AGENDA

BOARD OF COMMISSIONERS

Monday, November 14, 2016 - 6:30 PM

Pledge of Allegiance

Notice of Executive Session on November 14, 2016

1. Consent Agenda
   a) Disbursement Review and Approval: 2016-10C, 2016-10D and 2016-11A
   b) Approval of Board of Commissioners meeting minutes of October 10, 2016 & October 24, 2016
   c) Staff Traffic Committee Meeting Minutes – October 19, 2016
   d) Resolution #2016-108 - Approving the purchase of one (1) new vehicle for use by the Radnor Township Police Department *(Car #18 was demolished in a vehicle accident, Incident #160013894 on October 7, 2016 at East Lancaster Avenue and North Radnor Chester Road. Insurance is covering the total value of the vehicle)*
   e) HARB Consideration:
      - HARB-2016-17 – 125 Runnymede Avenue – Add front porch back on to the home, 2nd floor rear master bedroom, laundry and mudroom addition off the rear of home. New detached garage.
      - HARB-2016-18 – 405 Orchard Way - Sunroom addition at south end of residence and a mudroom addition at the north end. Both additions will be one (1) story.
      - HARB-2016-19 – 408 Midland Avenue - Renovate and addition at the rear of the house. Renovation to existing kitchen with addition to add space to kitchen and create a new mudroom. New steps at existing deck location. Replacement of a number of non-original windows.

2. Public Participation
3. Col John C. Church, Jr., USMCR – Valley Forge Military Academy & College
4. Committee Reports

COMMUNITY DEVELOPMENT

A. Ordinance #2016-13 – ***(Introduction)*** PLO Ordinance Amendment

B. Consideration of HARB's request for neighbor notification of submitted projects

PERSONNEL & ADMINISTRATION

C. Presentation by Interested Resident Groups for the Future of the Willows
   - Christina Perrone

D. Resolution #2016-111 – Formally Requesting All Colleges and Universities Located In Radnor Township Which Receive Fire Protection Services And Emergency Medical Services From Radnor Township To Voluntarily Contribute On An Annual Basis Toward The Cost Of Fire Protection Services and Emergency Medical Services

PUBLIC WORKS & ENGINEERING

E. Township Wide Stormwater Study Update by CH2M

F. Presentation - Midland Avenue Sanitary Sewer, Gannett Fleming

G. SALDO Application #2016-D-13 - ***Caucus*** - Preliminary Land Development Plan - Academy of Notre Dame

H. SALDO Application #2016-D-09 - ***Caucus*** - Preliminary Land Development Plan – Radwyn Apartments

I. Stormwater Ordinance Revision Goals

J. Ordinance #2016-14 – ***(Introduction)*** - Providing For The Amendment Of The Radnor Township Code Of Ordinances By Amending Part 2, General Legislation Creating A New Chapter 224, Adopting Regulations For The Planting, Controlling, And Removal Of Bamboo, Including Penalties And Other Remedies For Violations

PUBLIC HEALTH

K. Discussion of Board of Health's Recommendations

- Recommendation for Artificial Turf Fields, also known as Crumb Rubber Fields.
- Recommendation for signage that indicates "unneutered male dogs" over 8 months of age be leashed while outdoors

PUBLIC SAFETY

FINANCE & AUDIT

PARKS & RECREATION

LIBRARY

Old Business

New Business

Public Participation

Adjournment

RADNOR TOWNSHIP
DISBURSEMENTS SUMMARY
November 14, 2016

The table below summarizes the amount of disbursements made since the last public meeting held on October 24, 2016. As approved by the Board, the Administration is now making weekly accounts payable disbursement batches and publishing those lists on the Township's web site at the following link. Please refer to those files for a detailed listing of the amounts paid by vendor by account code.

Link: http://www.radnor.com/egov/apps/document/center.egov?path=browse&id=22

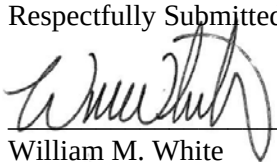
Fund (Fund Number)	**2016-10C October 21, 2016**	**2016-10D October 28, 2016**	**2016-11A November 4, 2016**	**Total**
General Fund (01)	$487,452.47	$63,064.57	$157,908.29	$708,425.33
Sewer Fund (02)	14,497.85	1,174.34	185,729.85	201,402.04
Storm Sewer Management (04)	18,936.00	0.00	4,913.98	23,849.98
Capital Improvement Fund (05)	9,906.37	151.28	1,892.34	11,949.99
Police Pension Fund (07)	4,629.47	0.00	0.00	4,629.47
OPEB Fund (08)	133,844.93	0.00	15,920.21	149,765.14
Civilian Pension Fund (11)	4,201.29	0.00	0.00	4,201.29
Investigation Fund (12)	213.68	0.00	0.00	213.68
Police K-9 Fund (17)	0.00	0.00	48.99	48.99
$8 Million Settlement Fund (18)	1,147.50	0.00	0.00	1,147.50
The Willows Fund (23)	66.65	0.00	132.21	198.86
Total Accounts Payable Disbursements	**$674,896.21**	**$64,390.19**	**$366,545.87**	**$1,105,832.27**
Electronic Disbursements	n/a	n/a	n/a	$469,332.88
Grand Total	**$674,896.21**	**$64,390.19**	**$366,545.87**	**$1,575,165.15**

In addition to the accounts payable checks, the Township also has various electronic payments including payroll, debt service, credit card purchases and fees as well as others from time to time. The attached table reflects all of the electronic payments made since the last public Board meeting as well as those anticipated prior to the next Board meeting.

The Administration has adopted various internal control and processing procedures to insure that amounts obligated are within the budgetary limits established by the Board of Commissioners. Those procedures are monitored on a daily basis by members of the Finance Department and responsible employees of the various departments. The amounts included in the table above have been scrutinized as part of the internal control and processing procedures and have obtained the required approvals prior to disbursement.

If you should have any questions, please contact the Finance Department.

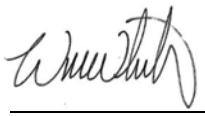
Respectfully Submitted,



William M. White
Finance Director

ELECTRONICALLY PAID DISBURSEMENT LISTING
Estimated Through November 28, 2016

Description	Account No.	Date	Purpose	Amount
Credit Card Revenue Fees - Actual	01-Various	11/10/2016	10/16 Credit Card Revenue Processing Fees	$3,932.88
Payroll [Bi-Weekly] Transaction - Estimated	01-various	11/17/2016	Salaries and Payroll Taxes - General Fund	$450,000.00
Payroll [Bi-Weekly] Transaction - Estimated	02-various	11/17/2016	Salaries and Payroll Taxes - Sewer Fund	$15,000.00
Payroll [Bi-Weekly] Transaction - Estimated	17-various	11/17/2016	Salaries and Payroll Taxes - K-9 Fund	$400.00
Period Total				**$469,332.88**

Submitted: 

Original Estimate			Actual Amount
$450,000.00	11/3/2016	Salaries and Payroll Taxes - General Fund	$430,571.62
$15,000.00	11/3/2016	Salaries and Payroll Taxes - Sewer Fund	$12,185.91
$400.00	11/3/2016	Salaries and Payroll Taxes - K-9 Fund	$304.47
$465,400.00			**$443,062.00**
$186,839.03	11/1/2016	Police Pension Payroll	$186,839.03
$129,240.26	11/1/2016	Civilian Pension Payroll	$129,240.26
$316,079.29			**$316,079.29**

TOWNSHIP OF RADNOR
Minutes of the Meeting of October 10, 2016

The Radnor Township Board of Commissioners met at approximately 7:00 PM in the Radnorshire Room in the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, PA 19087

Commissioners Present
Philip Ahr, President Luke Clark, Vice President Elaine Schaefer Donald Curley
John Nagle Richard F. Booker James C. Higgins

Also Present: *Robert A. Zienkowski, Township Manager; John Rice, Township Solicitor; William White, Finance Director; Steve Norcini, Director of Public Works; William Colarulo, Superintendent of Police; Tammy Cohen, Director of Community Programming and Recreation; Kevin Kochanski, Director of Community Development; Robert Tate, Assistant Finance Director; Roger Philips, Township Engineer; Amy Kaminski, Traffic Engineer and Jennifer DeStefano, Executive Assistant to the Township Manager.*

President Ahr called the meeting to order and led the assembly in the Pledge of Allegiance

Notice of Executive Session on October 10, 2016

All commissioners were in attendance at the October 10, 2016 of real estate, personnel and litigation were discussed.

1. *Consent Agenda*

a) Disbursement Review and Approval: 2016-09D, 2016-09E

b) Approval of Board of Commissioners meeting minutes of September 12, 2016

c) Staff Traffic Committee Meeting Minutes - September 21, 2016

d) Resolution #2016-100 - Acknowledging the receipt and accounting of the 2016 General Municipal Pension System Aid

~~*e) 341 Yorkshire Road - Requesting a waiver from §245-22 the Stormwater Management Requirements for Infiltration*~~

~~*f) Authorization to solicit RFP's for Site Construction Inspection Services, Township Engineering Services, Traffic Engineering Services and Stormwater Administrator/Engineering Services*~~

Commissioner Curley made a motion to approve items a-d of the consent agenda, seconded by Commissioner Schaefer. Motion passed 7-0.

Commissioner Curley requested that **item f** be removed from the agenda and Commissioner Booker requested for **item e** to be removed.

e)341 Yorkshire Road – Requesting a waiver from §245-22 the Stormwater Management Requirements for Infiltration

Roger Philips, Township Engineer explained the applicant is requesting a waiver of §245-22 of the Townships Stormwater Management Ordinance which requires the maximizing of the ground water recharge capacity of the area being developed.

The applicant has conducted soil testing at 2 locations on the site, and the required percolation was not feasible due to mottled soils, high ground water and percolation testing results of zero. The applicant has made provisions for the installation of a rain garden to address volume management requirements due to the lack of percolation at the site.

Commissioner Curley made a motion to approve the waiver, seconded by Commissioner Nagle. Motion passed 7-0.

f) Authorization to solicit RFP's for Site Construction Inspection Services, Township Engineering Services, Traffic Engineering Services and Stormwater Administrator/Engineering Services

Commissioner Curley made a motion to table so that the Commissioners can discuss further with staff, seconded by Commissioner Clark. Motion passed 6-1 with Commissioner Booker opposed.

2. *Public Participation*

Kim Crew-Englehardt, Garrett Hill – She commented in regards to the need for Clem Macrone to be renovated and showed pictures of the comfort stations at the park from 1959.

Roberta Winters, Williams Road – She commented in regards to the need for the renovations at Clem Macrone Park.

Dan Sherry, Wayne – He commented in regards to his concerns with The Radnor Conservancy and that there has not been any money sent to Radnor Township from donations for Ardrossan.

Leslie Morgan, Ward 1 – She commented in regards to raising money for conservation easements and her concerns with the funding for Ardrossan as it was in the Ardrossan Executive Summary.

Christina Perrone, Ward 1 – She commented in regards to the whereabouts of the money that residents have contributed to the Radnor Conservancy.

Commissioner Nagle addressed a few of the comments which were made by the residents in regards to the Radnor Conservancy.

3. *Announcements of vacancies on various Boards & Commissions*

Commissioner Curley made a motion to appoint Jake Abel to the Shade Tree Commission, seconded by Commissioner Clark. Motion passed 7-0.

Commissioner Ahr announced the following vacancies. Interested candidates, please send your resume to Robert Zienkowski, Township Manager, 301 Iven Avenue, Wayne, PA 19087.

Board of Health
1 Vacancy

Design Review Board
1 Vacancy

Shade Tree Commission
2 Vacancy to fill unexpired Term

Stormwater Advisory Committee
1 Vacancy to fill unexpired Term

Vacancies effective January 1, 2017

- Board of Health
- Design Review Board
- Rental Housing Appeal Board
- Environmental Advisory Council
- Planning Commission

4. *Appointment of Special Counsel to the Ethics Board*

- *Resolution #2016-101 - Appointing Joel S. Barras, Esquire of Reed Smith, LLP as Special Counsel to the Radnor Township Board of Ethics*

Commissioner Nagle made a motion to approve, seconded by Commissioner Higgins.

There was a discussion amongst the Commissioners and Township Solicitor on the motion above and which solicitors can vote. Also discussed was seeking alternative counsel.

Commissioner Booker made a motion to table, seconded by Commissioner Curley.

Commissioner Curley made a motion to table the resolution and requested that the Township provide alternative counsel, seconded by Commissioner Clark.

Public Comment
Dan Sherry, Wayne – He commented in regards to the outcomes to past Ethics Board meetings with Mr. Barras.

Commissioner Ahr called the vote on the motion to table. Motion failed 3-4 with Commissioners Higgins, Ahr, Schaefer and Nagle opposed.

Commissioner Schaefer commented that she will recuse herself from the vote as she is unsure of whether she should or shouldn't.

Public Comment
Christina Perrone, Ward 1 – She commented in regards to her disagreement of the approval of the above resolution.

Dan Sherry, Wayne – He commented in regards to his disagreement with the appointment of Mr. Barras.

Jane Galli, Barcladen Road – She commented that the Township should go out to bid for special counsel.

There was an in depth discussion amongst the Commissioners in regards to special counsel and past ethics matters.

Commissioner Ahr called the vote on the original motion, motion failed 2-4 with Commissioners Booker, Clark, Ahr and Curley opposed and Commissioner Schaefer abstaining.

Commissioner Curley made a motion to direct staff to come back with alternative counsel, seconded by Commissioner Booker. Motion passed 6-0 with Commissioner Schaefer abstaining.

5. ***Continued until October 24, 2016 at the request of Applicants Attorney***

~~*Consideration of HARB Certificate of Appropriateness:*~~

- ~~*HARB 2016-16 – 401 Midland Avenue – Removal of non-original addition at the rear of house. Replace with proposed addition presented in drawings. New addition includes two-car garage, laundry room and sunroom on the first floor and a children's playroom on the second floor.*~~

6. *Committee Reports*

PUBLIC SAFETY

A. Presentation by the Radnor Fire Company – Budget Follow up requested by the Board of Commissioners

Eamon Brazunas, Executive Director Radnor Fire Company made a brief discussion which can be found on the Township website at: http://www.radnor.com/DocumentCenter/View/13983 .

PERSONNEL & ADMINISTRATION

B. Presentation of the Condition Assessment Report of the Willows by Avison Young

Representatives of Avison Young gave a brief presentation which summarized their Condition Assessment Report which can be found on the Township website at: http://radnor.com/DocumentCenter/View/13899.

PARKS & RECREATION

C. Resolution #2016-102 - Authorization to award the Alterations and Renovations to Clem Macrone Park, Project # B-16-006, Site, Electrical, & General Prime Contracts

Commissioner Nagle made a motion to approve, seconded by Commissioner Curley.

Mr. Norcini made a brief presentation in regards to the proposed project at Clem Macrone. There was a discussion amongst the Commissioners and staff about keeping the porous parking lot in the project. Martin Kimmel, architect for the project, briefly discussed the porous parking lot.

Public Comment
Jane Galli, Barcladen Road – She inquired in regards to using Stormwater fee money towards the project.

Maya von Rossum, Delaware Riverkeeper – She commented about her agreement to include the parking lot with infiltration system.

Sara Pilling, Garrett Hill – She commented about the possibility of having the community contribute to building the playground.

Patti Barker, Garrett Hill – She commented in regards to her support of the prior comments as well as thanking the Commissioners and staff for hearing the community.

