby notified that a public work session of the Zoning Hearing Board was held on Thursday, July 30, 2020, at which time the above-mentioned variance was approved with the following conditions:

1. The project must be completed within one year and in accordance with the notes of testimony.

The written order is in preparation and will be filed in the office of the Department of Community Development, Township of Haverford, 1014 Darby Road, Havertown, PA. You will receive a copy of the written order, with the conditions of the Board more fully described, by mail.

Furthermore, this notice was mailed at the direction of the Zoning Hearing Board on the date set forth below by the Department of Community Development and shall commence the thirty (30) day period of a timely appeal in accordance with ACT #247, as amended, known as the PENNSYLVANIA MUNICIPALITIES PLANNING CODE

The Variance or Special Exception granted by the Board shall become Null & Void six months after the date of its issuance unless action has been taken to implement the development.

Any inquires regarding this matter shall be directed to the Department of Community Development.

Very truly yours,

Kelly Kirk, Zoning Officer
Department of Community Development

Certified Mail
7019 1120 0000 8023 4835

cc: William Malone, Esq. Zoning Solicitor

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN APPROVED FOR RECORDING BY THE HAVERFORD TOWNSHIP BOARD OF COMMISSIONERS THIS_____DAY OF_____, 2020.

_____
CHAIRMAN

_____
SECRETARY

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN RECOMMENDED FOR APPROVAL BY THE HAVERFORD TOWNSHIP PLANNING COMMISSION THIS_____DAY OF_____, 2020.

_____
CHAIRMAN

_____
SECRETARY

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN REVIEWED BY THE DELAWARE COUNTY PLANNING COMMISSION THIS_____DAY OF_____, 2020.

_____

_____

THIS IS TO CERTIFY THAT THIS PLAN HAS BEEN REVIEWED BY THE HAVERFORD TOWNSHIP ENGINEER THIS_____DAY OF_____, 2020.

_____
TOWNSHIP ENGINEER

ON THIS, THE_____DAY OF_____, 2005, BEFORE ME THE UNDERSIGNED OFFICER APPEARED, WHO BEING SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE/SHE IS THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN, THAT THE SUBDIVISION PLAN THEREOF WAS MADE AT HIS/HER DIRECTION AND THAT HE/SHE ACKNOWLEDGES THE SAME TO BE HIS/HER ACT AND PLAN AND DESIRES THE SAME TO BE RECORDED AS SUCH ACCORDING TO LAW.

SIGNATURE OF OWNER_____

NOTARY PUBLIC_____

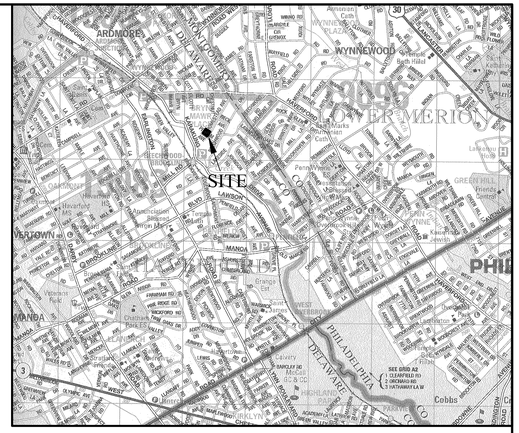
MY COMMISSION EXPIRES_____

THE APPLICANT REQUESTS A WAIVER FROM THE REQUIREMENTS OF SECTION (160-4.E(5)[e](4)) OF SHOWING ALL SANITARY SEWER, STORM SEWER AND PUBLIC WATER SUPPLY LINES WITHIN 400 FEET.

SITE PLAN

SCALE
10 0 10 20 30

AERIAL PHOTO



LOCATION MAP
1" = 2000'

TRACT AREA:
14,252 S.F. NET

ZONING REGULATIONS

R-4 ZONING DISTRICT	
LOT AREA	6000 S.F. MIN.
LOT WIDTH AT STREET	38 FT. MIN.
LOT WIDTH AT BLDG. LINE	50 FT. MIN.
BLDG. AREA	30% MAX.
FRONT YARD	30 FT. MIN.
SIDE YARD	8 FT. MIN., 20 FT. AGG.
REAR YARD	25 FT. MIN.
IMPERVIOUS COVER	45% MAX.
BLDG. HEIGHT	35 FT. MAX.

IMPERVIOUS COVER	LOT AREA 14,252 S.F.
EXISTING	
HOUSE	1516 S.F.
GARAGE	385 S.F.
DRIVE	675 S.F.
PATIOS	538 S.F.
WALKS	348 S.F.
TOTAL IMPERVIOUS	3462 S.F. (24.29)
TOTAL BLDG. AREA	1901 S.F. (13.34%)

IMPERVIOUS COVER	LOT AREA 6928 S.F.
PROPOSED - LOT 1	
HOUSE	1516 S.F.
WALKS	437 S.F.
DRIVE	574 S.F.
TOTAL IMPERVIOUS	2527 S.F. (36.48%)
TOTAL BLDG. AREA	1516 S.F. (21.88%)

IMPERVIOUS COVER	LOT AREA 7324 S.F.
PROPOSED - LOT 2	
HOUSE	1793 S.F.
DRIVE	819 S.F.
PATIO	319 S.F.
WALK	60 S.F.
TOTAL IMPERVIOUS	2991 S.F. (40.84%)
TOTAL BLDG. AREA	1793 S.F. (24.48%)

ZONING REGULATIONS

R-4 ZONING DISTRICT	REQUIRED	LOT 1(PROP.)	LOT 2(PROP.)
LOT AREA	6000 S.F. MIN.	6928 S.F.	7324 S.F.
LOT WIDTH @ STREET	38 FT. MIN.	58.70 FT.	68.05 FT.
LOT WIDTH @ BLDG. LINE	50 FT. MIN.	57 FT.	68 FT.
BLDG. COVERAGE	30% MAX.	21.88%	24.48%
FRONT YARD	30 FT. MIN.	20.64 FT.	30 FT.
SIDE YARD	8 FT. MIN., 20 FT. AGG.	5.56 FT., 18.48 FT.	8 FT., 20 FT.
REAR YARD	25 FT. MIN.	25 FT.	25 FT.
IMPERVIOUS COVER	45% MAX.	36.48%	40.84%

OWNER/APPLICANT

TOM THORNTON
68 YALE ROAD
HAVERTOWN, PA 19083

NOTE:
FRONT YARD SETBACK CALCULATION - TWO HOUSE
1605 PELHAM AVE. - 34 FT.
1613 PELHAM AVE. - 21 FT.
MEAN = 27.5 FT.

REVISED AS PER REVIEW OF 9-9-20 10-6-20

REVISIONS	ADD LOT 1 DRIVEWAY	7/28/20

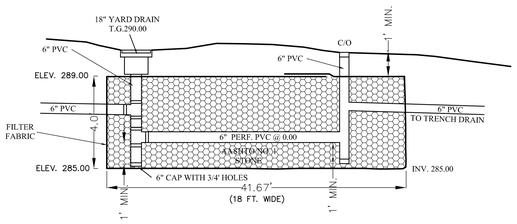
COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — ROBERT K. WAGER — ENGINEER — PE-029159E

RKW ENGINEERING SERVICES
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

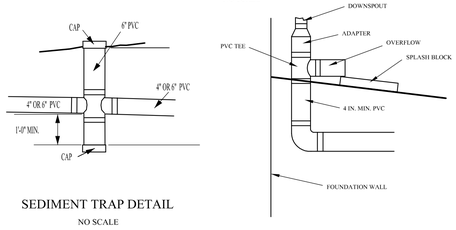
MINOR SUBDIVISION
RECORD PLAN
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/31/20	1"=10'-0"	RKW	19063

SHEET 1 OF 3

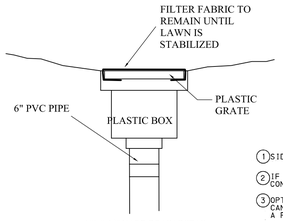


LOT 2 SEEPAGE BED
NO SCALE



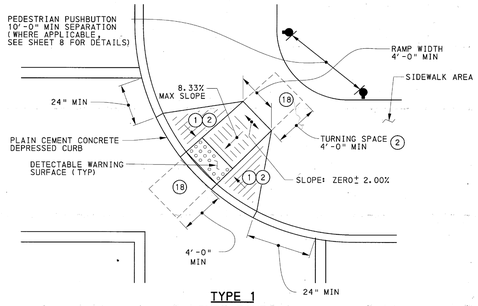
SEDIMENT TRAP DETAIL
NO SCALE

DOWNSPOUT DETAIL
NO SCALE



12" & 18" YARD DRAIN DETAIL
NO SCALE

1. SIDE FLARES 10.00% MAX SLOPE.
2. IF THE TURNING SPACE IS INDICATED TO BE LESS THAN 4'-0", CONSTRUCT SIDE FLARES 8.33% MAX SLOPE.
3. OPTIONAL ROLLED CONCRETE SURFACE OR REGRADE SLOPE CAN BE USED TO MEET THE ADJACENT SURFACES IN LIEU OF A RETURN CURB CHEEK WALL.
4. 8.33% MAX RAMP SLOPE, SEE NOTE 8 SHEET 1.
18. CURB RAMPS REQUIRE A TURNING SPACE WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS AND DIMENSIONS.