Christina Perrone, Ward 1 – She inquired about what the process is to have the funds from the Stormwater Fees used on the project for stormwater.

Commissioner Ahr called the vote, motion passed 7-0.

Commissioner Ahr thanked everyone that has participated in initiating the project and seeing through to this point.

Commissioner Nagle commented that the Great Harvest and Pumpkin Event had been postponed to October 16th 1 PM to 4 PM.

LIBRARY

D. Discussion of the Bid Results for the Library Renovation Project

Martin Kimmel, Architect for the project, made a brief presentation in regards to the current bids that have come back in after being sent out for re-bid. The re-bids still came in over budget by approximately $1.4M. They will have a discussion with the low bidders and perform value engineering and will return to the Board at that time with an update.

PUBLIC WORKS & ENGINEERING

E. Stormwater Revision Update

Commissioner Curley commented that approximately a year ago the Board of Commissioners directed staff to improve the Stormwater Ordinance but the Board needs to give more detailed information. He suggested the Board to identify 2-4 concepts to improve the ordinance and then direct staff to revise the ordinance to reflect those concepts. There was further discussion in regards to the process to revise the ordinance. There was a consensus that a redlined copy will be brought back at a later meeting for discussion.

F. Resolution #2016-103 - Authorization to award the Morris Road Safety Improvements, Project # B-16-009 Contract

Steve Norcini briefly discussed the proposed project which can be found on page 51 of the meeting packet.

Commissioner Higgins made a motion to approve, seconded by Commissioner Curley. Motion passed 7-0.

G. Resolution #2016-104 - Authorization to award the Pine Tree Traffic Calming, Project # B-16-010, Contract

Commissioner Higgins made a motion to approve, seconded by Commissioner Booker.

There was a brief discussion amongst the Commissioners in regards to the cost of engineering for the project as well as this project not being budgeted.

Public Comment

Austin Hepburn, Upper Gulph Road – He commented in regards to the need of speed enforcement on Pine Tree.

Commissioner Ahr called the vote, Motion passed 6-1 with Commissioner Nagle opposed.

H. Presentation & Discussion - Lancaster Avenue, 400 Block Pedestrian Improvements

Mr. Norcini discussed that the sidewalk that traverses from Chamounix Road to Iron Works Way, on the north side of Lancaster Avenue, is a precarious walk for pedestrians travelling to and from the St. David's Regional Rail Station and Wayne. Amy Kaminski, P.E., of Gilmore Associates, the Township's appointed Traffic Engineer, will present ideas for improved sidewalks in this area. Part of the evaluation will include the two parcels in this area that are in for land development. Ms. Kaminski will also discuss possible grant opportunities for grant funding. That presentation can be found on page 65 of the meeting packet.

Commissioner Higgins made the following motion, resolved, that it is the sense of the Board of Commissioners of Radnor Township that it desires to engineer and construct the Lancaster Avenue Pedestrian Improvements project from Iron Works Way to Chamounix Road and to apply for a grant from PennDot in support thereof. To be funded by such grants or assessments as the Board of Commissioners shall deem appropriate. Seconded by Commissioner Schaefer. Motion passed 7-0.

COMMUNITY DEVELOPMENT

I. Discussion of PLO Ordinance Amendment

Commissioner Higgins will recuse himself as the University of Pennsylvania is a client.

There was an in depth discussion amongst the Commissioners. Commissioner Curley requested that the following is added to the ordinance: 1. exclude medical & dental office from the definition of Ambulatory Care; 2. Exclude drug and alcohol rehabilitation facilities of assisted living definition and add the word Senior; 3. Applicant to provide a transportation impact and mitigation plan

Commissioner Ahr made a motion to extend the meeting to 11:30 PM, seconded by Commissioner Clark. Motion passed 5-1 with Commissioner Nagle opposed and Commissioner Higgins out of the room.

Commissioner Booker discussed that he would like to strike *(4) Increase the effectiveness of the zoning district by providing the capability for a mixture of complementary uses; he would also like to revisit 40% mixed use; clarification of Independent Living and Ambulatory Care*; his concern with extended stay included in hotel definition; requested clarification and models in regards to traffic; parking structures; removing "solicitor" in financial subdivision and 350 ft. length wall. Mr. Falcone, representing PennMed commented that outpatient surgical center is included within the definition for ambulatory care.

FINANCE & AUDIT

J. Presentation of the Township Manager's 2017 Comprehensive Budget

Mr. Zienkowski thanked the staff, Department Heads and Bill White in preparing the budget. Mr. White, Finance Director, made a brief presentation of the 2017 Township Manager's Comprehensive Budget which can be found on the Township website at: http://www.radnor.com/DocumentCenter/View/13909

PUBLIC HEALTH

None

Old Business

None

New Business

None

Public Participation

None

There being no further business, the meeting adjourned on a motion duly made and seconded.

Respectfully submitted,

Jennifer DeStefano

TOWNSHIP OF RADNOR
Minutes of the Meeting of October 24, 2016

The Radnor Township Board of Commissioners met at approximately 6:30 PM in the Radnorshire Room in the Radnor Township Municipal Building, 301 Iven Avenue, Wayne, PA 19087

Commissioners Present
Philip Ahr, President *Luke Clark, Vice President* *Donald Curley*
John Nagle *Richard F. Booker* *James C. Higgins*

Absent - *Elaine Schaefer*

Also Present: *Robert A. Zienkowski, Township Manager; John Rice, Township Solicitor; William White, Finance Director; Steve Norcini, Director of Public Works; William Colarulo, Superintendent of Police; Kevin Kochanski, Director of Community Development; Tammy Cohen, Director of Community Programming & Recreation; Roger Philips, Township Engineer; Amy Kaminski, Traffic Engineer and Jennifer DeStefano, Executive Assistant to the Township Manager.*

President Ahr called the meeting to order and led the assembly in the Pledge of Allegiance

Notice of Executive Session on October 24, 2016

All commissioners were in attendance with the exception of Commissioner Schaefer at the October 24, 2016 of real estate, personnel and litigation were discussed.

1. *Recognition of Radnor Township Police Officer*

Pennsylvania Gaming Commission presented Detective Metzler with a certificate of recognition for an incident involving poaching in the Township.

Superintendent Colarulo presented Officer Racht with a commendation of merit as well as Radnor Fire Company, Berwyn Fire Company, Bryn Mawr Fire Company, Gladwyne Fire Company and King of Prussia Vol Fire Company with certificates of appreciation for a recent fire on Pine Tree Road.

2. *Consent Agenda*

a) *Disbursement Review and Approval: 2016-10A, 2016-10B*

b) *Approval of Board of Commissioners meeting minutes of September 26, 2016*

c) *Acceptance of Department Monthly Reports*

d) *Waiver Request – Section §245-22 of the Stormwater Management Ordinance – Requirements for Infiltration - 401 Boxwood Road*

e) *Motion to Authorize to Receive Sealed Bids for Gasoline and Diesel Fuel*

f) *Motion to Authorize to Receive Proposals for Tri-Axle Dump Truck Rental Rates*

g) *Motion to Authorize the Sale of Surplus Vehicles and Equipment*

~~h) *Resolution #2016-105 - Approval for the Purchase of One New Vehicle for use by the Community Development Department*~~

i) *Authorization to solicit RFP's for Site Construction Inspection Services, Township Engineering Services, Traffic Engineering Services and Stormwater Administrator/Engineering Services*

Commissioner Booker requested for item h to be removed from the consent agenda. Commissioner Nagle made a motion approve the consent agenda with the removal of item h, seconded by Commissioner Clark. Motion passed 6-0 with Commissioner Schaefer absent.

h. Resolution #2016-105 - Approval for the Purchase of One New Vehicle for use by the Community Development Department

Commissioner Clark made a motion to approve, seconded by Commissioner Nagle.

Commissioner Booker inquired the need for the replacement of the vehicle in question. Mr. Kochanski commented that his department is requesting to purchase one (1) 2017 Ford Explorer to replace existing vehicle #101, which has surpassed the end of its useful life, (2002 Chevrolet Malibu - 90,577 miles) as part of the 5-year Capital Program.

Public Comment
Jane Galli, Rosemont – She inquired if the vehicle will be auctioned off. Staff responded that they will either auction it or use as a trade in.

Commissioner Ahr called the vote, motion passed 5-1 with Commissioner Booker opposed and Commissioner Schaefer absent.

3. *Public Participation*

Dan Sherry, Wayne – He commented in regards to comments made by Commissioner Higgins at the October 10, 2016 Board of Commissioners meeting.

4. *Committee Reports*

PARKS & RECREATION

A. *Resolution #2016-106 – Authorization for the Purchase of Playground Equipment for the Clem Macrone Park Project*

Commissioner Nagle made a motion to approve, seconded by Commissioner Booker.

There was a brief discussion amongst the Commissioners and staff in regards to the project. Ms. Cohen, Director of Community Programming and Recreation displayed pictures of the proposed playground which can be found on page 45 of meeting packet.

Public Comment
Leslie Morgan, Farm Road – She commented in regards to her appreciation of the park improvements.

Commissioner Ahr called the vote, motion passed 6-0 with Commissioner Schaefer absent.

PUBLIC SAFETY

~~B. *Ordinance #2016-12 – **(Introduction)** - Authorizing residential permit parking on Francis Avenue*~~

Removed from the Agenda.

C. *Resolution #2016-109 – Approving a contract with the U.S. Department of Agriculture for Professional Deer Culling and Geese Control Services*

William Gallagher, Supervisor of Parking and Animal Control gave a brief background of the deer culling process to date. There was a brief discussion amongst the Commissioners in regards to the area which deer are culled in the Township and Geese Control.

Commissioner Ahr made a motion, seconded by Commissioner Higgins. Motion passed 5-1 with Commissioner Booker opposed and Commissioner Schaefer absent.

PERSONNEL & ADMINISTRATION

D. *Presentation by Interested Resident Groups for the Future of the Willows*

- *Sara Pilling*

Township Residents Sara Pilling and Rick Anthony made a presentation in regards to the future of the Willows which can be found on the Township website at: http://radnor.com/363/The-Willows-RFP-Process-Adaptive-Re-Use.

- *Doug McCone*

Township Resident Doug McCone made a presentation in regards to the future of the Willows which can be found on the Township website at: http://radnor.com/363/The-Willows-RFP-Process-Adaptive-Re-Use.

E. *Discussion of the Condition Assessment Report of the Willows by Avison Young*

Representatives from Avison Young briefly discussed their report which was given at the October 10, 2016 Board of Commissioners meeting and can be found on the Township website at: http://radnor.com/363/The-Willows-RFP-Process-Adaptive-Re-Use.

There was a brief discussion amongst the Commissioners and representatives of Avison Young.

~~F. *Ordinance #2016-11 – **(Introduction)** - Amending Section 5-70, Civil Service Provisions, Of Chapter 8 Of The Radnor Township Rules and Regulations*~~

Ordinance tabled until next meeting.

FINANCE & AUDIT

G. *CARFAC presentation of Long-Term Liability and Capital Plan findings and recommendations*

Mark Blair and Leo Marte, CARFAC members made a presentation which discussed Capital Funding, Long-Term Liabilities Review and Forecast Impact. There was an in depth discussion amongst the Commissioners and staff in regards to the items in the presentation.

H. *Q3 2016 Finance Update Presentation*

Mr. White, Finance Director gave a presentation which can be found on the Township website at: https://www.youtube.com/watch?v=V2KjGwG4A9s&list=PLWSgQZEOk8cXYGqCf4__DiOB5AoOgJepN&index=1.

I. *Resolution #2016-107 - Adopting the Township Manager's Recommended Budget as the recommended comprehensive budget under §7.06(A)(2) of the Charter*

Mr. White presented a resolution adopting the preliminary budget pursuant to the home rule Charter Chapter §7.06A(2) which requires that the recommended comprehensive budget be passed no later than

60 days before the end of the fiscal year. There will be two Public Hearings on November 7th and 21st to discuss the budget beginning at 6:30 PM in the Radnorshire Room.

There was a brief discussion amongst the Commissioners, Staff and the Township Solicitor in regards to whether the Board can accept the budget versus adopting it.

Commissioner Ahr made a motion to approve, seconded by Commissioner Nagle. Motion passed 5-1 with Commissioner Booker opposed and Commissioner Schaefer absent.

COMMUNITY DEVELOPMENT

J. *Motion to Direct the Township Traffic Engineer to Produce a Table of Traffic Counts for all Considered Uses in the Proposed PLO Ordinance Amendment*

Commissioner Higgins will recuse himself as the University of Pennsylvania is a client.

There was an in depth discussion amongst the Commissioners and staff in regards to traffic counts, trip generations, etc.

Commissioner Curley made a motion to direct Township Traffic Engineer complete and refine the table produced in her June 22, 2016 memorandum to reflect the current uses being considered by the Board of Commissioners the analysis should include Ambulatory Care, existing by-rite combination 50% general office and 50% medical office; a perspective mix of 50% Ambulatory Care and 50% Hotel; a perspective mix of 40% Ambulatory Care and 60% Hotel; a perspective mix of 60% Ambulatory Care and 40% Hotel. Motion seconded by Commissioner Nagle. Motion passed 4-1 with Commissioner Booker opposed, Commissioner Higgins abstaining and Commissioner Schaefer absent.

Commissioner Curley made a motion that the staff revise the draft ordinance to include a cap on Ambulatory Care as follows: 1. Ambulatory Care must be confined with at least one of the other allowable B uses; 2. Ambulatory Care may not exceed *blank%* of the floor area of the B uses. Motion seconded by Commissioner Nagle. Motion passed 4-1 with Commissioner Booker opposed, Commissioner Higgins abstaining and Commissioner Schaefer absent.

Commissioner Booker made a motion to include the existing data from 2012 on traffic trips (reformat the existing 2012 table) to be consistent with this trip generation data that you are referring to here and include that as a base for both 2012 and 2015. Motion failed for lack of a second.

Commissioner Curley placed a Township Map on the screen which was marked to show the population and PLO Zoning in Radnor for each Ward.

Commissioner Clark made a motion to extend the meeting to 11:30 PM, seconded by Commissioner Higgins. Motion passed 4-2 with Commissioners Booker and Nagle opposed.

K. *Consideration of HARB Certificate of Appropriateness:*

- *HARB-2016-16 – 401 Midland Avenue – Removal of non-original addition at the rear of house. Replace with proposed addition presented in drawings. New addition includes two-car garage, laundry room and sunroom on the first floor and a children's playroom on the second floor.*

Commissioner Clark gave a brief background on the HARB certificate above. Ms. Lauer, applicants architect reviewed the proposed project and applicant Ms. Hanlon as well. There was a discussion amongst the Commissioners, the applicant and applicants architect.

Commissioner Clark made a motion to extend the meeting to 12:00 AM, seconded by Commissioner Higgins. Motion passed 4-2 with Commissioners Booker and Nagle opposed.

Public Comment

Samantha Beers – She commented in regards to her concerns with the project and requested that the application be remanded to HARB for further review.

Mr. Beers – He commented in regards to his concerns with the proposed project.

Commissioner Nagle made a motion to overturn HARB and award the Certificate of Appropriateness, seconded by Commissioner Curley.

Ken Taylors, Willow Ave. – He commented in regards to his disagreement with the proposed project.

Commissioner Ahr called the vote, motion passed 4-2 with Commissioner Booker and Clark opposed.

~~L. *Appointment of Hearing Officer for the Appeal of HARB 2016-11 Denial – 401 Midland Avenue*~~

M. *Motion to Approve Settlement Agreement and Stipulation – 228 Willow Avenue*

Mr. Rice gave a brief background of the proposed settlement agreement. There was a discussion amongst Commissioners and Mr. Rice for clarification purposes.

Commissioner Higgins made a motion to approve, seconded by Commissioner Curley.

Ken Taylor – He commented in regards to his support of the settlement agreement.

Commissioner Ahr made a motion to extend the meeting to 12:30 AM, seconded by Commissioner Clark. Motion passed 4-2 with Commissioners Booker and Nagle opposed and Commissioner Schaefer absent.

Commissioner Ahr called the vote, motion passed 6-0 with Commissioner Schaefer absent.

PUBLIC WORKS & ENGINEERING

~~N. *Motion regarding establishing goals for revising the Stormwater Ordinance*~~

~~O. *Presentation - Midland Avenue Sanitary Sewer, Gannett Fleming*~~

P. *Resolution #2016-110 - SALDO Application #2016-S-08 - Consideration of 800 Goshen Road Preliminary Plan of Subdivision*

Mr. Rice, Township Solicitor commented that the resolution in front of the Board is for denial of a subdivision plan which was filed for Lot #9 from a 1998 recorded subdivision plan. This has been to the Planning Commission in which they recommended denial. There was a discussion amongst the Commissioners and staff in regards to the subdivision and the proposed resolution. Mr. Falcone, attorney for the applicant commented as well in regards to the resolution.

Commissioner Higgins made a motion to approve, seconded by Commissioner Nagle. Motion passed 4-0 with Commissioner Booker abstaining and Commissioners Clark and Schaefer absent.

~~Q. *SALDO Application #2016-D-13 - **Caucus** - Preliminary Land Development Plan - Academy of Notre Dame*~~

PUBLIC HEALTH

None

LIBRARY

None

Old Business

None

New Business

None

Public Participation

None

There being no further business, the meeting adjourned on a motion duly made and seconded.

Respectfully submitted,

Jennifer DeStefano

RADNOR TOWNSHIP POLICE DEPARTMENT

301 Iven Avenue
Wayne, Pennsylvania 19087-5297
(610) 688-0503 ¤ Fax (610) 688-1238

William A. Colarulo
Police Superintendent

TO: A Staff Traffic Committee Meeting was held on October 19, 2016 and was attended by Commissioner Philip M. Ahr, Lieutenant Andrew Block, Officer Raymond Matus, Officer Alex Janoski, Highway Patrol; William Cassidy, Field Leader, William Gallagher, Supervisor of Parking, Vera DiMaio, Administrative Assistant; and Radnor residents

FROM: William A. Colarulo

RE: STAFF TRAFFIC COMMITTEE MEETING HELD IN THE POLICE ROLL CALL ROOM, WEDNESDAY, OCTOBER 19, 2016, 10:00 AM.

NEW BUSINESS:

1. Commissioner Ahr is requesting a traffic assessment on Conestoga Road due to reports of excessive speeding in the early morning and throughout the day.

   Staff Traffic Committee recommends that the Highway Patrol Unit conduct a seven day automated traffic count in the 900 Block of Conestoga Road. Once the data is collected this item will be reviewed at the November 16, 2016 Staff Traffic Committee Meeting.

2. Dr. Russo has concerns with entering and exiting his driveway safely on County Line Road. There is a "Hidden Driveway" sign placed ahead of his shared driveway but it is not effective and there have been several near misses.

   Staff Traffic Committee recommends that the Highway Patrol Unit coordinate the trimming of shrubbery and hedges to the west of Dr. Russo's property. This area is owned and maintained by Villanova University. Staff Traffic Committee also recommends that the Radnor Township Public Works Department replace the existing curve and advisory sign with the most recent updated signage. In addition to the aforementioned Staff Traffic Committee recommends a new advisory sign, "Hidden Driveway" be placed in a new location specifying the distance ahead of Dr. Russo's driveway.

3. Julia Anthony is requesting a traffic signal be installed at the intersection of County Line Road and Montrose Avenue.

   The Staff Traffic Committee recommends that the Radnor Township Board of Commissioners approve a formal traffic engineering study of this intersection by Gilmore and Associates. The scope of the study should include the PennDot warrants for a traffic signal, pedestrian counts to establish a dedicated pedestrian crosswalk phase, and possible speed limit reduction on County Line Road. This study should be coordinated with Lower Merion Township as this intersection is a shared intersection.

4. Susan Stern is requesting a left turn arrow be installed on W. Lancaster Avenue for traffic turning onto S. Wayne Avenue (Lancaster Avenue and S. Wayne Avenue.).

   Staff Traffic Committee recommends that the Radnor Township Board of Commissioners approve a formal traffic engineering study of this intersection by Gilmore and Associates. The scope of the study should focus on determining if the warrants are present to add dedicated left turn signal arrows for N. and S. Wayne Avenue. The study should focus on the feasibility of re-installing the left turn arrow on W. Lancaster Avenue. This left turn arrow was removed by Penn Dot in 2002 due to a high crash rate at this intersection.

5. Phyllis Connor of Hardwicke Lane is requesting speed bumps be installed on Hardwicke Lane

   The Radnor Highway Patrol Unit conducted a sight survey of Hardwicke Lane and surrounding streets of Comrie Drive, Woodstock Road, and Vassar Circle. The aforementioned streets do not have posted speed limit signs. Mrs. Connor was informed that the recommendation is to post the appropriate signage in the neighborhood for further study and enforcement. Mrs. Connor requested that this item be tabled as some residents do not want additional signage installed in the neighborhood. Staff Traffic Committee recommends tabling the item until such time there is a neighborhood consensus to move forward on signage.

6. Bill Abbott requests permission for the "Tribe Give Back 5K Run" on Saturday, November 19, 2016.

   Staff Traffic Committee recommends tableting the above item after speaking with Mr. Abbott. The recommendation is due to the timing of the requested event and logistical issues associated with the proposed route. Mr. Abbott concurs with the committee's recommendation to table this request. The Highway Patrol Unit will work with Mr. Abbott in planning and logistics of the 2017 "Tribe Give Back Run".

OLD BUSINESS:

1. Commissioner Ahr is requesting a traffic calming study for Aldwyn Lane.

   The Highway Patrol Unit is currently conducting a seven day automated traffic count for Aldwyn Lane. The data from this count will be available at the November 16, 2016 Staff Traffic Committee Meeting for further discussion.

2. Caroline Twitmyer of Upland Way requests traffic enhancements on Conestoga Road between Radnor Chester Road and Sproul Road.

   Lieutenant Block reports that he receive correspondence from Penn Dot Signal Engineer Paul Lutz. The correspondence confirms that the warrants have been met to install the left turn advance arrow from Eastbound Conestoga Road to Northbound Sproul Road. Staff Traffic Committee recommends that this signal be upgraded in 2017 and that the Radnor Board of Commissioners allocate the appropriate funding for this capital improvement.

3. Kathy Sonier is requesting the approval of the Radnor Memorial Library "Elves for Shelves, 5K Run/Walk" on Saturday, December 3, 2016.

Staff Traffic Committee recommends that the 2016 Elves for Shelves 5K Run/Walk on Saturday, December 3, 2016 be approved. Officer Janoski was given the revised course for the run/walk which was reviewed and found to be in accordance with township race requirements. All required paperwork has been submitted by the Radnor Memorial Library.

RESOLUTION NO. 2016-108

A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, APPROVING THE PURCHASE OF ONE NEW VEHICLE FOR USE BY THE RADNOR TOWNSHIP POLICE DEPARTMENT.

WHEREAS, the Radnor Township Police Department is seeking to replace one (1) of its vehicles currently being utilized by its Patrol Division; and

WHEREAS, the new vehicle can be purchased under the Pennsylvania's COSTARS Program for $45,930.26; and

WHEREAS, the new vehicle consist of one (1) Ford Expedition (AWD) patrol vehicle and is being replaced by insurance due to the destruction of an existing 2016 Ford Expedition (AWD); and

WHEREAS, the new vehicle will be purchased under the 2016 Police Capital Fund for $45,930.26.

NOW, THEREFORE, be it ***ORDAINED*** and ***ENACTED*** that the Radnor Township Board of Commissioners does hereby approve the purchase of one (1) new vehicle for use by the Radnor Township Police Department in an amount not to exceed $45,930.26.

SO RESOLVED, this 14th day of November, 2016.

RADNOR TOWNSHIP

By: _____
Name: Philip M. Ahr
Title: President

ATTEST: _____
Robert A. Zienkowski, Secretary

Radnor Township

PROPOSED LEGISLATION

DATE: **11/04/2016**

TO: **Robert A. Zienkowski, Township Manager**

FROM: **William A. Colarulo**

LEGISLATION: **Amending Resolution 2016-01, Resolution to purchase one (1) new 2017 Ford Expedition Patrol Vehicle**

LEGISLATIVE HISTORY: **Request for legislation/new**

PURPOSE AND EXPLANATION: The Radnor Township Police Department is requesting to replace one (1) Ford Expedition (AWD) patrol vehicle that was involved in an accident which resulted in the total loss of the vehicle.

Car #18 was demolished in a vehicle accident on October 7, 2016 at East Lancaster Avenue and North Radnor Chester Road. Insurance is covering the total value of the vehicle.

FISCAL IMPACT: $45,930.26. The money will be drawn from the 2016 Pennsylvania COSTARS Program. The funds for this purchase requisition will come from the 2016 Capital Improvement Fund # 05-410.4830.

The cost for the purchase of the vehicle is as follows:

2017 Ford Expedition (AWD)	$45,930.26

RECOMMENDED ACTION: I respectfully recommend the Legislation be passed to purchase one (1) vehicle to be utilized by the Radnor Township Police Department.

MOVEMENT OF LEGISLATION: Adoption at the November 14, 2016 Board of Commissioners Meeting.

CERTIFICATE OF APPROPRIATENESS

Radnor Township Historical and Architectural Review Board
Radnor Township, Pennsylvania

NAME OF OWNER:	SOUTH PATRICK & LAUREN
OWNER ADDRESS:	125 RUNNYMEDE AVE, WAYNE, PA 19087
ADDRESS OF PROPERTY:	125 RUNNYMEDE AV , WAYNE PA 19087
APPLICATION NUMBER:	HARB-2016-17

Subject to the conditions below the above owner, having complied with the Radnor Township Historical and Architectural Review Board (HARB) process, is hereby granted this permit for the

Add front porch back on to the home, 2nd floor rear master bedroom, laundry and mudroom addition off the rear of home. New detached garage.

at the address specified and may proceed with the building permit process. If not completed within one year of the date hereof, this permit is void and new application must be made. This Approval is subject to the Applicant applying for and receiving all necessary permits and approvals; and complying with all applicable Municipal regulations. Owner specifically gives the building inspector or designated official the right to inspect the work during progress and at completion.

NOTES AND/OR CONDITIONS OF APPROVAL:

Approved with condition: the windows on the garage must be consistent with the windows on the house.

ISSUED: Monday, November 14, 2016

TOWNSHIP OFFICIAL **ACCEPTED BY APPLICANT**

Philip M. Ahr, President

CERTIFICATE OF APPROPRIATENESS

Radnor Township Historical and Architectural Review Board
Radnor Township, Pennsylvania

NAME OF OWNER:	DRISCOLL ROBERT W JR & LAINA C
OWNER ADDRESS:	405 ORCHARD WAY, ST DAVIDS, PA 19087
ADDRESS OF PROPERTY:	405 ORCHARD WA , WAYNE PA 19087
APPLICATION NUMBER:	HARB-2016-18

Subject to the conditions below the above owner, having complied with the Radnor Township Historical and Architectural Review Board (HARB) process, is hereby granted this permit for the

Sunroom addition at south end of residence and a mudroom addition at the north end. Both additions will be one (1) story.

at the address specified and may proceed with the building permit process. If not completed within one year of the date hereof, this permit is void and new application must be made. This Approval is subject to the Applicant applying for and receiving all necessary permits and approvals; and complying with all applicable Municipal regulations. Owner specifically gives the building inspector or designated official the right to inspect the work during progress and at completion.

NOTES AND/OR CONDITIONS OF APPROVAL:

Approved as submitted.

ISSUED: Monday, November 14, 2016

TOWNSHIP OFFICIAL

Philip M. Ahr, President

ACCEPTED BY APPLICANT

CERTIFICATE OF APPROPRIATENESS

Radnor Township Historical and Architectural Review Board
Radnor Township, Pennsylvania

NAME OF OWNER:	CONGLETON JONATHAN P & CONNIE C
OWNER ADDRESS:	408 MIDLAND AVE, WAYNE, PA 19087
ADDRESS OF PROPERTY:	408 MIDLAND AV , WAYNE PA 19087
APPLICATION NUMBER:	HARB-2016-19

Subject to the conditions below the above owner, having complied with the Radnor Township Historical and Architectural Review Board (HARB) process, is hereby granted this permit for the

Renovate and addition at the rear of the house. Renovation to existing kitchen with addition to add space to kitchen and create a new mudroom. New steps at existing deck location. Replacement of a number of non-original windows.

at the address specified and may proceed with the building permit process. If not completed within one year of the date hereof, this permit is void and new application must be made. This Approval is subject to the Applicant applying for and receiving all necessary permits and approvals; and complying with all applicable Municipal regulations. Owner specifically gives the building inspector or designated official the right to inspect the work during progress and at completion.

NOTES AND/OR CONDITIONS OF APPROVAL:

Approved as submitted.

ISSUED: Monday, November 14, 2016

TOWNSHIP OFFICIAL **ACCEPTED BY APPLICANT**

Philip M. Ahr, President

Public Participation

Col John C. Church, Jr., USMCR – Valley Forge Military Academy & College

Radnor Township

PROPOSED LEGISLATION

INTRODUCTION

FROM: **Kevin W. Kochanski**, Community Development Director
SUBJECT: PLO Ordinance Amendment - #2016-13
DATE: November 9, 2016

LEGISLATION: An amendment to the PLO Planned Laboratory – Office District to provide for mixed used developments with revised dimensional requirements.

LEGISLATIVE HISTORY: Since 2012, the Township has been considering various amendments to the PLO District. This Amendment intends to address the concerns raised in the previous versions.

FISCAL IMPACT: This ordinance is not expected to have a negative impact on the Township Budget.

RECOMMENDED ACTION: The Staff would respectfully recommend that this Amendment be introduced and forwarded to the Township Planning Commission and Delaware County Planning Commission for review and comment.

Thank you for your consideration.

10.18.16

ORDINANCE NO. 2016-

AN ORDINANCE OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, AMENDING CHAPTER 280 ZONING, ARTICLE XV, PLO PLANNED LABORATORY-OFFICE DISTRICT, SECTIONS 280-62, 280-63 AND 280-64, BY PROVIDING FOR ADDITIONAL USES IN THE PLO PLANNED LABORATORY-OFFICE DISTRICT INCLUDING MIXED USE DEVELOPMENTS; PROVIDING FOR REVISED DIMENSIONAL REQUIREMENTS FOR MIXED USE DEVELOPMENTS INCLUDING FINANCIAL SUBDIVISIONS AND PROVIDING FOR ADDITIONAL ACCESSORY USES

Section 1. Chapter 280, Article XV, Sections 280-62, 280-63 and 280-64 are hereby revised to read as follows:

Section 280-62 Purpose; application of regulations

PLO Planned Laboratory-Office Districts are designed primarily to provide for selected modern laboratory, office establishments and other compatible uses which:

(1) Provide for attractive large-site, low-lot-coverage development in areas where traditional business development would be inappropriate.

(2) Strengthen and diversify the Township's tax base.