TYPE 1
CURB RAMP

GENERAL NOTES

1. THE CONTRACTOR SHALL COMPLY WITH ALL LEGAL AND SAFETY REQUIREMENTS GOVERNING THE WORK SHOWN.
2. THE CONTRACTOR MUST VERIFY THE LOCATIONS AND DEPTHS OF ALL UNDERGROUND FACILITIES BEFORE THE START OF WORK.
3. GEOTEXTILE FILTER FABRIC SEDIMENT CONTROL BARRIERS SHALL BE PLACED AS DIRECTED BY THE ENGINEER.
4. DISTURBED AREAS THAT WILL REMAIN EXPOSED FOR MORE THAN 20 DAYS SHALL BE MULCHED AND SEEDED.
5. EXISTING FEATURES FROM FIELD SURVEY BY RKWENGINEERING SERVICES, INC., OCT. 2019.
6. ELEVATIONS ARE BASED UPON APPROXIMATE USGS VERTICAL DATUM.
7. BOUNDARY INFORMATION FROM DEED PROVIDED BY CLIENT.
8. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE ON SITE AT ALL TIMES.
9. ALL DOWNSPOUTS SHALL BE EQUIPPED WITH LEAF STRAINING DEVICES.
10. ALL EXCESS FILL SHALL BE REMOVED FROM THE JOB SITE.
11. ALL ROOF DRAIN AND DETENTION BASIN PIPING SHALL BE SCHEDULE 40 OR BETTER.
12. ALL PERIMETER SILT FENCE SHALL BE SUPER SILT FENCE.
13. ALL SUBSTANDARD CURB AND SIDEWALK SHALL BE REPLACED.
14. A TOWNSHIP ROAD OPENING PERMIT WILL BE REQUIRED FOR THE DRIVEWAY AND UTILITY CONNECTIONS.
15. ALL CLEAN-OUTS ADJACENT TO OR IN THE DRIVEWAYS SHALL BE FURNISHED WITH TRAFFIC RATED COVERS.

SCALE
10 0 10 20 30

TREE REPLACEMENT:

4 TREES ARE TO BE REMOVED.
THE TOTAL CALIPER IS 36 IN. THE REPLACEMENT CALIPER IS 36/4 = 9 IN. THE ACTUAL REPLACEMENT CALIPER IS 10 IN.

COMPENSATORY TREE PLANTING SCHEDULE

BOT. NAME	COM. NAME	QUANT.	TOTAL CAL.	SYM.
ACER RUBRUM	RED MAPLE	3	6"	AR
QUERCUS BICOLOR	SWAMP WHITE OAK	2	4"	QB
TOTAL		5	10"	

STREET TREE PLANTING SCHEDULE

BOT. NAME	COM. NAME	QUANT.	CALIPER	SYM.
CARDINUS CAROLINIANA	AMERICAN HORNBEAM	4	2"	CC
TOTAL		4		

I, _____, THE APPLICANT, DO HEREBY ACKNOWLEDGE THAT ANY REVISION TO THE APPROVED DRAINAGE PLAN MUST BE APPROVED BY HAVERFORD TOWNSHIP

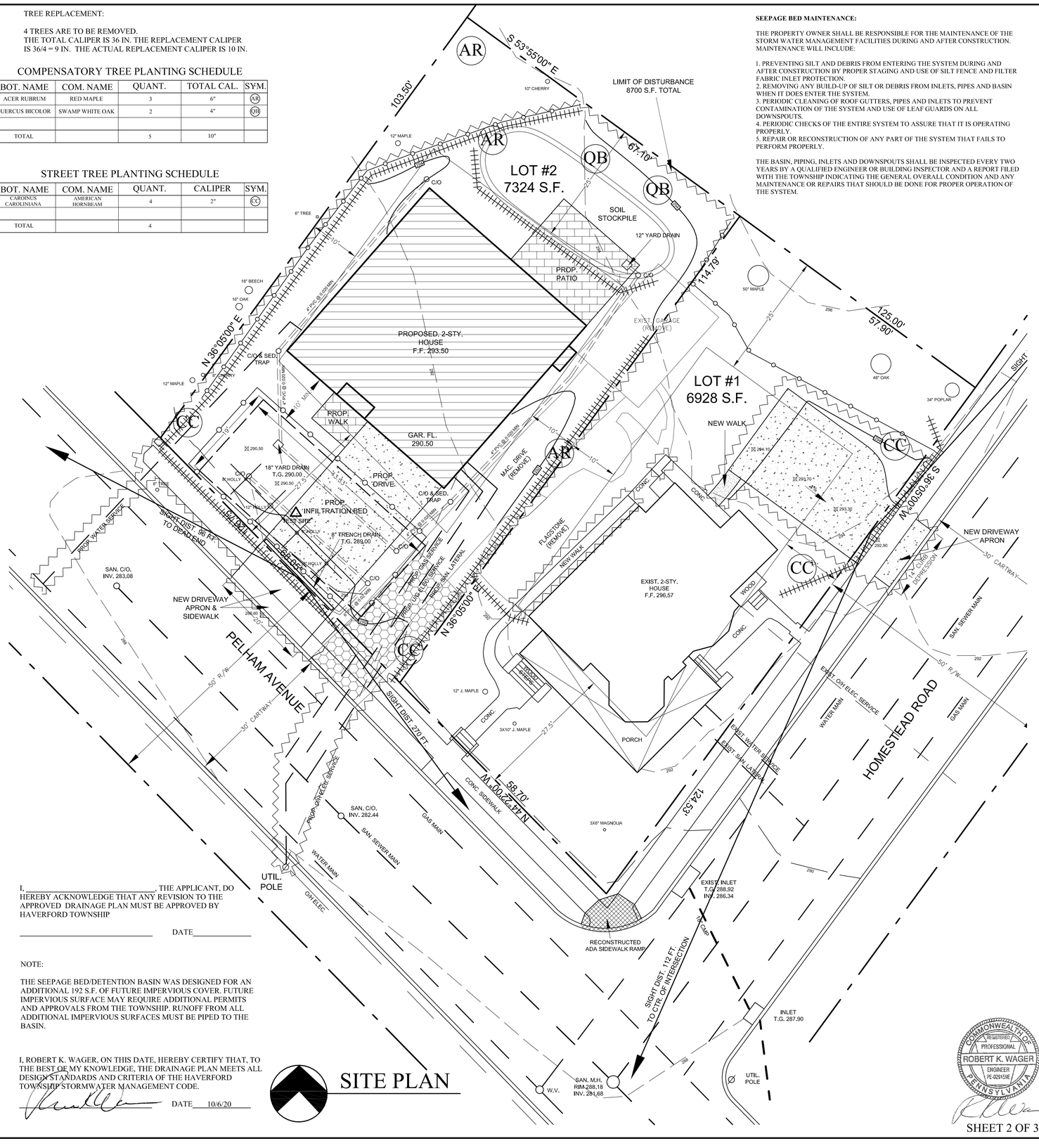
_____ DATE_____

NOTE:

THE SEEPAGE BED/DETENTION BASIN WAS DESIGNED FOR AN ADDITIONAL 192 S.F. OF FUTURE IMPERVIOUS COVER. FUTURE IMPERVIOUS SURFACE MAY REQUIRE ADDITIONAL PERMITS AND APPROVALS FROM THE TOWNSHIP. RUNOFF FROM ALL ADDITIONAL IMPERVIOUS SURFACES MUST BE PIPED TO THE BASIN.

I, ROBERT K. WAGER, ON THIS DATE, HEREBY CERTIFY THAT, TO THE BEST OF MY KNOWLEDGE, THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE HAVERFORD TOWNSHIP STORMWATER MANAGEMENT CODE.

_____ DATE___10/6/20_____



SITE PLAN

SEEPAGE BED MAINTENANCE:

THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF THE STORM WATER MANAGEMENT FACILITIES DURING AND AFTER CONSTRUCTION. MAINTENANCE WILL INCLUDE:

1. PREVENTING SILT AND DEBRIS FROM ENTERING THE SYSTEM DURING AND AFTER CONSTRUCTION BY PROPER STAGING AND USE OF SILT FENCE AND FILTER FABRIC INLET PROTECTION.
2. REMOVING ANY BUILD-UP OF SILT OR DEBRIS FROM INLETS, PIPES AND BASIN WHEN IT DOES ENTER THE SYSTEM.
3. PERIODIC CLEANING OF ROOF GUTTERS, PIPES AND INLETS TO PREVENT CONTAMINATION OF THE SYSTEM AND USE OF LEAF GUARDS ON ALL DOWNSPOUTS.
4. PERIODIC CHECKS OF THE ENTIRE SYSTEM TO ASSURE THAT IT IS OPERATING PROPERLY.
5. REPAIR OR RECONSTRUCTION OF ANY PART OF THE SYSTEM THAT FAILS TO PERFORM PROPERLY.

THE BASIN, PIPING, INLETS AND DOWNSPOUTS SHALL BE INSPECTED EVERY TWO YEARS BY A QUALIFIED ENGINEER OR BUILDING INSPECTOR AND A REPORT FILED WITH THE TOWNSHIP INDICATING THE GENERAL OVERALL CONDITION AND ANY MAINTENANCE OR REPAIRS THAT SHOULD BE DONE FOR PROPER OPERATION OF THE SYSTEM.