(3) Are compatible with the character of the surrounding areas.

(4) Increase the effectiveness of the zoning district by providing the capability for a mixture of complementary uses.

(5) Decrease the negative external effects of parking and traffic on surrounding areas by providing the capability for a mixture of complementary uses.

B. PLO Districts may be established and developed only in accordance with the special provisions of § **280-132** and subject to the regulations of this article and any other pertinent provisions of this chapter.

C. In PLO Planned Laboratory-Office Districts, the regulations contained in this chapter shall apply.

Section 280-63 Use regulations

A building or unified group of buildings may be erected or used and a lot may be used or occupied for any of the following purposes:

A. Forty percent (40%) to one-hundred percent (100%) of the gross floor area may be used or occupied for the following:

1. Scientific or industrial research, testing or experimental laboratory or similar establishment for research or product development, provided that there is no commercial production or storage of any commodity or substance except for storage necessary for scientific research.

2. Office Building

B. Subject to the requirements of Section 280-64 G., up to sixty percent (60%) of the gross floor area may be used or occupied for the following:

1. Hotel, including extended stay, which may contain restaurant and banquet space. Hotel pools and indoor health/fitness/recreation centers shall be for the use of hotel guests only.

2. Skilled nursing and/or assisted living facility.

3. Independent living facility.

~~4. Outpatient surgical center.~~

4. Ambulatory care facility- a health care facility or a distinct part of a health care facility which provides preventative, diagnostic, and treatment services to persons who come to the facility to receive services and depart from the facility on the same day, excluding medical and dental office uses.

C. Properties with a total site area of less than 10 acres may be used or occupied as follows and may not be combined with any other principal use.

1. Skilled nursing, Senior Independent Living, and/or Senior Assisted Living facility, excluding Drug and Alcohol Rehabilitation facilities.

2. Hotel, including extended stay, which may contain restaurant and banquet space. Hotel pools and indoor health/fitness/recreation centers shall be for the use of hotel guests only.

D. Accessory uses, which may include:

1. Storage within a completely enclosed building in conjunction with a permitted use.

2. A cafeteria or other service facility located within the building and operated for the exclusive use of the occupants of the building. An accessory cafeteria may

include outdoor dining as permitted by § **280-115.3B**. [Amended 4-8-2013 by Ord. No. 2012-09]

3. A recreational area for occupants.

4. Living quarters for watchmen, caretakers or similar employees.

5. A parking structure, when constructed as an accessory structure for the purpose of eliminating allowable surface parking. Parking structures may be located wholly or partly within the principal building, attached to and made a part of the principal building, or constructed as a detached accessory structure. Parking spaces within structures may be reduced to not less than nine feet in width by 19 feet in depth, exclusive of aisles, for each motor vehicle.

6. Restaurant accessory to a permitted principal use not including existing non-conforming uses. Outdoor dining is permitted in accordance with Section 115.3 B. of the ordinance.

Section 280-64 Area and height regulations

A. Lot area and width. Every lot on which a building or combination of buildings is hereafter erected or used shall have a lot area of not less than 10 acres, and such lot shall not be less than 300 feet at the building line.

B. Building area. Not more than 30% of the area of any lot may be occupied by buildings and structures, and not less than 45% of the total lot area, exclusive of those areas within the public right-of-way, shall be devoted to landscaping and planted in accordance with Chapter **255**, Subdivision of Land. Landscaped areas shall include nonimpervious areas devoted to stormwater management, required buffer areas and landscaping for parking facilities.

C. Building placement. No building or accessory structure shall be located less than one hundred and fifty (150) feet from a street right-of-way line nor less than two hundred (200) feet from a side or rear property line and no surface parking area, driveway, service or interior roadway, with the exception of approved areas for vehicular access, shall be located less than 75 feet from a street right-of-way or other property line.

D. Building size and spacing.

1. Except for a Mixed Use development permitted under 280-64 G., the greatest dimension in length or depth of a building shall not exceed 160 feet, and no more than three buildings may be attached to each other, provided further that the facade of any building attached to another building be visibly offset from the adjoining building at an angle of approximately 90°

2. The distance at the closest point between any two buildings or group of attached buildings, including accessory structures, shall not be less than 45 feet.

3. In no case shall the width of buildings or accessory structures or the aggregate widths of buildings or accessory structures fronting on a street on the same lot exceed 80% of the width of a lot.

E. Height regulations. Except for a Mixed Use development permitted under Section 280- 64 G., no building or accessory structure shall exceed three stories or 38 feet in height.

F. Riparian buffer setback: 35 feet

G. Mixed Use - A building or unified group of buildings may include the uses specified in Section 280- 63 A. and B. and no other, subject to the following conditions:

1. The minimum gross floor area of the B. uses shall be 30%.

2. No building shall exceed 85 feet in height. Buildings in excess of three stories or 38 feet in height are subject to the following requirements:

Building Height (Tallest building on site)	Maximum Building Area (%)	Maximum Lot Coverage (%)	Set Back to Street ROW Line (ft)	Set Back to Side and Rear Property Line Adjacent to Residential Zoning District (ft)	Set Back to Side and Rear Property Line Adjacent to Non - Residential Zoning District (ft)	Set Back to Side and Rear Property Line Abutting Railway (ft) and Limited Access Highway
less than or equal to 55'	29	50	100	200	50	25
less than or equal to 85'	28	45	100	200	50	25

3. The gross floor area for all buildings on lots/properties existing as of the date of this ordinance shall not exceed 25,500 square feet per acre of Total Site Area.

4. A parking garage or parking structure may have a height of up to 55 feet so long as such parking garage or parking structure does not exceed the height of any building on the site.

5. All other accessory structures shall not exceed 45 feet in height.

6. Financial Subdivision - In connection with development of a Mixed Use within the PLO District, individual lots may be created for purposes of financing and/or conveyancing. Such individual lots shall not be required to comply on an individual basis with the dimensional requirements of this Article, provided that

the site and uses comply with such requirements on an overall basis, and further provided that the deeds conveying such separate lots contain covenants requiring the purchasers to, at all times, operate and maintain such lots in good order and repair and in a clean and sanitary condition; that cross-easements for parking areas and all appurtenant ways, pedestrian access, and utilities shall be maintained between such lots; and that such covenants shall be subject to the approval of the Township. ~~Solicitor~~ The purchaser of any such lot shall execute and file with the Township a written covenant agreeing to the forgoing conditions prior to purchasing.

7. In the event that development requires an expansion of the right of way; setbacks shall be measured from the proposed right of way line.

8. The greatest dimension in length or depth of a building (as specified in Section 280 64 D) may be up to 350 feet provided that; (a) the façade is constructed of brick, stone, architectural concrete, architectural metal work, or articulated glass;(b) is constructed with vertical and horizontal articulation and,(c) is approved by the Township.

9. The total site area for a Mixed Use development must be greater than or equal to 10 acres. Total site area is the gross area of a lot or lots as described in the deeds or from an actual survey but excluding the area of any public or private street or rights of way.

10. All Mixed Use developments shall submit a Transportation Impact and Mitigation Report to the Township as part of the land development application. The Transportation Impact and Mitigation Report shall address the following components for the proposed development:

    a). A description of all improvements proposed along the frontage of the property including curbs, sidewalks, drainage, and utility additions or extensions proposed as a result of the project.

    b). A description of all improvements to adjacent intersections or intersections within a 1/2 mile of the proposed project designed to mitigate the impact of the proposed development transportation at full build-out of the site.

    c). A description of all off-site transportation improvements proposed by the developer or a description of proposed improvements to existing public transportation facilities including existing rail lines adjacent to or within ½ mile to the site.

d). A description of transportation improvements proposed to be constructed by the applicant as recommended in the Township's Comprehensive Plan.

11. No land development application shall be accepted or processed by the Township without the submission of the foregoing Transportation Impact and Mitigation Report.

Section 2. Repealer. All ordinances or parts of ordinances which are inconsistent herewith are hereby repealed.

Section 3. Severability. If any section, paragraph, subsection, clause or provision of this Ordinance shall be declared invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of this Ordinance as a whole or any part thereof other than that portion specifically declared invalid.

Section 4. Effective Date. This Ordinance shall become effective in accordance with the Home Rule Charter of Radnor Township.

ENACTED and ***ORDAINED*** this day of , 2016.

RADNOR TOWNSHIP

By: _____
Name: Phil Ahr
Title: President

ATTEST: _____
Robert A. Zienkowski, Secretary

HISTORICAL ARCHITECTURAL REVIEW BOARD
RESOLUTION 2016-01

Whereas, the Historical Architectural Review Board of Radnor Township (the HARB) is responsible for reviewing construction design applications from township residents and businesses whose homes or buildings are located in the demarcated Historical Districts of Radnor Township, Delaware County, Pennsylvania when such construction would alter the street view;

And, Whereas, Radnor Township residents and other parties with interests in the vicinity of the application are permitted by the Township to to make comments to the HARB on said applications, and citizen comment is part of the review/approval process;

And, Whereas, Radnor Township does not now have in place a policy for notification of such residents and interested parties when an application is submitted for HARB review, such as is done when there is an application for the Zoning Hearing Board, Planning Commission, and/or the Board of Commissioners' meeting;

And, Whereas, currently, without such notification, the only way that a resident or interested party can find out about such applications is by regularly checking the Radnor Township website or coming in person to the Township Building to inquire if there is an application to review;

And, Whereas, it has come to the attention of the HARB that residents and other interested parties consider it burdensome for them to be responsible for checking in either of these ways for potential HARB applications which may impact them and for which they may wish to offer comment when they are not required to do so when any other Township Board reviews applications for changes in the vicinity of their property;

Now Therefore be it resolved that the members of the HARB hereby petition the Radnor Township Board of Commissioners to enact a policy of notification, in the same manner as Zoning Hearing Board notifications, so that residents and interested parties are made aware of applications for which they are permitted to offer comment to the HARB, and that application fees be adjusted, if necessary, so that costs of such notification will be borne by the applicant and not the Radnor Township taxpayer..

Submitted to the Commissioners this 2nd day of November, 2016

Janelle Snyder
Chair

Myles Kellam
Vice Chair

Robert Mordeczko
Member

Terry Arney
Member

Sarah Oaks
Member

Presentation by Interested Resident Groups for the Future of the Willows

Christina Perrone

RESOLUTION NO. 2016-111

A RESOLUTION OF RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA, FORMALLY REQUESTING ALL COLLEGES AND UNIVERSITIES LOCATED IN RADNOR TOWNSHIP WHICH RECEIVE FIRE PROTECTION SERVICES AND EMERGENCY MEDICAL SERVICES FROM RADNOR TOWNSHIP TO VOLUNTARILY CONTRIBUTE ON AN ANNUAL BASIS TOWARD THE COST OF FIRE PROTECTION SERVICES AND EMERGENCY MEDICAL SERVICES

WHEREAS, Radnor Township contributes funding to the Radnor Fire Company who provides fire protection services and emergency medical services to the university communities on an annual basis; and

WHEREAS, universities and colleges located in Radnor Township are exempt from real estate taxes and, therefore, do not directly contribute to the cost of any Radnor Township services, including fire protection and emergency medical services; and

WHEREAS, Radnor Fire Company worked with Township Staff in 2016 to analyze and verify a funding shortfall that resulted in a request of an additional $150,000 per year in support beginning in 2017.

NOW, THEREFORE, be it hereby ***RESOLVED*** that the Radnor Township Board of Commissioners does formally request that the colleges and universities (Villanova, Cabrini and Eastern) voluntarily contribute to the increased cost of fire and emergency medical services provided by Radnor Fire Company in order to lessen the burden on the existing and future taxpayers and residents of the township, in accordance with the calculation attached hereto and incorporated herein as ***Exhibit "A"***.

SO RESOLVED this 14 day of November, 2016.

RADNOR TOWNSHIP

By: _____
Name: Philip M. Ahr
Title: President

ATTEST: _____
Robert A. Zienkowski, Secretary

Radnor Township, PA
Resolution 2016-111
PILOT Program Worksheet

	2016 Exempt Assessed Value	Share of Exempt Assessment	Resulting PILOT Payment per year					
			2017	2018	2019	2020	2021	2022
RFC Request (growth of 2.75% per year)			$150,000	$154,125	$158,363	$162,718	$167,193	$171,791
Villanova	$208,602,970	77%	115,802	118,987	122,259	125,621	129,076	132,625
Eastern	22,103,800	8%	12,271	12,608	12,955	13,311	13,677	14,053
Cabrini	39,498,840	15%	21,927	22,530	23,150	23,786	24,440	25,113
Total	**$270,205,610**	**100%**	**$150,000**	**$154,125**	**$158,364**	**$162,718**	**$167,193**	**$171,791**

Program Details:

1. The pro-rata share of the annual contribution will be determined by the share of the tax exempt assessed value
2. The PILOT would increase annually by 2.75%
3. The PILOT would be paid directly to the Radnor Fire Company
4. The Radnor Fire Company would report back to the Township on the payment amount, status and success of the PILOT progran
5. The PILOT program would continue in perpetuity, or until a replacement agreement is negotiated by all parties
6. The PILOT program would expand to include any new College or University that (a) owns exempt property in Radnor and (b) receives services from the Radnor Fire Company

Radnor Township

PROPOSED LEGISLATION

DATE: November 9, 2016

TO: **Board of Commissioners**

FROM: **Robert A. Zienkowski,** Township Manager

LEGISLATION: Resolution 2016-111 requesting Villanova, Cabrini and Eastern Universities to participate in a Payment-In-Lieu-Of-Taxes ("PILOT") program as described below

LEGISLATIVE HISTORY: In 2012, the Board of Commissioners adopted a resolution authorizing the Township Manager to negotiate a Volunteer Contribution for Services Program ("VCSP") agreement with the same three entities. The VCSP program was meant to provide funding for the Township's police and public works departments as well as help fund the Radnor Fire Company. The VCSP program never reached agreement.

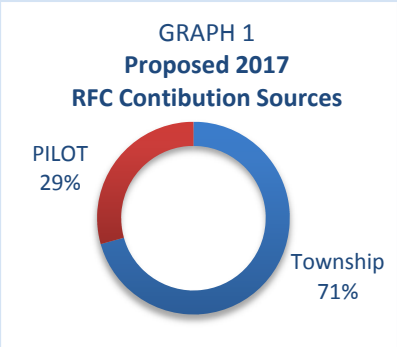
PURPOSE AND EXPLANATION: This new PILOT Resolution is much smaller in amount and scope than the 2012 proposal: Specifically, this resolution would ask the three College/Universities to pay their pro-rata share of the $150,000 in additional funding requested by the Radnor Fire Company at the October 10, 2016 Board of Commissioner meeting. The pro-rata share is being determined bases on the percentage of tax exempt assessment totals as follows:

	2016 Exempt Assessed Value	Share of Exempt Assessment	Resulting PILOT Payment per year					
			2017	2018	2019	2020	2021	2022
RFC Request (growth of 2.75% per year)			$150,000	$154,125	$158,363	$162,718	$167,193	$171,791
Villanova	$208,602,970	77%	115,802	118,987	122,259	125,621	129,076	132,625
Eastern	22,103,800	8%	12,271	12,608	12,955	13,311	13,677	14,053
Cabrini	39,498,840	15%	21,927	22,530	23,150	23,786	24,440	25,113
Total	**$270,205,610**	**100%**	**$150,000**	**$154,125**	**$158,364**	**$162,718**	**$167,193**	**$171,791**

FISCAL IMPACT: The 2017 Township Manager's Recommended Budget includes new appropriations in the amount of $125,000 to help fund most of the Radnor Fire Company's request. In addition to the new appropriation amount falling short of the request, it is also *new spending* being added to the General Fund Budget for 2017, and increasing future years' spending as forecasted:

	2017	2018	2019	2020	2021	2022
Township Contributions:						
RFC Ops	$100,805	$102,317	$103,852	$105,410	$106,991	$108,596
RFC Cap	200,000	200,000	200,000	200,000	200,000	200,000
Subtotal	**$300,805**	**$302,317**	**$303,852**	**$305,410**	**$306,991**	**$308,596**
New EMS Support Request	125,000	128,438	131,970	135,599	139,328	143,159
Grand Total	**$425,805**	**$430,755**	**$435,822**	**$441,009**	**$446,319**	**$451,755**

Amounts above do not include other expenses that the Township pays to support the RFC including workers comp insurance, vehicle insurance, and vehicle fuel.



Consequently, the fiscal impact of the PILOT would be (a) no longer needing to add significant cost to the Township's current expense total, and (b) more importantly, would provide the Radnor Fire Company with the full amount of the needed funding to continue EMS services; a service that the three College/Universities enjoy in the same manner as all tax paying properties in Radnor Township. Graph 1 demonstrates that the proposed PILOT is meant to supplement, not replace, funding commitments already being paid by the Township.

RECOMMENDED ACTION: The Administration is recommending that the Board adopt Resolution 2016-111 at the November 14, 2016 Board meeting.

Radnor Township Public Works & Engineering Departments

Memorandum

To:	Radnor Township Board of Commissioners
From:	Stephen F. Norcini, PE, Director of Public Works SFN
cc:	Robert A. Zienkowski, Township Manager Daniel Wible, PE, CH2M
Date:	November 8th, 2016
Re:	Township Wide Stormwater Management Update from CH2M.

CH2M, the Township's appointed Stormwater Administrator, was awarded the contract to perform the Township Wide Stormwater Study. The purpose of the study, led by Dan Wible of CH2M, is to provide a comprehensive evaluation of the locations in the Township regarding stormwater issues. The Study also includes the modelling of specific locations, along with a cost benefit analysis of addressing stormwater in these locations. The end result is to provide the Township with a high level, as well as in specific locations, an in depth analyses, of stormwater issues. Upon completion of the study, Radnor Township will have a very good tool to be used in prioritizing projects moving forward. Dan Wible's Power Point presentation, titled "Radnor Township Wide Assessment" is attached for your review, prior to his presentation at the upcoming November 14th regularly scheduled Board of Commissioners meeting. Please note that the study is approximately 80% complete. It is anticipated that input from the December Stormwater Management Advisory Committee Open House, Township Staff, and the Board of Commissioners may require adjustments in the study. While at this point, the high level study is complete, the modelling and cost benefit analysis of specific locations is being worked on as I write this memorandum. In January of 2017, we intend to have CH2M present the final and complete Township Wide Stormwater Study to the Board of Commissioners.

There is also a North Wayne Field Basin portion of this study. During the 2016 Budget meetings, the Board of Commissioners instructed the Manager and Staff to provide a cost for the repair and cleaning of the existing stormwater management system. This cost is reflected in the current capital plan. Along with this item in the 2016 Capital Plan, the Board of Commissioners required that North Wayne Field Park be evaluated. The evaluation was to model the existing system in its current state of disrepair, the current system if cleaned and repaired, and the Proposed Stormwater Management Basin E, as designed by Chagrin Valley Engineers. The end result of the analysis is to provide the Board of Commissioners pertinent and detailed information regarding the park. In this way, the Board of Commissioners may make an informed decision regarding North Wayne Field Park and its role in stormwater management. Dan Wible's Power Point presentation on this topic is attached, titled "North Wayne Basin Model Results".

Radnor Township Wide Assessment Update

November 14, 2016

ch2m

Township Wide Assessment Goals

- Assess the areas of existing flooding in the Township; identify priority problem areas
- Identify viable, cost-effective, and community enhancing strategies that will reduce if not eliminate these areas of flooding
  - Streets, parking lots, schools, open space/undeveloped areas, parks, and possibly private parcels
- Create a blueprint for future flood mitigation projects throughout the Township

Township Wide Assessment Status

Task 1 – Identification of Flood Risk Locations (complete)

Task 2 – Data Gap Analysis and Collection (complete)

Task 3 – Enhanced Modeling Existing Conditions (complete)

Task 4 – Identification and Modeling of Conceptual Flood Mitigation Solutions

- Sept-Oct: Identify/develop conceptual projects and costs
- Oct-Nov: Model conceptual projects
- Nov 14: Present to Board of Commissioners

Task 5 – Prioritization of Conceptual Flood Mitigation Projects

- Oct/Nov : Develop/refine prioritization criteria
- Dec 8 : Conduct public workshop

ch2m:

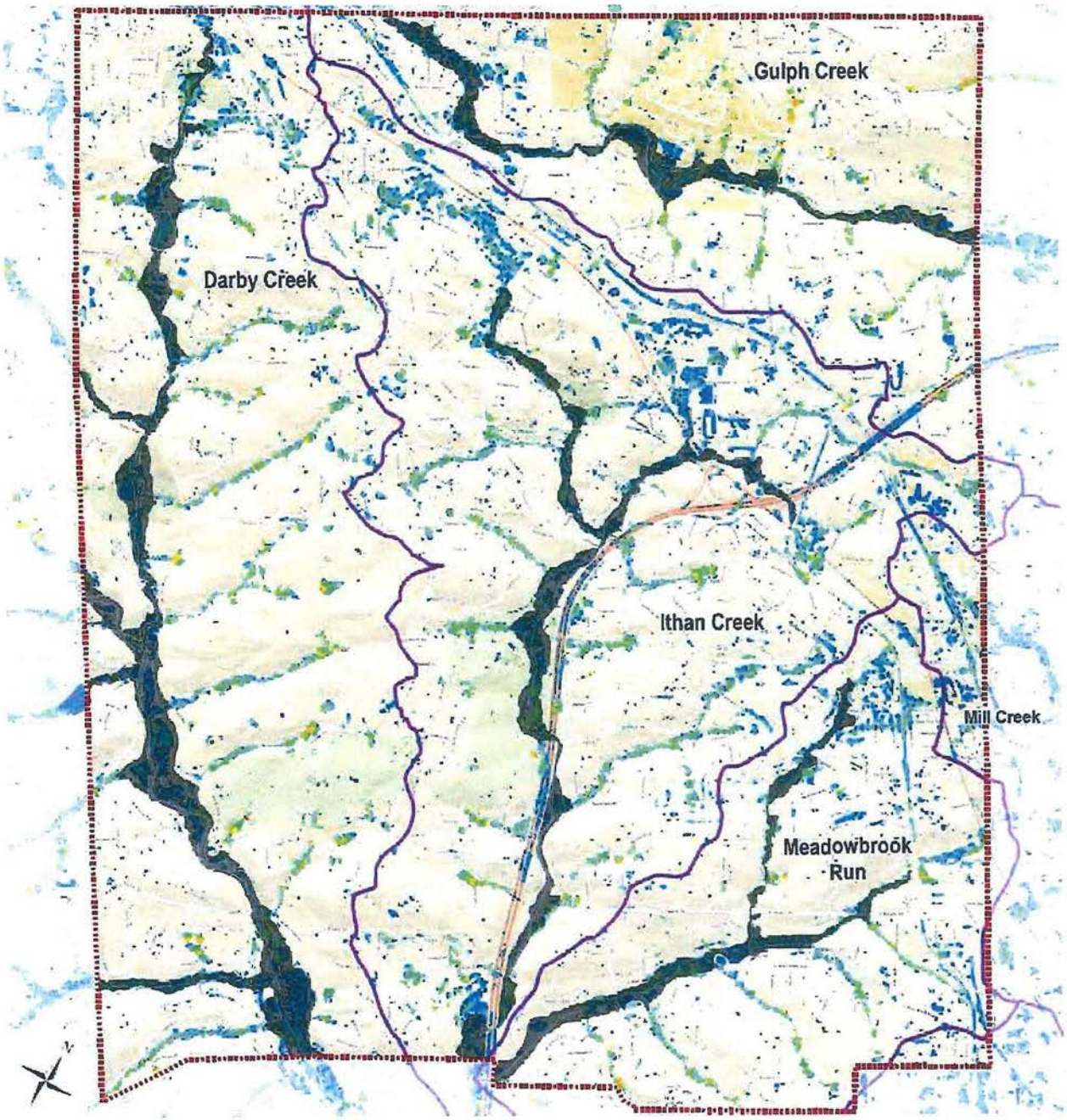
Task 1 – Identification of Flood Risk Locations (Priority Problem Areas)

- Documented known flood locations and identify previously unknown flood locations; review previous flood studies, incident reports, complaint records, and anecdotal information
- Refined previously developed, high-level surface flood model for all Township watersheds
- Identified *preliminary* problem areas
- Identified *priority* problem areas for detailed modeling
  - Developed a high-level ranking system and ranked flood risk locations in order of severity
  - Priority problem areas were those which impacted homes/streets/driveways/emergency services during the 25-year, 1-hour (2.38 inches) event
  - Priority problem areas based on high-level surface model results were identified by examination of Parcel flooding and Right-of-Way (ROW) flooding outside of 100-year FEMA Flood Zones

High-Level Flooding Analysis:

25-year Results

(surface only, no pipes)



Preliminary/Priority Problem Areas Identification:

Parcel Flooding Analysis

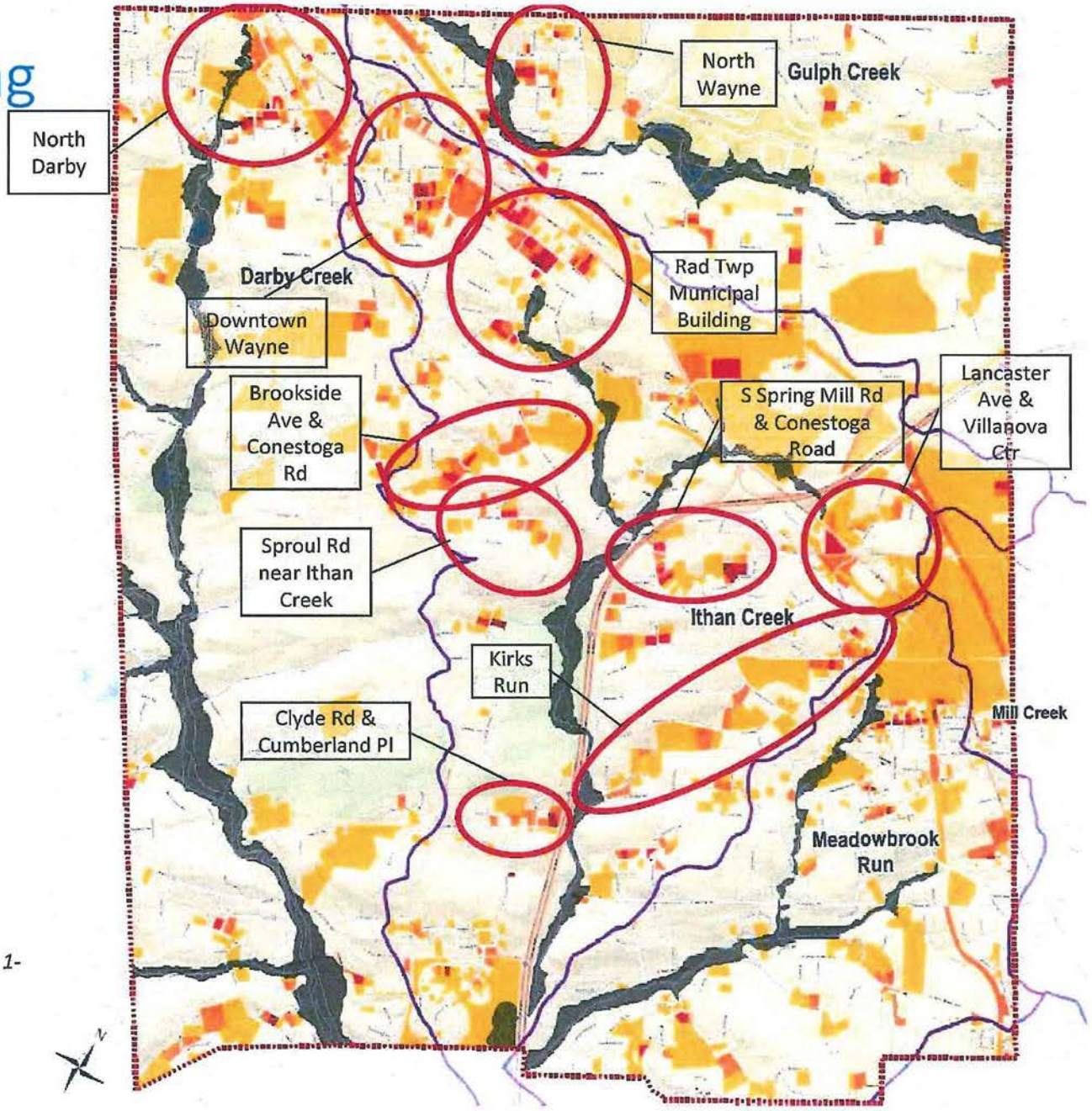
- Identified problem areas based on flooding volume, flooding area, and engineering judgement within each parcel
- Looked for areas with high density of parcels with high flooding volume and high percent of parcel area flooded

ROW Flooding Analysis

- Identified problem areas based on flooding extent, flood depth, and engineering judgement within ROW
- Examined the flood depth grid results only within ROW to locate areas with a high density of ROW flooding

Parcel Flooding Analysis:

25-year Parcel Flooding & Identified Problem Areas



Legend

- Surface Waterways
- Radnor Township Boundary
- Radnor Township Watersheds
- 100-year FEMA Flood Zone