CONSTRUCTION STAGING

EROSION AND SEDIMENT CONTROLS MUST BE CONSTRUCTED, STABILIZED AND FUNCTIONAL BEFORE GENERAL SITE DISTURBANCE MAY BEGIN. ONLY LIMITED DISTURBANCE WILL BE PERMITTED FOR THE CONSTRUCTION OF THE SEDIMENT CONTROL FACILITIES. CONSTRUCTION PROCEDURES AND STAGING MUST BE ADHERED TO CAREFULLY TO MINIMIZE THE TIME THAT SOIL IS EXPOSED TO EROSION. CONSTRUCTION IS TO BE STAGED AS FOLLOWS:

1. PLACE SEDIMENT CONTROL BARRIERS IMMEDIATELY DOWNHILL OF EARTHMOVING ACTIVITIES.
2. CLEAR AND GRUB CONSTRUCTION AREA AND REMOVE EXISTING STRUCTURES, REMOVING THE MINIMUM AMOUNT OF VEGETATION NECESSARY FOR CONSTRUCTION.
3. STRIP AND STOCKPILE TOPSOIL FROM CONSTRUCTION AREA.
4. THE TOPSOIL STOCKPILE SHALL BE TEMPORARILY SEEDED WITH ANNUAL RYE GRASS AT A RATE OF 4 LBS. PER 1000 SQ. FT.
5. EXCAVATE FOUNDATION, LOT 2
6. ROUGH GRADE NEW DRIVEWAY.
7. CONSTRUCT BUILDING, LOT 2.
8. INSTALL PIPING TO SEEPAGE BED.
9. STONE NEW DRIVEWAY.
10. REMOVE EXISTING DRIVEWAY.
11. CONSTRUCT SEEPAGE BED.
12. SPREAD TOPSOIL AND FINISH GRADE.
13. SEED AND MULCH DISTURBED AREAS IN ACCORDANCE WITH PADOT FORMULA B.
14. PAVE DRIVEWAY
15. REMOVE EROSION AND SEDIMENTATION CONTROLS AND STABILIZE ANY REMAINING DISTURBED AREAS.

SOILS:

UrmB - URBAN LAND, GLENELG COMPLEX, 0 TO 8 PERCENT SLOPES, HYDROLOGIC GROUP B.

OWNER/APPLICANT

AFFIRMED INVESTMENT GROUP LLC
1133 LINDALE AVE.
DREXEL HILL, PA 19026

SEEDING SPECIFICATIONS

PERMANENT SEEDING
60% KENTUCKY BLUEGRASS
30% RED FESCUE
10% PERENNIAL RYE GRASS 260 LB./AC.

FERTILIZER
10-20-20 1000 LB./AC.

LIME 2 TONS/AC.

MULCH
HAY OR STRAW 3 TONS/AC.

TEMPORARY SEEDING
ANNUAL RYEGRASS 40 LB./AC.

FERTILIZER
5-5-5 1000 LB./AC.

MULCH
HAY OR STRAW 3 TONS/AC.

LEGEND

- EXIST. CONTOUR — 414
- PROP. CONTOUR
- EXIST. TREE TO BE REMOVED — 12" TREE
- SILT FENCE
- TREE PROTECTION FENCE
- UTILITIES
- PROP. STORM DRAINS
- CONSTRUCTION ENTRANCE TIRE CLEANER
- PROPERTY LINES
- LIMIT OF DISTURBANCE

REVISED AS PER REVIEW OF 9-9-20 10-6-20

REVISIONS	ADD LOT 1 DRIVEWAY	7/28/20

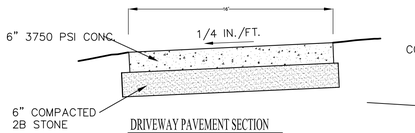
COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL
ROBERT K. WAGER
ENGINEER
PE-029155E

RKW ENGINEERING SERVICES
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

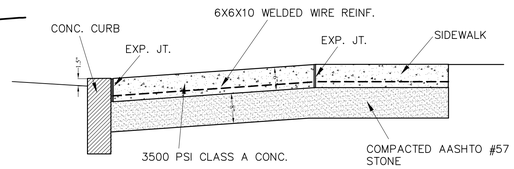
MINOR SUBDIVISION
GRADING PLAN
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/30/20	1"=10'-0"	RKW	19063

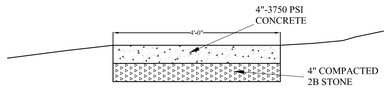
SHEET 2 OF 3



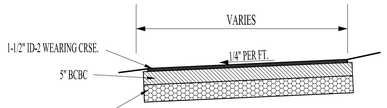
DRIVEWAY PAVEMENT SECTION
NO SCALE



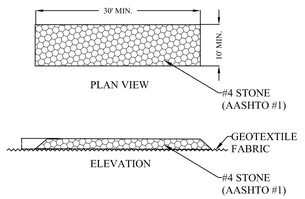
DRIVEWAY APRON DETAIL
NO SCALE



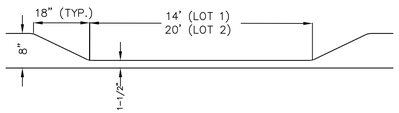
SIDEWALK DETAIL
NO SCALE



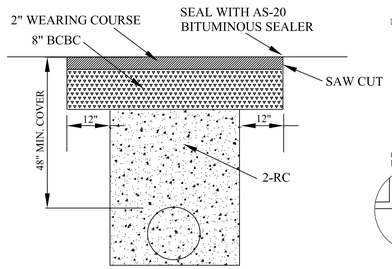
DRIVEWAY PAVEMENT SECTION
NO SCALE



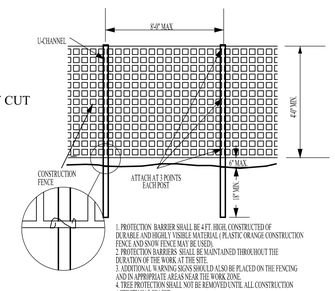
TIRE CLEANER DETAIL
NTS



DEPRESSED CURB DETAIL
NO SCALE

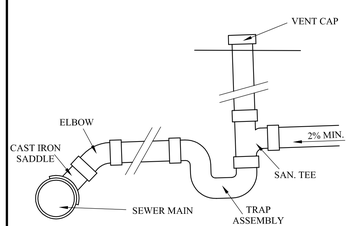


FLEXIBLE PAVEMENT RESTORATION
N.T.S.



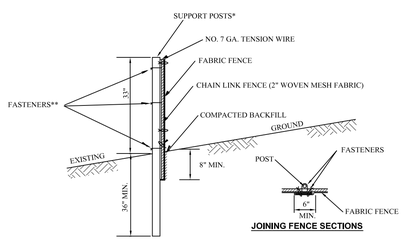
1. PROTECTION BARRIER SHALL BE 4 FT. HIGH, CONSTRUCTED OF DURABLE AND HIGHLY VISIBLE MATERIAL (PLASTIC ORANGE CONSTRUCTION FENCE AND SNOW FENCE MAY BE USED).
2. PROTECTION BARRIERS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE WORK AT THE SITE.
3. ADDITIONAL WARNING SIGNS SHALL ALSO BE PLACED ON THE FENCING AND IN APPROPRIATE AREAS NEAR THE WORK ZONE.
4. TREE PROTECTION SHALL NOT BE REMOVED UNTIL ALL CONSTRUCTION ACTIVITY HAS CEASED.

TREE PROTECTION FENCE
NO SCALE



NOTE: ALL PIPE IS 4" SDR-35

SAN. LATERAL CONNECTION
NO SCALE



JOINING FENCE SECTIONS

*** Posts spaced @ 10' max. Use 2 1/2" dia. galvanized or aluminum posts.**

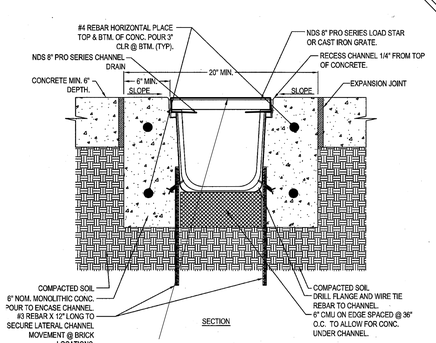
**** Chain Link to Post Fasteners spaced @ 14" max. Use No. 6 Ga. aluminum wire or No. 9 galvanized steel pre-formed clips. Chain Link to Tension Wire Fasteners spaced @ 60" max. Use No. 10 Ga. galvanized steel wire. Fabric to Chain Fasteners spaced @ 24" max. C to C.**

No. 7 Ga. Tension Wire installed horizontally at top and bottom of chain-link fence.