Radnor Township Parcels

% of Total Parcel Area Flooded

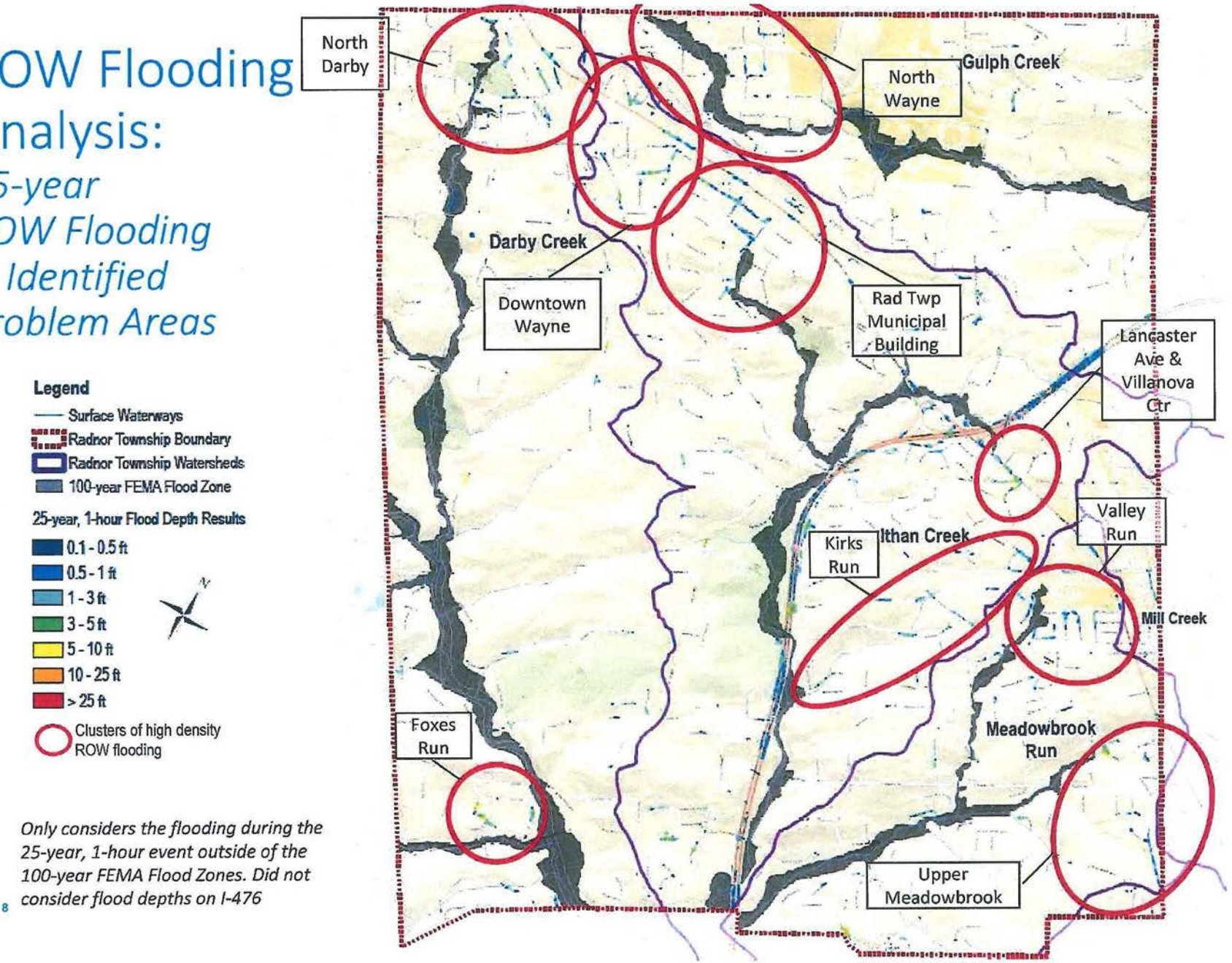
- 0% - 10%
- 10% - 30%
- 30% - 50%
- 50% - 70%
- 70% - 100%

Clusters of high density parcel flooding

**Parcel flooding only considers the flooding during the 25-year, 1-hour event outside of the 100-year FEMA Flood Zones*

ROW Flooding Analysis:

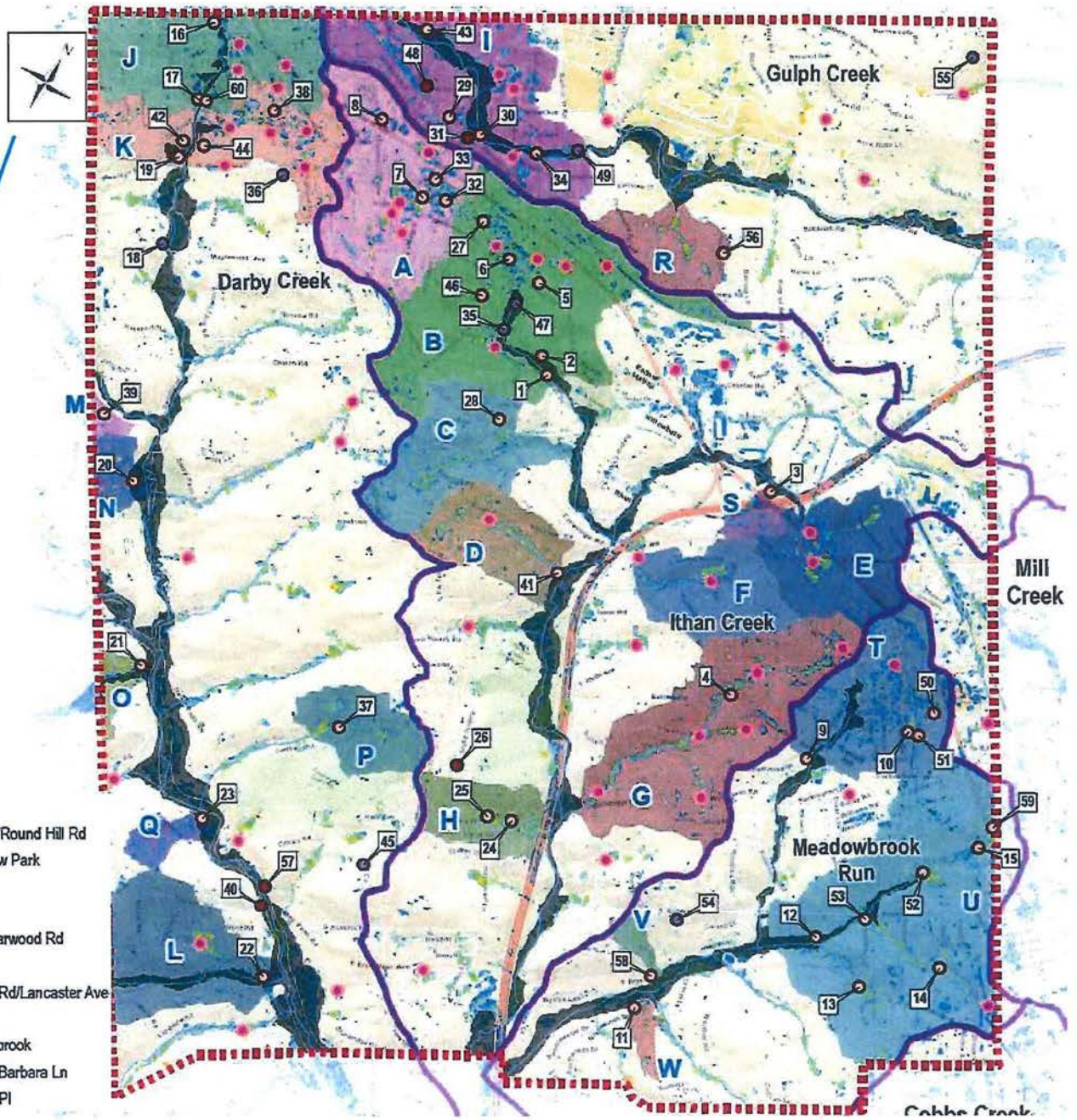
25-year ROW Flooding & Identified Problem Areas



Only considers the flooding during the 25-year, 1-hour event outside of the 100-year FEMA Flood Zones. Did not consider flood depths on I-476

Preliminary Problem Areas w/ Drainage Areas

(based on Parcel and ROW flooding)



Legend

- Documented Flooding Locations
- Documented Erosion Locations
- Potential Flood Prone Locations (from Model)
- Flooding Locations (Documented & Model Overlap)
- Surface Waterways
- Radnor Township Boundary
- Radnor Township Watersheds
- 100-year FEMA Flood Zone

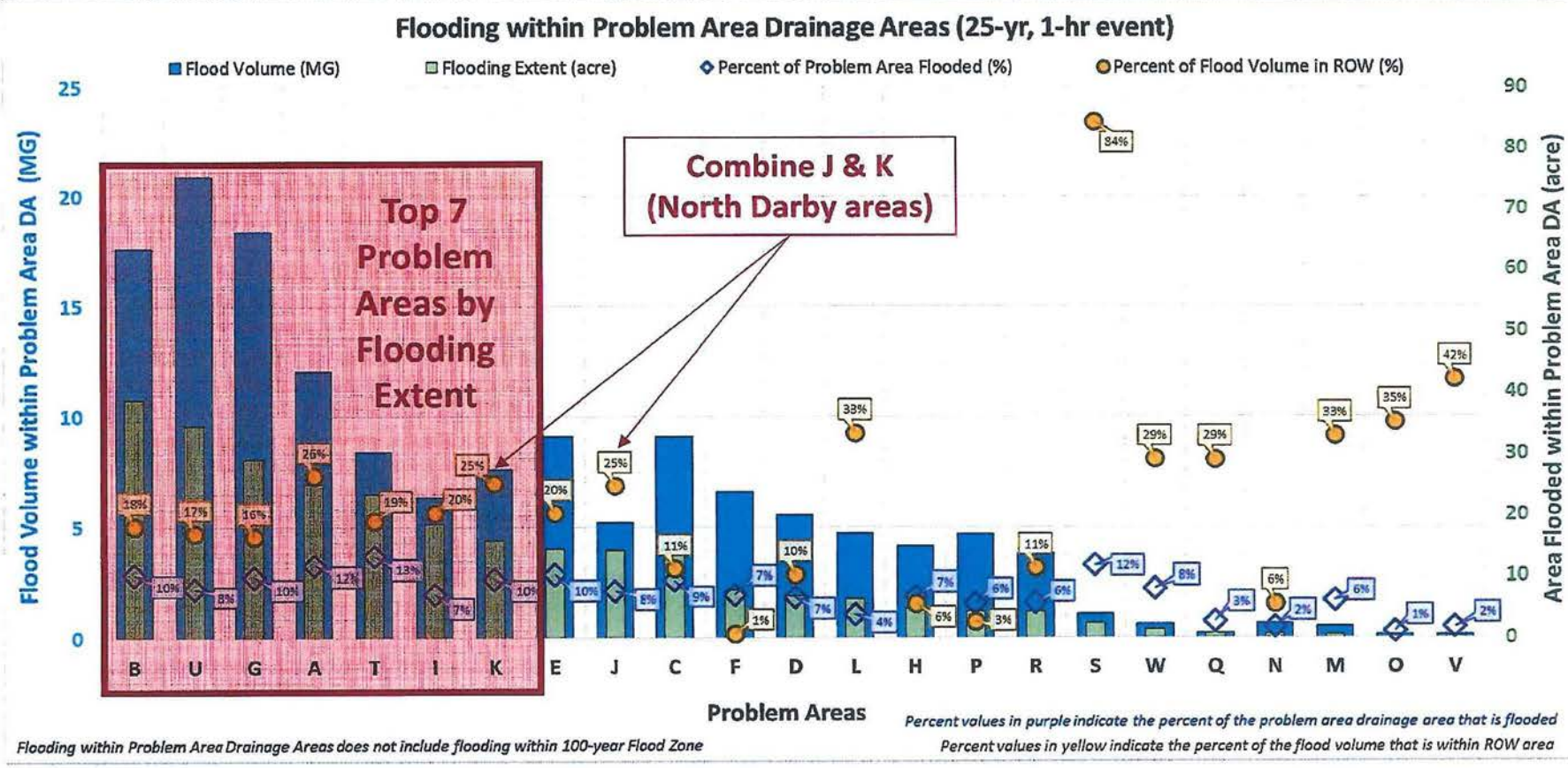
25-year, 1-hour Flood Depth Results

- 0.1 - 0.5 ft
- 0.5 - 1 ft
- 1 - 3 ft
- 3 - 5 ft
- 5 - 10 ft
- 10 - 25 ft
- > 25 ft

Problem Area Drainage Areas

- (A) Downtown Wayne
- (B) Radnor Township Muni Bldg
- (C) Brookside Ave/Conestoga Rd
- (D) Sproul Rd near Ithan Creek
- (E) Lancaster Ave/Villanova Ctr
- (F) S Spring Mill Rd/Conestoga Rd
- (G) Kirks Run
- (H) Clyde Rd/Cumberland Pl
- (I) North Wayne
- (J) North Darby U/S
- (K) North Darby D/S
- (L) Foxes Run
- (M) Darby Paoli Rd/Round Hill Rd
- (N) Willow Rd/Willow Park
- (O) Saw Mill Run
- (P) Godfrey Road
- (Q) Amherst Cir/Briarwood Rd
- (R) Belrose Lane
- (S) King of Prussia Rd/Lancaster Ave
- (T) Valley Run
- (U) Upper Meadowbrook
- (V) Bryn Mawr Ave/Barbara Ln
- (W) Mill Rd/Laurier Pl

Priority Problem Areas Identification: Flooding Volume and Area Summary Figure



(A) Downtown Wayne
(B) Radnor Township Muni Bldg
(C) Brookside Ave/Conestoga Rd
(D) Sproul Rd near Ithan Creek
(E) Lancaster Ave/Villanova Ctr
(F) S Spring Mill Rd/Conestoga Rd
(G) Kirks Run
(H) Clyde Rd/Cumberland Pl
(I) North Wayne
(J) North Darby U/S
(K) North Darby D/S
(L) Foxes Run
(M) Darby Paoli Rd/Round Hill Rd
(N) Willow Rd/Willow Park
(O) Saw Mill Run
(P) Godfrey Road
(Q) Amherst Cir/Briarwood Rd
(R) Belrose Lane
(S) King of Prussia Rd/Lancaster Ave
(T) Valley Run
(U) Upper Meadowbrook
(V) Bryn Mawr Ave/Barbara Ln
(W) Mill Rd/Laurier Pl

Priority Problem Areas Identification Results: Flooding Volume and Area Summary Table

Combine J & K (North Darby areas)

Top 7 Problem Areas by Flooding Extent

Drainage Area ID	Watershed	Name	Drainage Area (acre)	Flooding Extent (acre)	Flood Volume (MG)	Percent of Problem Area Flooded (%)	# of Impacted Parcels	Percent of Flood Volume in ROW (%)	Average Flood Depth within ROW (ft)	# of Documented Flooding Locations within DA	# of Documented Flooding Locations within DA (outside of 100-year Flood Zone)	# of Potential Flood Prone Locations (from Model) within DA
B	Ithan	(B) Radnor Township Municipal Building	376	38.7	17.6	10%	681	18%	1.3	6	5	5
U	Meadowbrook	(U) Upper Meadowbrook	430	34.5	21.9	8%	691	17%	2.0	7	3	1
G	Ithan	(G) Kirks Run	295	29.1	18.4	10%	339	16%	1.7	1	1	6
A	Ithan	(A) Downtown Wayne	212	24.9	12.1	12%	548	26%	1.6	4	4	4
T	Meadowbrook	(T) Valley Run	177	23.4	8.4	13%	448	19%	1.0	4	4	1
I	Gulph	(I) North Wayne	259	18.4	6.3	7%	800	20%	1.1	6	3	3
K	Darby	(K) North Darby D/S	166	15.8	7.6	10%	636	25%	1.5	4	3	6
E	Ithan	(E) Lancaster Ave & Villanova Ctr	141	14.5	9.1	10%	170	20%	2.1	0	0	2
J	Darby	(J) North Darby U/S	187	14.2	5.2	8%	560	25%	1.2	3	3	3
C	Ithan	(C) Brookside Ave & Conestoga Rd	148	13.9	9.1	9%	178	11%	2.9	1	1	0
F	Ithan	(F) S Spring Mill Rd & Conestoga Rd	111	7.8	6.6	7%	202	1%	0.8	0	0	2
D	Ithan	(D) Sproul Rd near Ithan Creek	103	6.8	5.5	7%	104	10%	2.2	1	0	1
L	Darby	(L) Foxes Run	165	6.3	4.7	4%	160	33%	3.3	1	0	1
H	Ithan	(H) Clyde Rd & Cumberland Pl	72	4.8	4.2	7%	89	6%	1.4	2	2	0
P	Darby	(P) Godfrey Road	77	4.3	4.7	6%	7	3%	2.4	1	1	0
R	Gulph	(R) Belrose Lane	75	4.3	3.8	6%	131	11%	1.7	1	1	0
S	Ithan	(S) King of Prussia Rd/Lancaster Ave	21	2.5	1.1	12%	31	84%	1.4	1	1	0
W	Meadowbrook	(W) Mill Rd/Laurier Pl	18	1.4	0.6	8%	35	29%	2.0	1	1	0
Q	Darby	(Q) Amherst Cir/Briarwood Rd	26	0.7	0.2	3%	36	29%	1.0	1	0	0
N	Darby	(N) Willow Rd/Willow Park	34	0.6	0.7	2%	31	6%	1.7	1	0	0
M	Darby	(M) Darby Paoli Rd/Round Hill Rd	10	0.6	0.5	6%	13	33%	2.4	1	1	0
O	Darby	(O) Saw Mill Run	23	0.3	0.1	1%	21	35%	1.1	1	0	0
V	Meadowbrook	(V) Bryn Mawr Ave/Barbara Ln	14	0.3	0.2	2%	22	42%	2.8	1	1	0

Note: Flooding within Problem Area Drainage Areas does not include flooding within 100-year Flood Zone

Recommended Priority Problem Areas

Legend

- Documented Flooding Locations
- Documented Erosion Locations
- Potential Flood Prone Locations (from Model)
- Flooding Locations (Documented & Model Overlap)
- Surface Waterways
- Storm Sewers (line)
- Storm Sewers (polygon)
- Radnor Township Boundary
- Radnor Township Watersheds
- 100-year FEMA Flood Zone

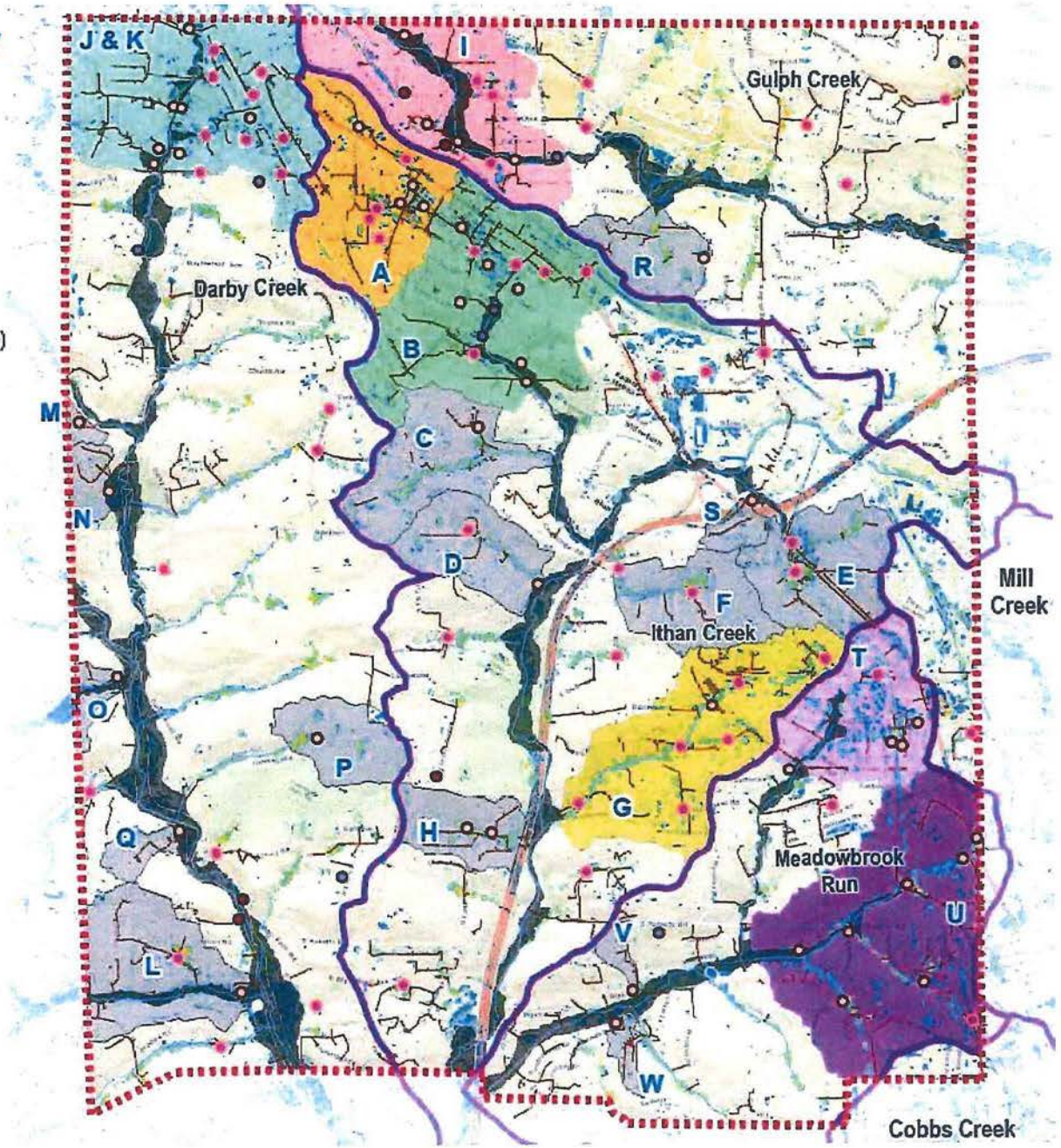
Recommended Problem Area Drainage Areas

- (A) Downtown Wayne
- (B) Radnor Township Muni Bldg
- (G) Kirks Run
- (I) North Wayne
- (J/K) North Darby
- (T) Valley Run
- (U) Upper Meadowbrook

- Other Problem Area Drainage Areas

25-year, 1-hour Flood Depth Results

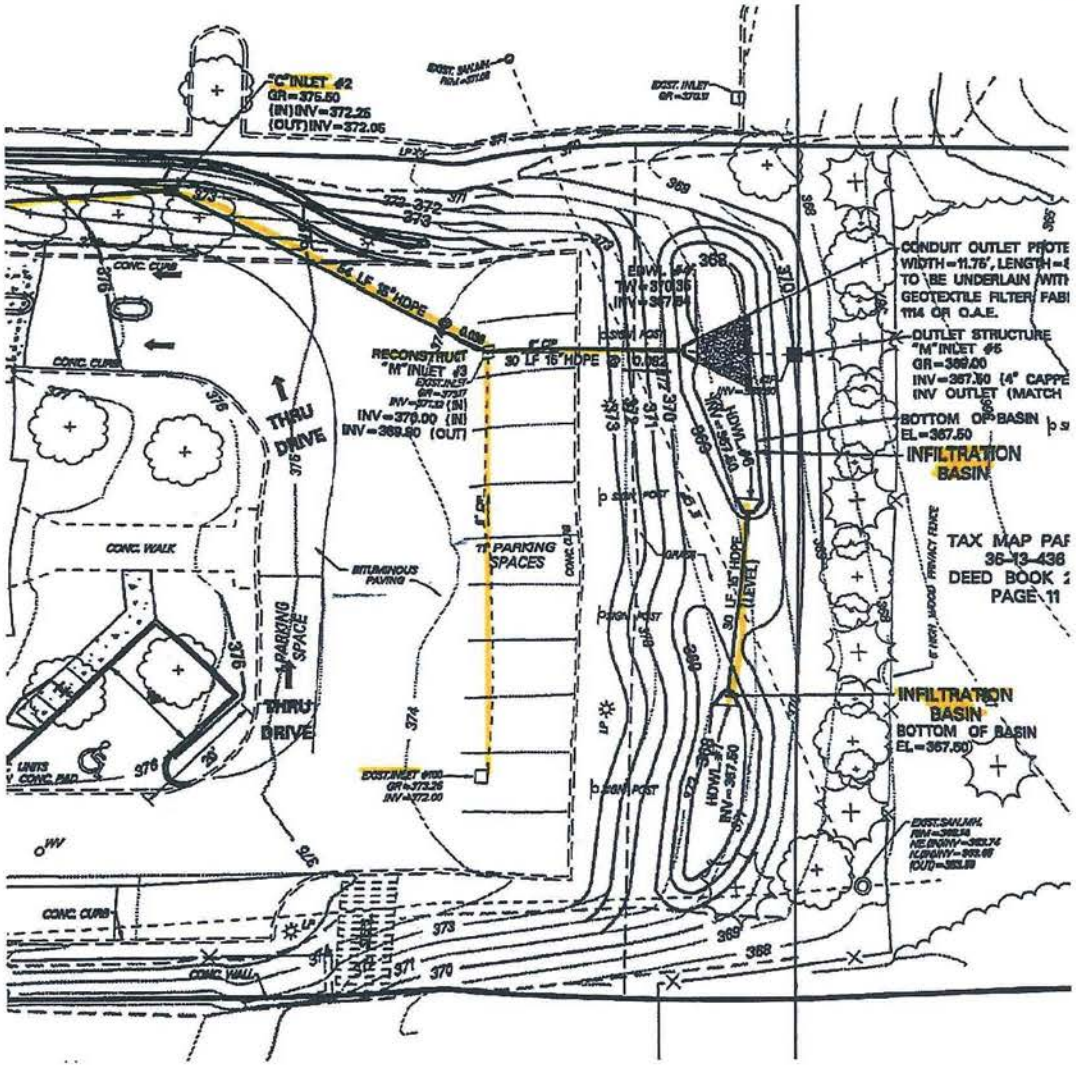
- 0.1 - 0.5 ft
- 0.5 - 1 ft
- 1 - 3 ft
- 3 - 5 ft
- 5 - 10 ft
- 10 - 25 ft
- > 25 ft



Task 2 – Data Gap Analysis and Collection (for Priority Problem Areas)

- Identified key model development locations and likely trunk sewer locations (include RMS system and N. Wayne basin)
- Reviewed available drainage information (i.e. record plans)
- Identified key data gaps in the existing drainage information
- Collected necessary information (via additional records research and field survey) to fill gaps and develop hydrologic/hydraulic model of priority problem areas

Subdivision Plan Data Processing (in Geodatabase)



- Reviewed subdivision plans
  - Dating back to early 1950's
  - 100+ plans reviewed
- Identified stormwater features
  - Pipes
  - Inlets
  - Manholes
  - BMPs

ch2m

Task 3 – Enhanced Flood Modeling – Existing Conditions

- Developed detailed hydrologic/hydraulic model of existing conditions
  - Limited to the extents necessary to fully investigate identified priority problem areas
  - Included RMS system, N. Wayne basin, Banbury/Francis project (concept design), and other existing stormwater management facilities with potentially significant impact (and available information)
- Model will facilitate analysis of potential flood mitigation projects in Task 4, including cost/benefit analysis
- Model "validated" with anecdotal evidence and comparison to flooding photos

Locations of Forest Road Flooding Photos (July 25, 2016 Event)

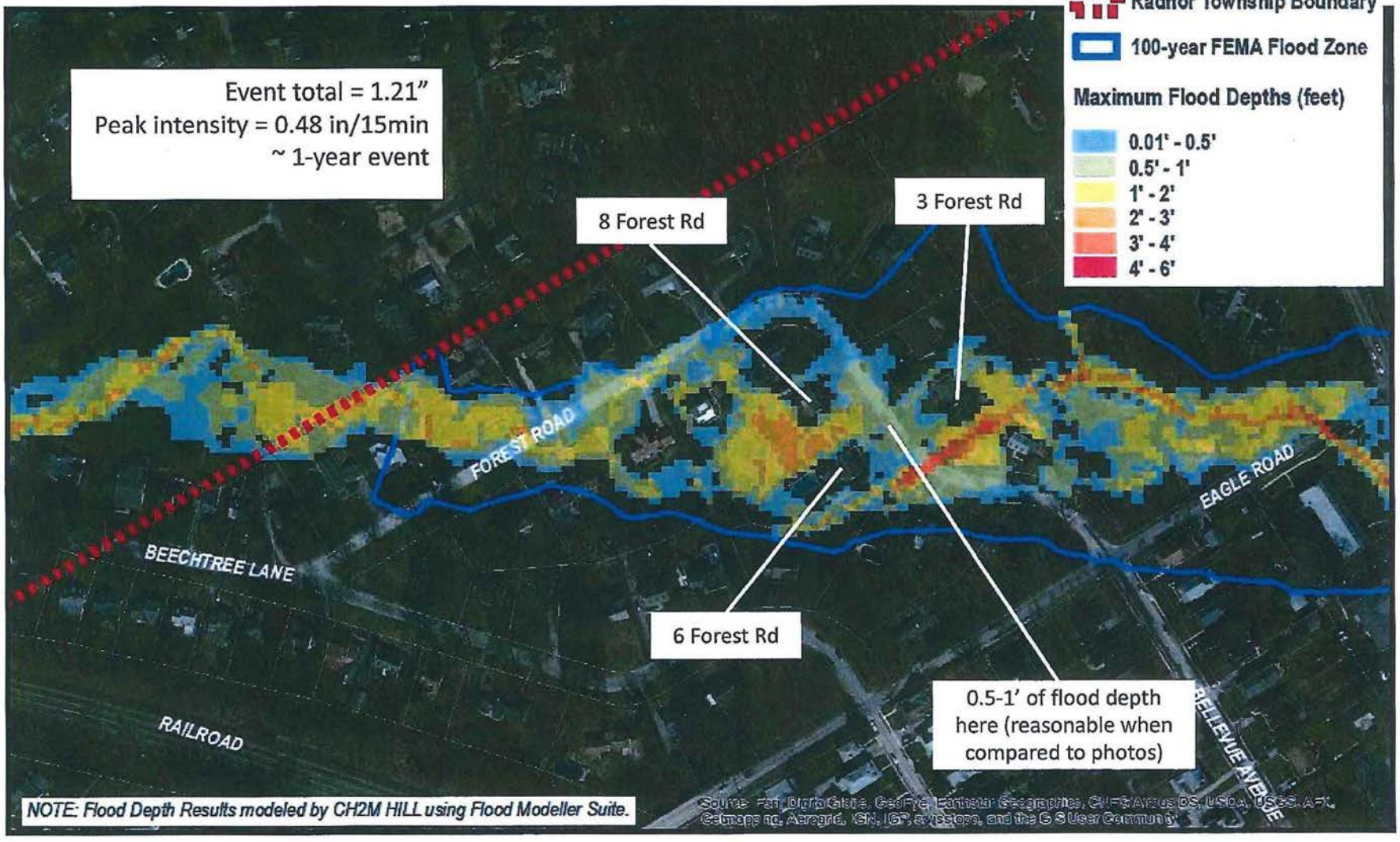
Photos of Forest Road Flooding (July 25, 2016 Event)

Looking towards 8 Forest Rd

Looking towards 6 Forest Rd
(shows flooding in 3 Forest Rd driveway)

Looking towards 3 Forest Rd
(stream flowing through stone culvert under roadway)

Model Results for July 25, 2016 Event (second of two events that day)

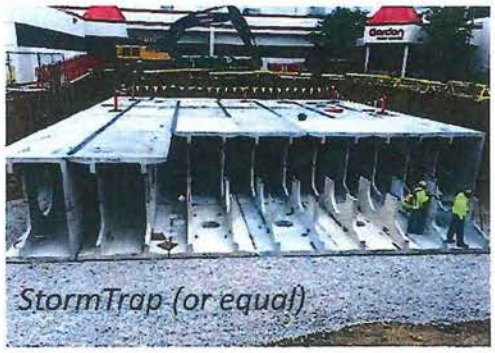


Task 4 – Identification and Modeling of Conceptual Flood Mitigation Solutions

- Identify/model up to 28 high-level concepts and/or categories of potential flood mitigation projects
  - Achieve other benefits besides flood reduction (water quality improvements, community enhancements, volume reduction, etc)
- Green infrastructure, detention, and/or conveyance
- Develop a watershed map indicating specific and/or general locations for the potential projects
- Develop cost/benefit analysis