Filter Fabric Fence must be placed at existing level grade. Both ends of the barrier must be extended at least 8 feet upslope at 45 degrees to the main barrier alignment.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

SUPER SILT FENCE
NTS



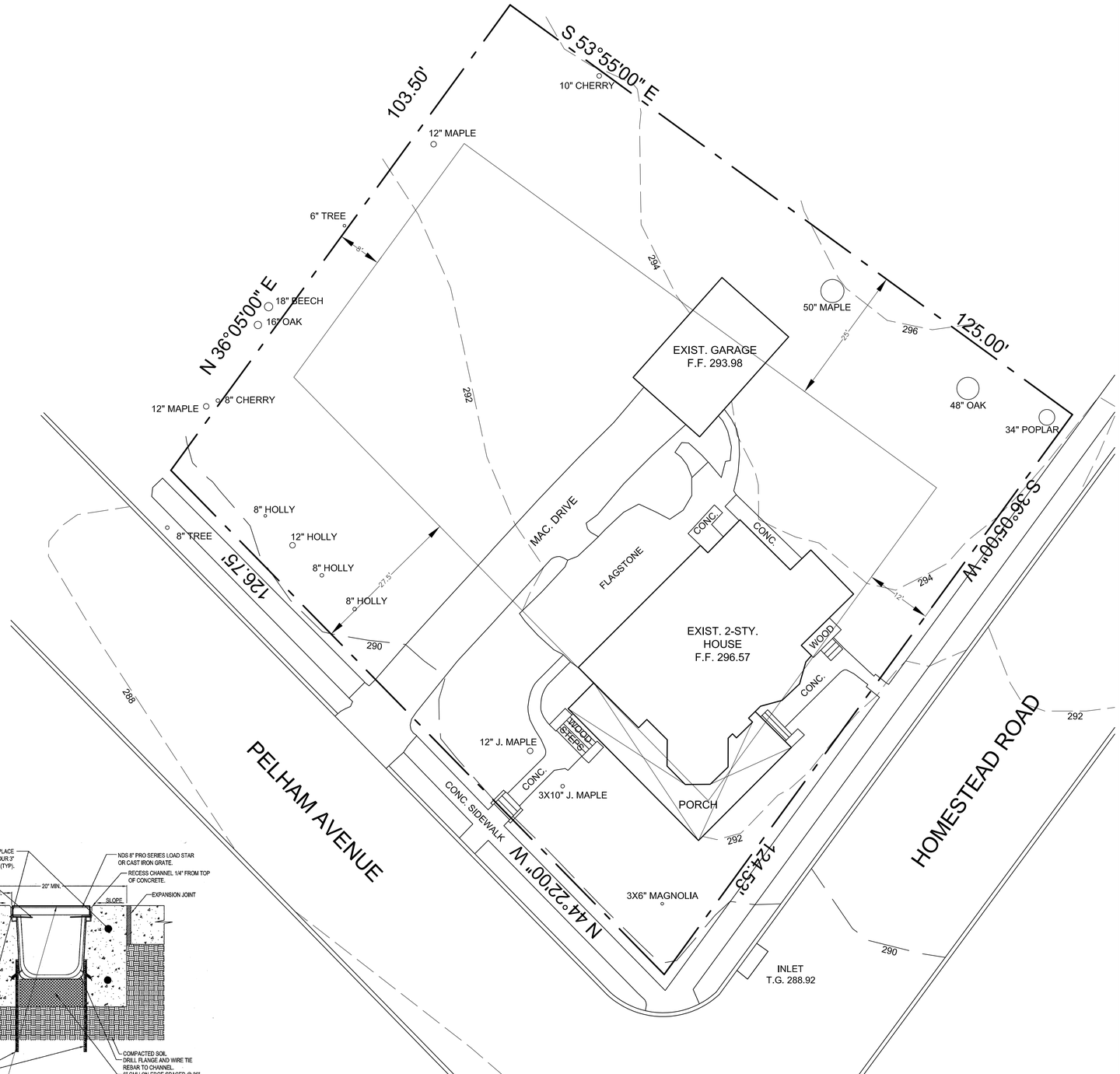
SECTION

FILTER FABRIC TO REMAIN UNTIL LAWN IS STABILIZED

NOTES:
1. CHANNELS TO BE INSTALLED WITH GRATE. GRATE TO BE PROTECTED FROM CONCRETE POUR
2. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
3. DO NOT SCALE DRAWING.
4. THIS DRAWING IS INTENDED FOR USE BY ARCHITECTS, ENGINEERS, CONTRACTORS, CONSULTANTS AND DESIGN PROFESSIONALS FOR PLANNING PURPOSES ONLY.
5. ALL INFORMATION CONTAINED HEREIN WAS CURRENT AT THE TIME OF DEVELOPMENT BUT MUST BE REVIEWED AND APPROVED BY THE PRODUCT MANUFACTURER TO BE CONSIDERED ACCURATE.

TRENCH DRAIN DETAIL

SCALE
10 0 10 20 30



SITE PLAN

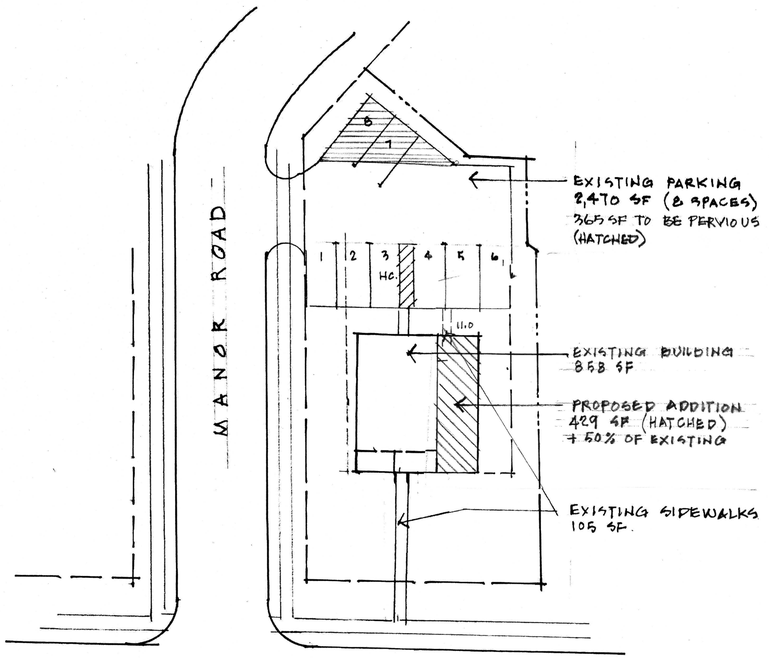
REVISED AS PER REVIEW OF 9-9-20 10-6-20
REVISIONS | ADD LOT 1 DRIVEWAY 7/28/20

RKW ENGINEERING SERVICES
ROBERT K. WAGER, P.E.
1610 PELHAM AVENUE
HAVERTOWN, PA 19083
(610) 642-0961

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ROBERT K. WAGER ENGINEER PE-029106E

MINOR SUBDIVISION
EXISTING CONDITIONS & DETAILS
1613 PELHAM AVENUE, HAVERFORD TOWNSHIP
DELAWARE COUNTY PENNSYLVANIA

DATE:	SCALE:	DRAWN BY:	PROJ. NO.:
1/30/20	1"=10'-0"	RKW	19063



SITE PLAN

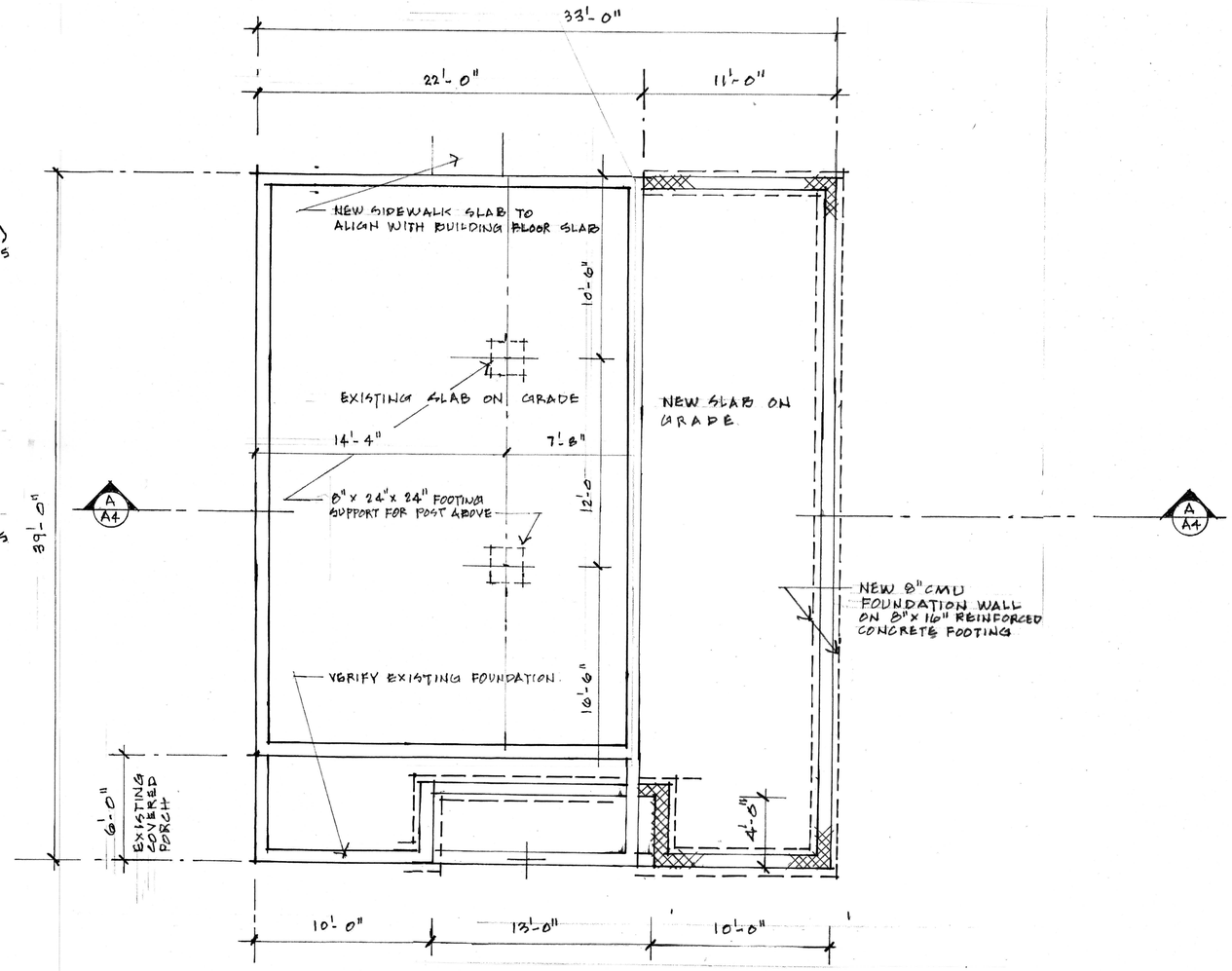
GRAPHIC SCALE

20 0 10 20 40 80

(IN FEET)
1 inch = 20 ft.

HAVERFORD TOWNSHIP ZONING R-4

	REQUIREMENT	EXISTING	PROPOSED
LOT SIZE :	6,000 SF	8,335 SF	8,335 SF
YARD : FRONT	30 FT	30 FT	30 FT
	12 FT	14 FT	14 FT
SIDE MIN.	8 FT	28 FT	14 FT
REAR	25 FT	58 FT	50 FT
COVERAGE BUILDING	30%	858 SF (10.3%)	1,287 SF (15.4%)
IMPERVIOUS	45%	3,433 SF (41.2%)	3,497 SF (42.0%)
PARKING	1/100 SF +1/EMP.	8 PS	645 SF +2 EMP.= 8



FOUNDATION PLAN

CONTENTS

GRAPHIC SCALE

0 4 8 12

PHYSICAL THERAPY

1200 WEST DARBY ROAD

HAVERTOWN, PA. 19083

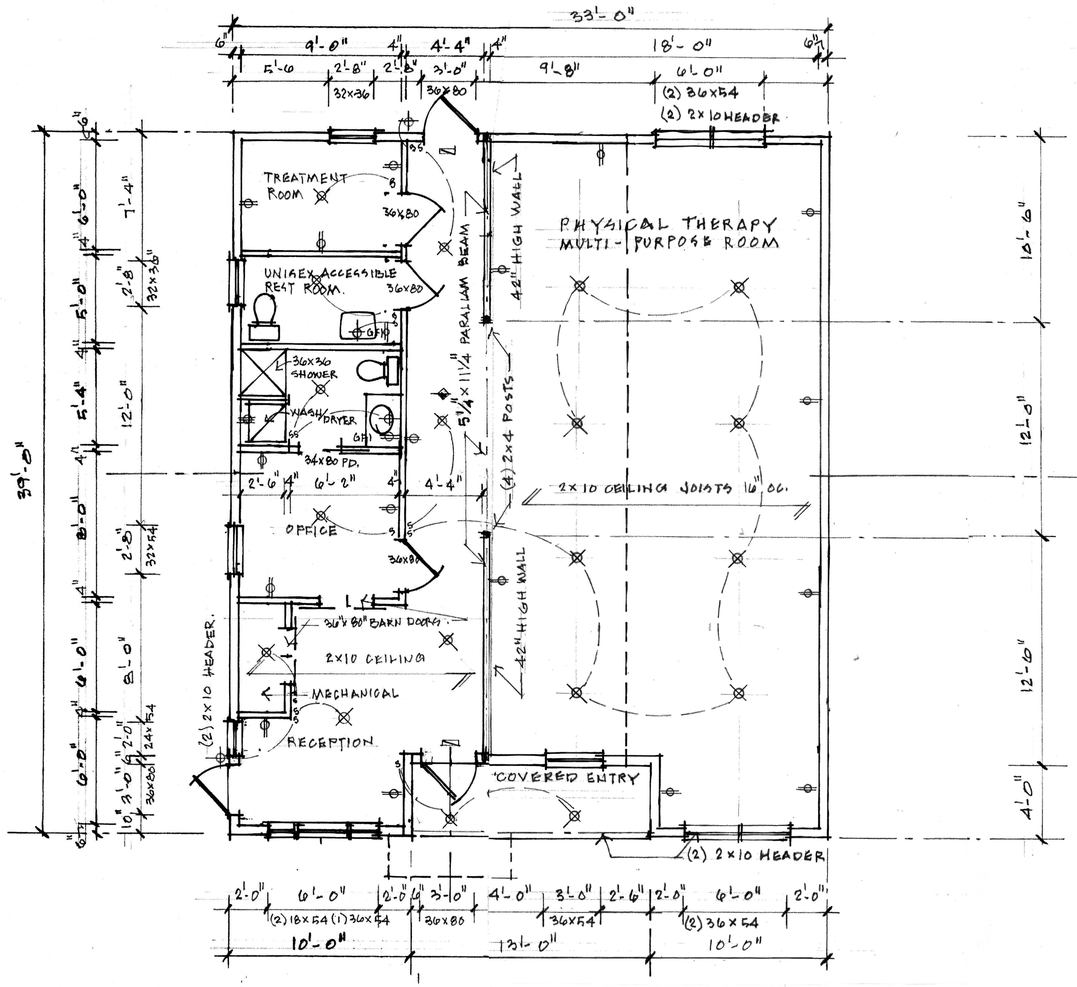
REGISTERED ARCHITECT PENNSYLVANIA RONALD D. SEIBOTH 041700

RONALD D. SEIBOTH ARCHITECT

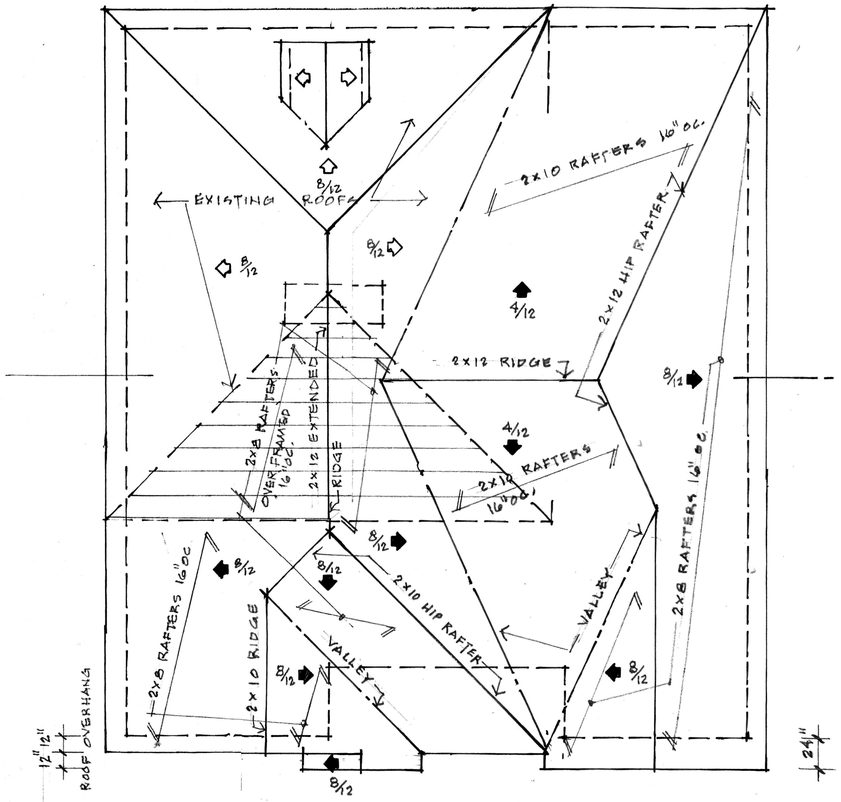
2444 MERWOOD LANE, HAVERTOWN, PA. (610) 446-3849

8/1/20

A1



PROPOSED FLOOR PLAN



ROOF PLAN

- SMOKE DETECTOR INTER CONNECTED WITH EMERGENCY LIGHTING AND STROBE ALARM. WITH AC/DC POWER
- EXIT LIGHT / EMERGENCY LIGHT WITH AC-DC POWER SUPPLY.
- LITE FIXTURE.
- ELECTRIC CONVENIENCE OUTLET

GRAPHIC SCALE
0 4 8 12

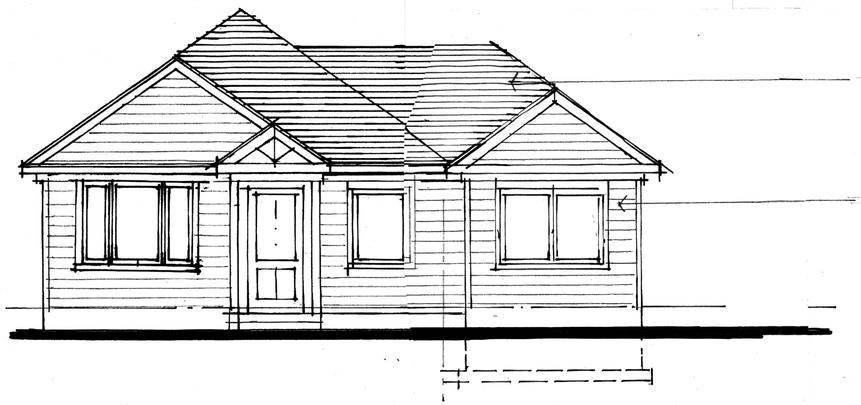
PHYSICAL THERAPY
1200 WEST DARBY ROAD
HAVERTOWN, PA. 19083

REGISTERED ARCHITECT PENNSYLVANIA RONALD D. SEIBOTH 041078

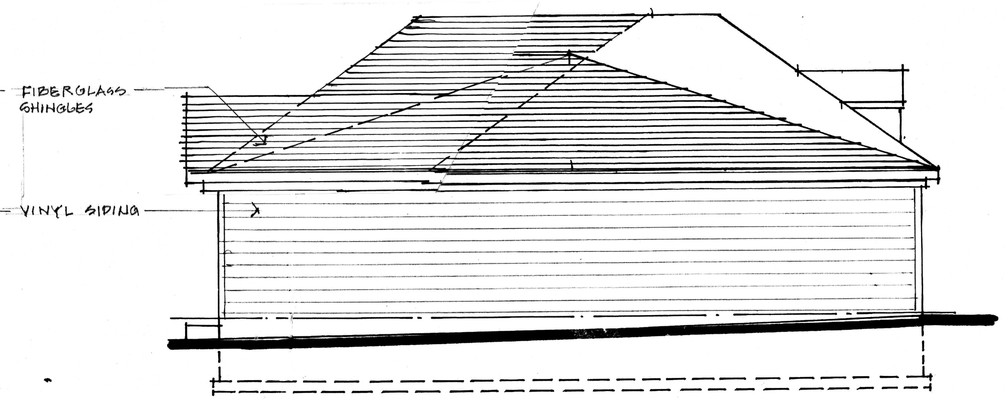
RONALD D. SEIBOTH ARCHITECT
2444 MERWOOD LANE, HAVERTOWN, PA. (610) 446-3849

8/1/20

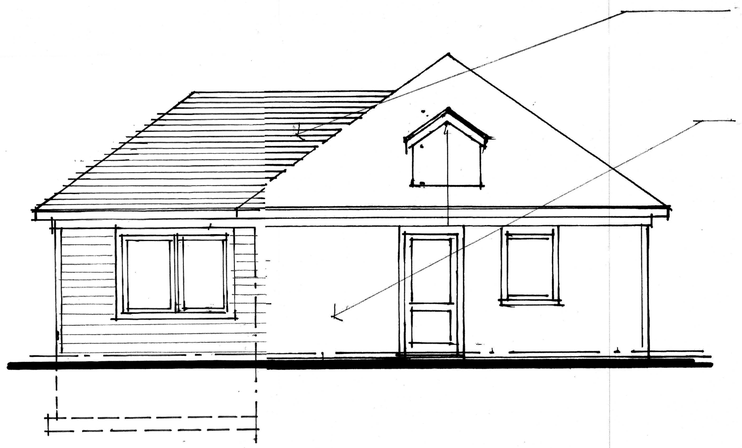
A2



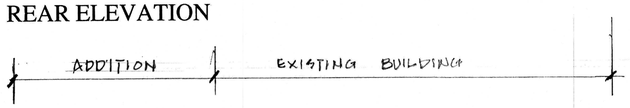
DARBY ROAD ELEVATION

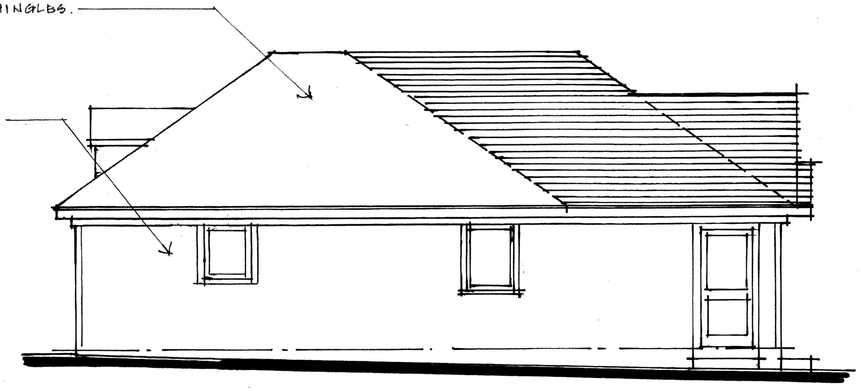


RIGHT SIDE ELEVATION



REAR ELEVATION





LEFT SIDE ELEVATION

GRAPHIC SCALE

0 4 8 12

PHYSICAL THERAPY

1200 WEST DARBY ROAD

HAVERTOWN, PA. 19083

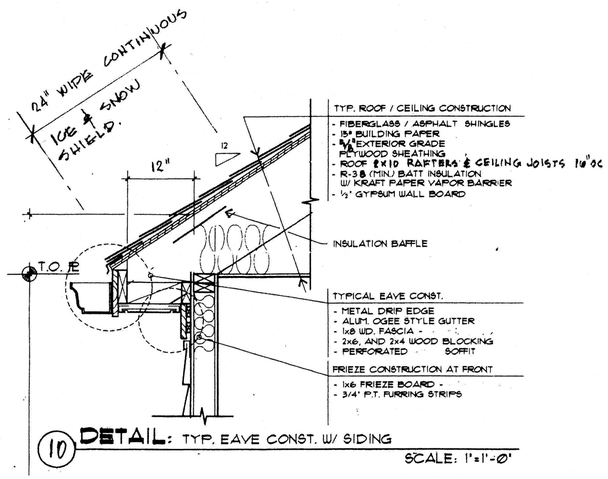
REGISTERED ARCHITECT PENNSYLVANIA RONALD D. SEIBOTH EXP 09

RONALD D. SEIBOTH ARCHITECT

2444 MERWOOD LANE, HAVERTOWN, PA. (610) 446-3849

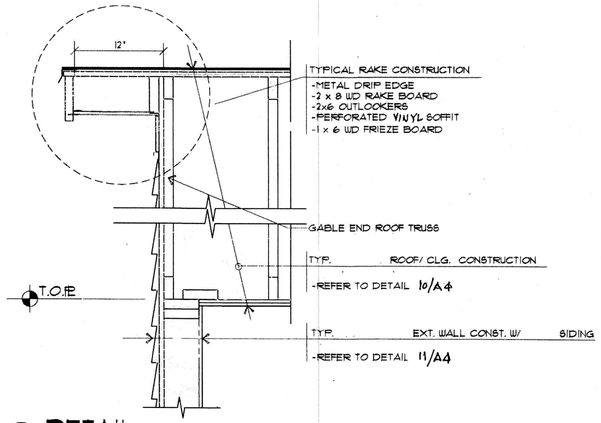
8/1/20

A3



10 **DETAIL:** TYP. EAVE CONST. W/ SIDING

SCALE: 1"=1'-0"



20 **DETAIL:** TYPICAL RAKE CONSTRUCTION

SCALE: 1"=1'-0"

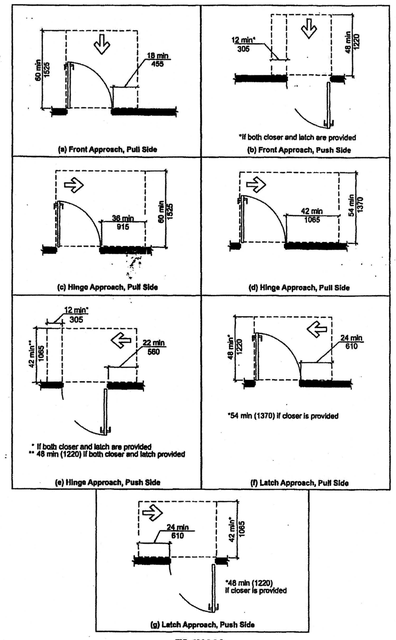
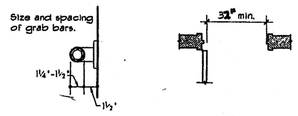
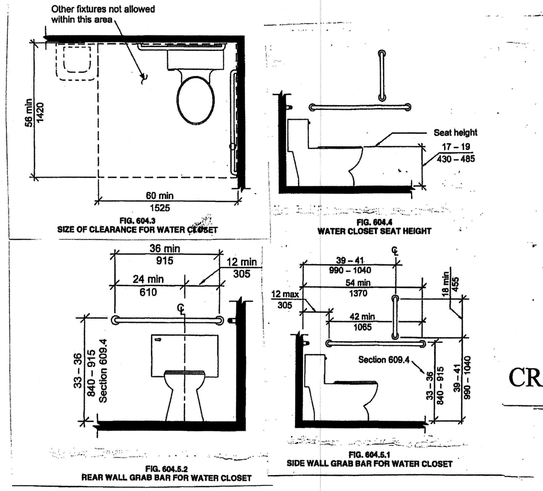


FIG. 404.2.3.2
MANEUVERING CLEARANCE AT MANUAL SWINGING DOORS

DOORWAY APPROACH CRITERIA





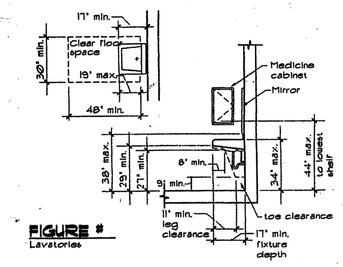
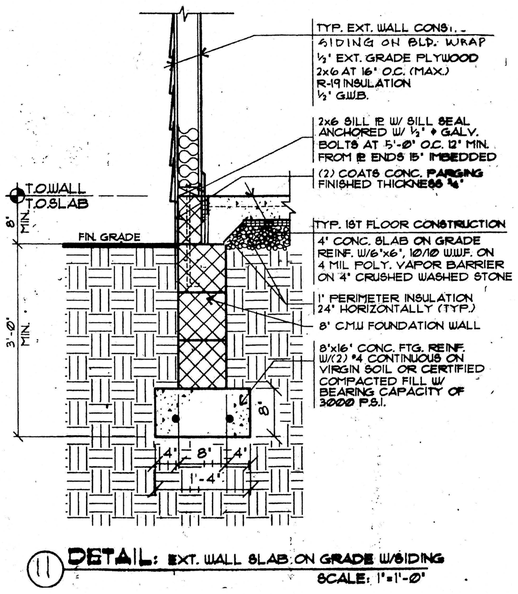


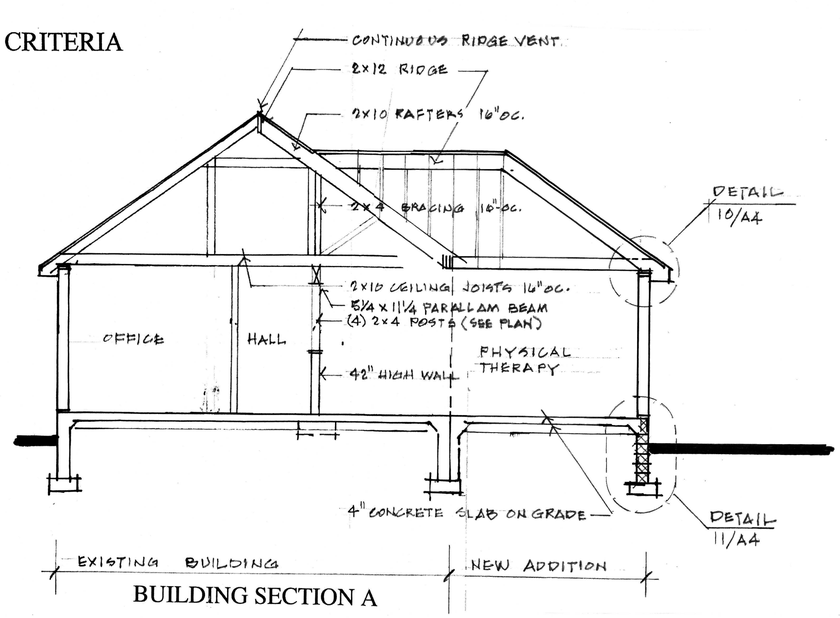
FIGURE # Lavatories

CRITERIA FOR ACCESSIBLE BATH



11 **DETAIL:** EXT. WALL SLAB ON GRADE W/SIDING

SCALE: 1"=1'-0"



BUILDING SECTION A

GRAPHIC SCALE

0 4 8 12

PHYSICAL THERAPY

1200 WEST DARBY ROAD

HAVERTOWN, PA. 19083

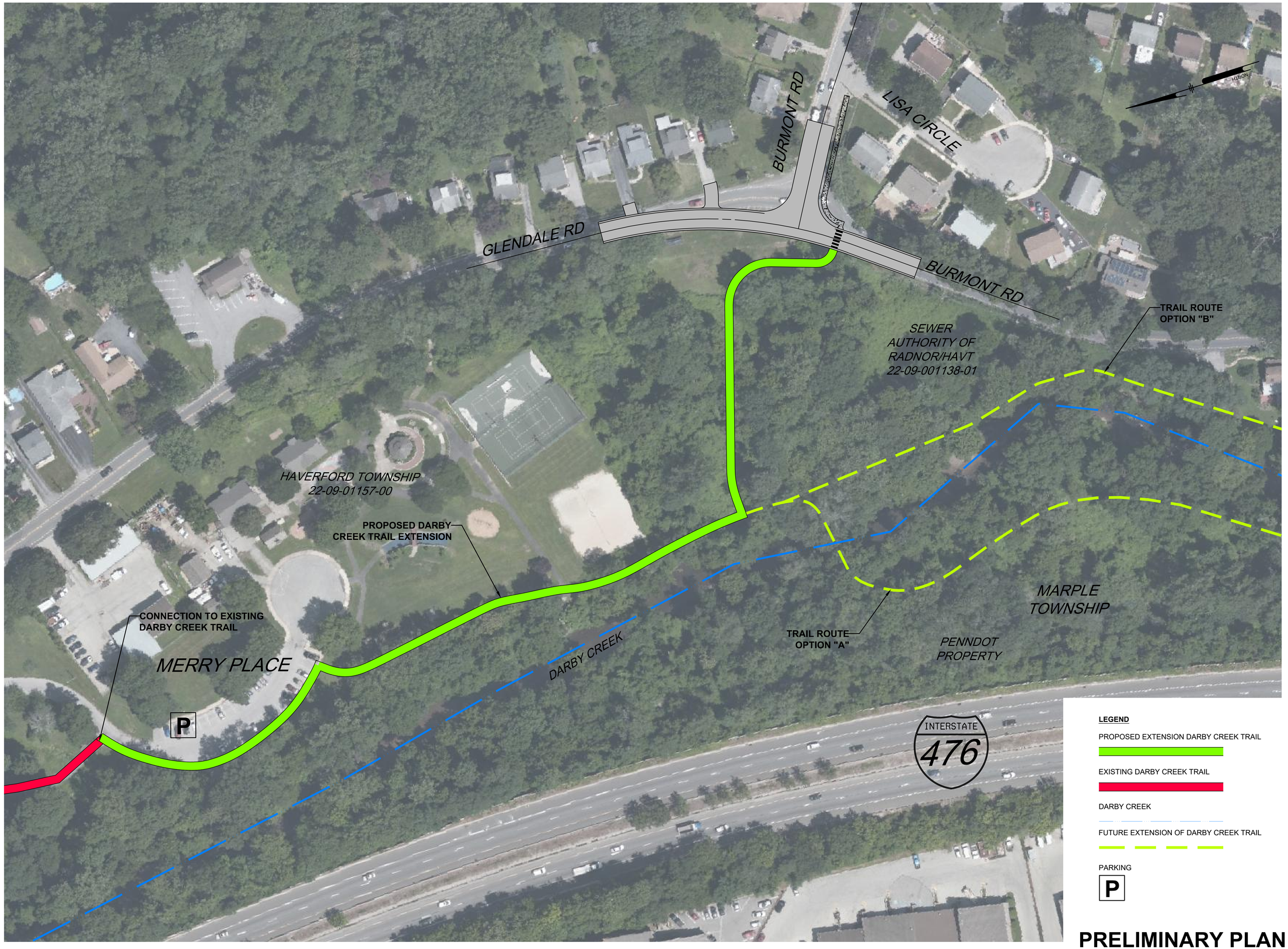
REGISTERED ARCHITECT PENNSYLVANIA RONALD D. SEIBOTH EXP.03

RONALD D. SEIBOTH ARCHITECT

2444 MERWOOD LANE, HAVERTOWN, PA. (610) 446-3849

8/1/20

A4



PRELIMINARY PLAN

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

PENNDOT MTF GRANT
HAVERFORD TOWNSHIP
DELAWARE COUNTY, PENNSYLVANIA

BURMONT ROAD AND GLENDALE ROAD
INTERSECTION RECONFIGURATION

HAVERFORD TOWNSHIP

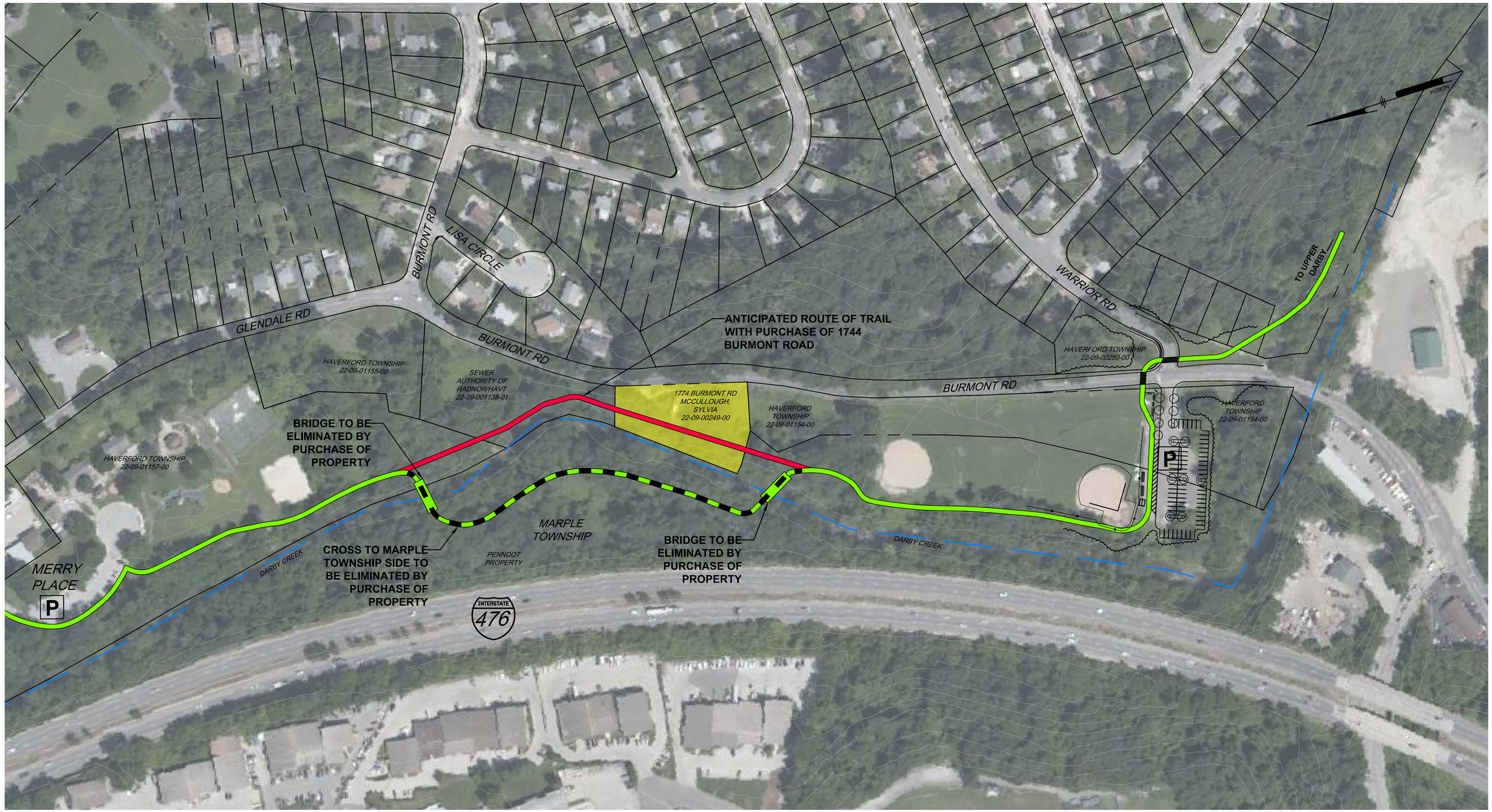
NO.	DATE	REVISIONS	BY

PROJECT	HAVTT20452
DATE	2020-09-24
DRAWING SCALE	NTS
DRAWN BY	RG
APPROVED BY	CF

EX-1

SHEET 1 OF 1

U:\Accounts\HAVTT\HAVTT20452 - 2020 PennDOT MLBurmont App\Active\DELIVERABLES\Burmont & Glendale\DWG\Ex-1 REALIGNMENT.dwg PLOTTED: 10/1/2020 12:59 PM BY: Ryan Gasparin PLOTSTYLE: PABase Half Size.ctb PROJECT STATUS: —



LEGEND

PROPOSED TRAIL

PROPOSED TRAIL PARKING

P

ANTICIPATED ROUTE

DARBY CREEK

PROPERTY LINE

PRIVATE RESIDENCE FOR SALE

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 F 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

DARBY CREEK TRAIL

HAVERFORD TOWNSHIP
DELAWARE COUNTY, PENNSYLVANIA

PROPOSED ROUTE WITH ACQUISITION OF 1744 BURMONT ROAD

HAVERFORD TOWNSHIP

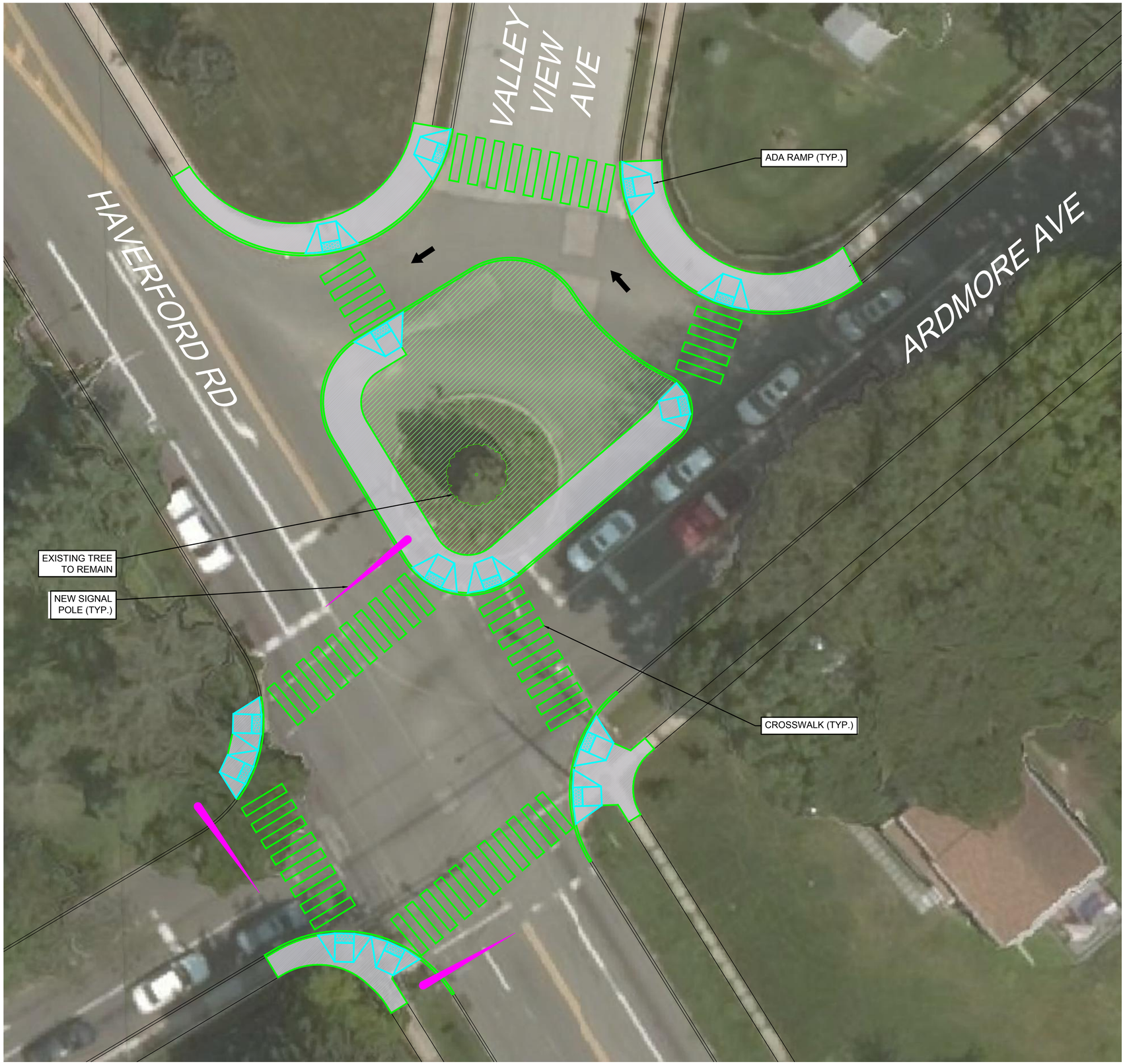
NO.	DATE	REVISIONS	BY

PROJECT	HAVTT20451
DATE	2020-09-24
DRAWING SCALE	NTS
DRAWN BY	RG
APPROVED BY	CF

E4

SHEET 1 OF 1

U:\Accounts\HAVTT\HAVTT20451 - 2020.DCED Multimodal Grant\3.Darby Creek\DESIGN_EXHIBITS\E4 - COLOR CODED MAP.dwg PLOTTED: 9/24/2020 4:21 PM, BY: Ryan Gasparini PLOTSTYLE: PABase Half Size.ctb, PROJECT STATUS: —



NORTH

LEGEND:

- PROPOSED ADA RAMP
- PROPOSED CROSSWALK
- NEW MAST ARM SIGNAL

NOT FOR CONSTRUCTION

Pennoni

PENNONI ASSOCIATES INC.
1900 Market Street, Suite 300
Philadelphia, PA 19103
T 215.222.3000 **F** 215.222.3588

ALL DIMENSIONS MUST BE VERIFIED BY CONTRACTOR AND OWNER MUST BE NOTIFIED OF ANY DISCREPANCIES BEFORE PROCEEDING WITH WORK

DCED MULTIMODAL TRANSPORTATION FUND PROGRAM

HAVERFORD TOWNSHIP, PENNSYLVANIA

PROPOSED INTERSECTION IMPROVEMENTS
HAVERFORD ROAD AND ARDMORE AVE

HAVERFORD TOWNSHIP
1014 DARBY ROAD
HAVERTOWN, PA 19083

NO.	DATE	REVISIONS	BY

PROJECT	HAVT09800
DATE	2019-07-10
DRAWING SCALE	NTS
DRAWN BY	RG
APPROVED BY	CF

EX-3A

SHEET 1 OF 2

P:\Projects\HAVT\10800\ - General Traffic Issues\2019 MULTIMODAL IMT\FIGURES\EX-3.dwg PLOTTED: 4/30/2014 1:23 PM BY: Ryan Gasparini PLOTSTYLE: Pennoni NCS.stb PROJECT STATUS: —

AGENDA

Haverford Township
Planning Commission Meeting

November 12, 2020|7:00 p.m.
Haverford Township Municipal Services Building,
via telecommunication device (Zoom)

Planning Commission Members:

Chairman, Angelo Capuzzi| Vice Chairman, Chuck Reardon| Secretary, Jesse Pointon | E. David Chanin | Maggie Dobbs |Robert Fiordimondo| Jack Garrett|

Others in Attendance:

Kelly Kirk, Zoning Officer & Community Planner
Charles Faulkner, Pennoni Associates, Township Engineer

Agenda Items

1. **Opening of Meeting**
   a. Roll Call
   b. Pledge of Allegiance

2. **Thomas Thornton**
   Preliminary/Final Minor Subdivision Plan
   1613 Pelham Avenue- D.C. Folio No. 22-06-01738-00
   Applicant proposes to subdivide the existing 14,252 square foot parcel into two (2) lots. The existing single family dwelling will remain on Lot "1" and is proposed to contain a net lot area of 6,928 square feet, resulting in the creation of a 7,324 square foot parcel (Lot 2) with one new single family dwelling. The applicants request to permit the exiting single family dwelling to remain non-conforming due to encroachments within the required front yard setbacks on Homestead Road and Pelham Avenue was granted by the Zoning Hearing Board on July 30, 2020. The subject property is zoned R-4 (Low-Med Residential), and is located in the 6th Ward.

3. **Sleepy Valley Holdings, LLC**
   Sewage Facilities Planning Module, Component 4A- Municipal Planning Agency Review
   Greenbriar Lane- D.C. Folio No. 22-09-01348-00
   Review of the proposed revision to the Official Sewage Facilities for the construction of two single family dwellings requiring two additional EDUs with a projected 800 gpd of flow (400 gpd per EDU.) The subject property is zoned R-5 (Low-Med Residential), and is located in the 1st Ward.

4. **Review of Minutes**

Adjournment