Potential Flood Mitigation Projects

- Basin-scale Systems
  - Subsurface Storage – Aggregate or Chambers (16)
  - Constructed Wetlands (2)
  - Bioretention (8)
  - Detention Basin Retrofits (10)
  - Residential Systems (Rain Barrels, Rain Gardens, etc) (multiple)
- Green Streets
  - Commercial (2)
  - Residential (multiple)
- Conveyance & Stream / Floodplain Enhancement Systems
  - Pipe Conveyance (3)
  - Natural Channels (1)
  - Natural Channels with Structural Elements (Check Dams, Aggregate Reinforcement, etc) (1)

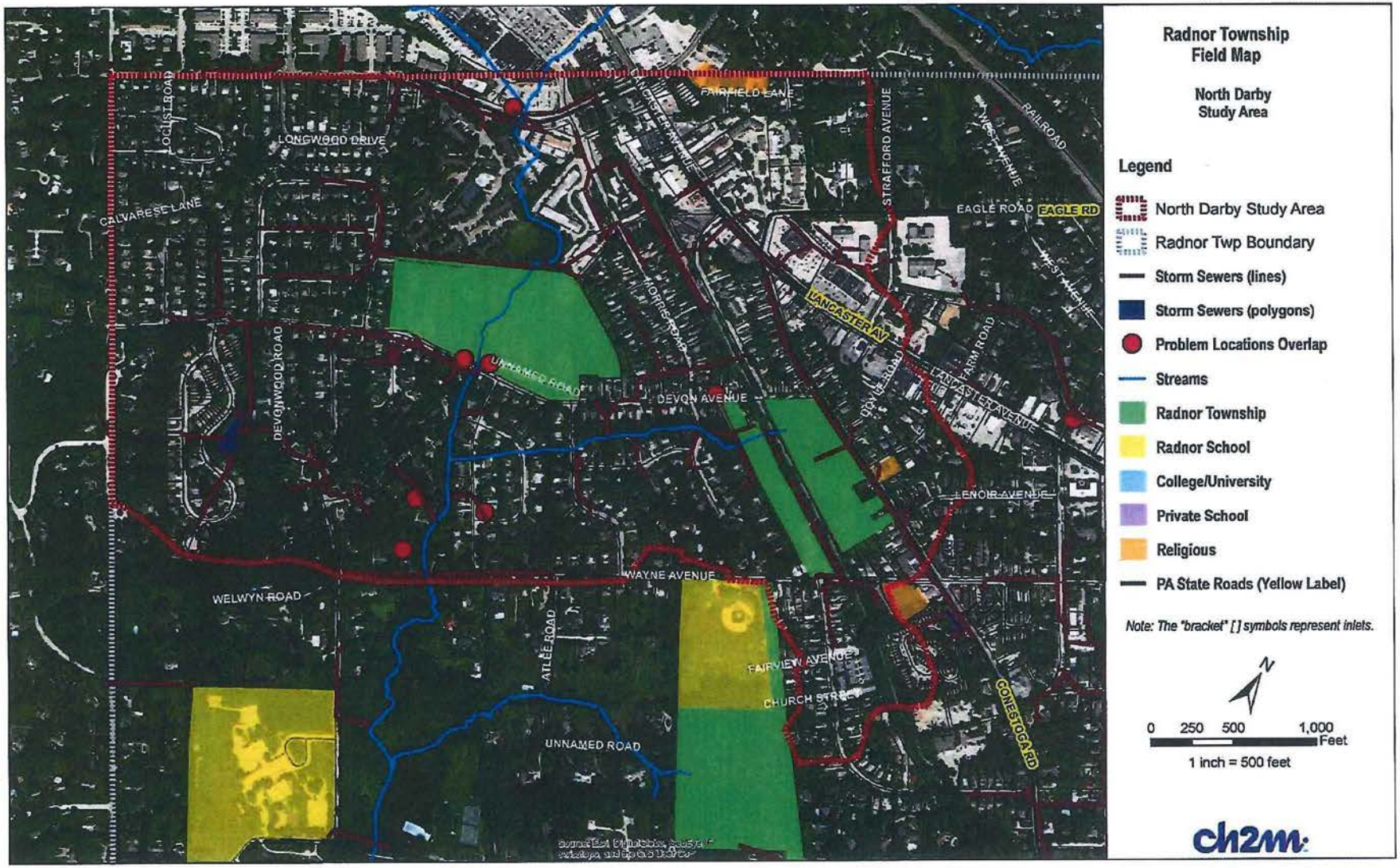


Potential Flood Mitigation Projects

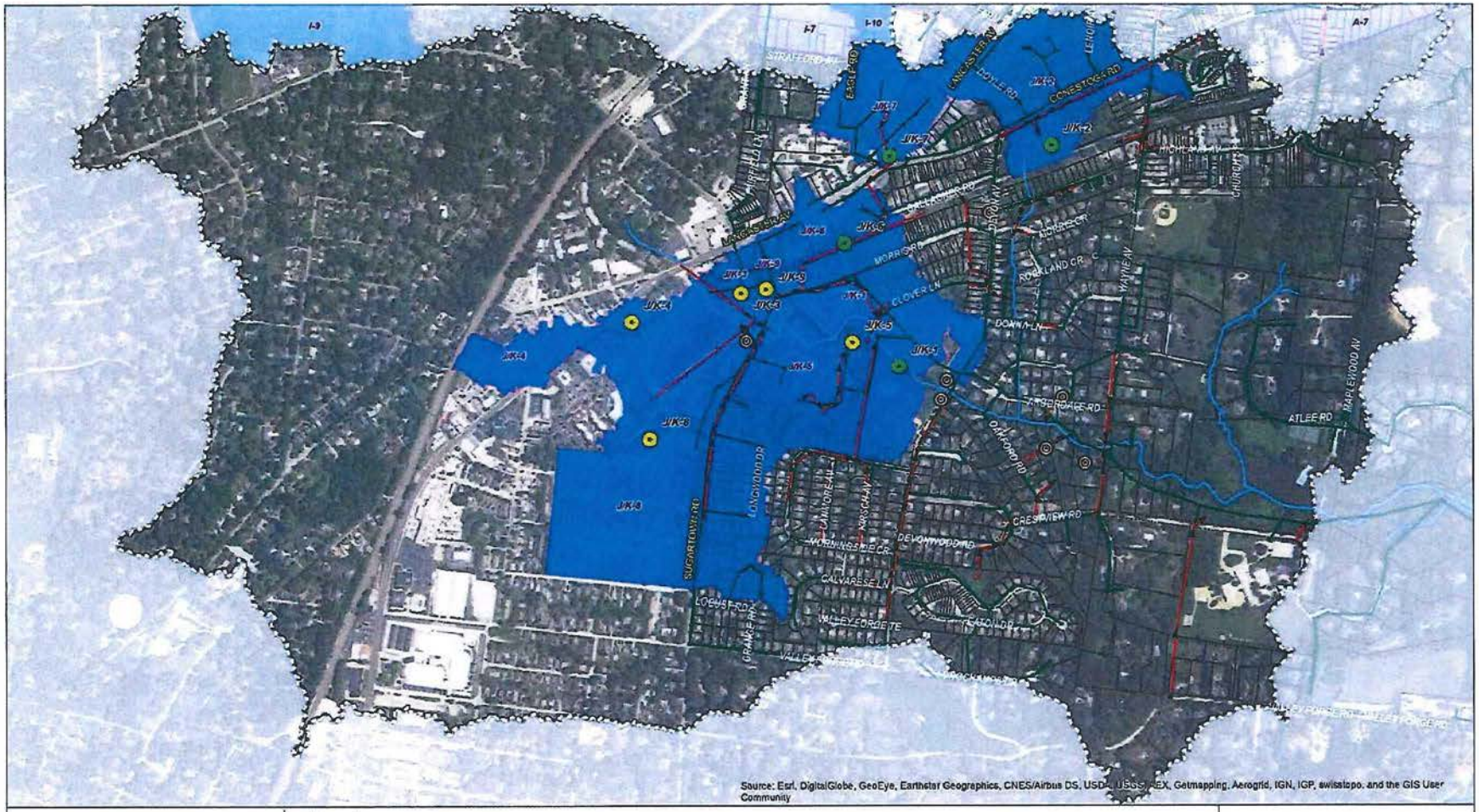
- Focus on public (Township & School District) lands in Radnor Township – such locations are fairly limited
- Private parcels opportunities identified – *private lands must be part of the solution*
- Identified specific projects, as well as typologies over broad areas (i.e. residential parcels and streets)
- Over 50 potential projects initially identified; screened down to 29 based on input from Steve Norcini, ownership, size of drainage area, storage volume, constructability, etc.
  - 17 public sites and 12 private sites
  - 19 basin-scale projects, 6 conveyance/channel projects, and 4 green streets (some contain multiple streets)
  - 11 in Ithan, 7 in Gulph, 7 in Meadowbrook, and 4 in Darby

ch2m:

Area J/K (Darby Creek) – Opportunity Parcels



Potential Flood Mitigation Projects – Area J/K (Darby Creek)



Radnor Township
Potential Flood Control Project Areas

Priority Problem Area J/K

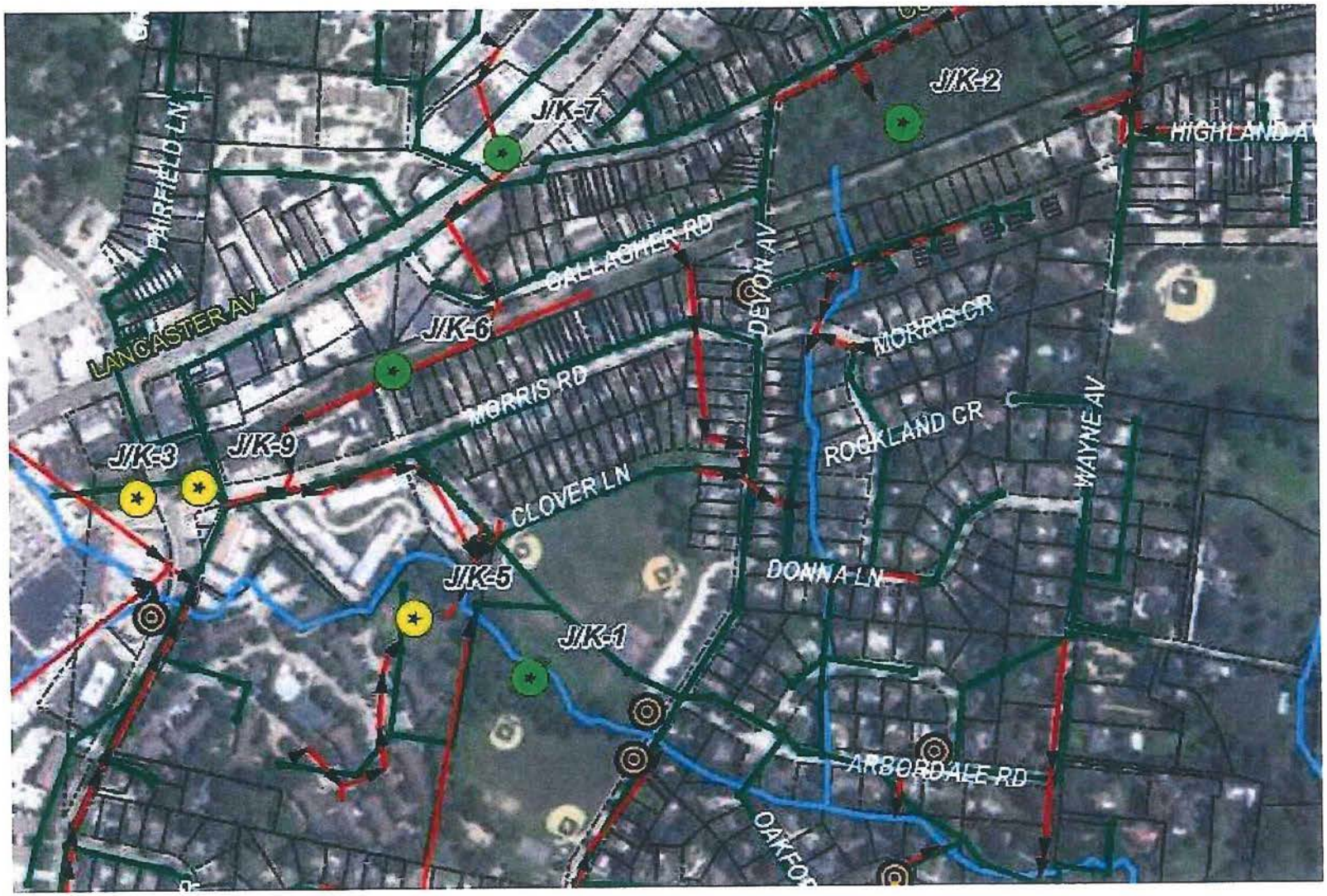
Legend

- Current Project Location
- Potential Project Location Recommended for Detailed Modeling
- Potential Project Location
- Flooding Locations
- Storm Sewer
- Sanitary Sewer
- Streams
- Parcels
- Priority Problem Areas
- Site Project Drainage Areas
- Street Project Drainage Areas
- Neighborhood Project Drainage Areas

0 250 500 Feet

N

Potential Flood Mitigation Projects – Area J/K (Darby Creek)



Task 5 Prioritization of Potential Flood Mitigation Projects

- Developed draft list of prioritization criteria and scoring strategy
  - Flood volume reduction, runoff volume reduction, ownership, water quality, cost sharing/partnership opportunities, O&M, public amenity, public safety, constructability
- Solicited public input on draft criteria at several SWMAC meetings
- Plan to conduct open house / public workshop at December SWMAC meeting
  - 3 "stations": problem locations, potential solutions, and community priorities
  - Finalize prioritization criteria and scoring strategy
  - Weight prioritization criteria by relative importance
- Post-workshop: finalize prioritization criteria and scoring strategy; assign weights prioritization criteria by relative importance; rank projects

Next Steps:

- Refine planning-level cost estimates for potential projects
- Model potential projects
- Public workshop
- Prioritize projects

Thank You

ch2m:SM

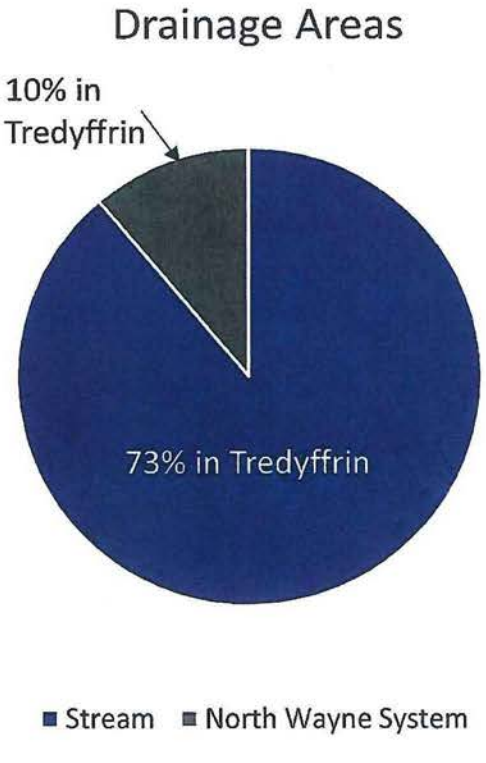
Radnor Township

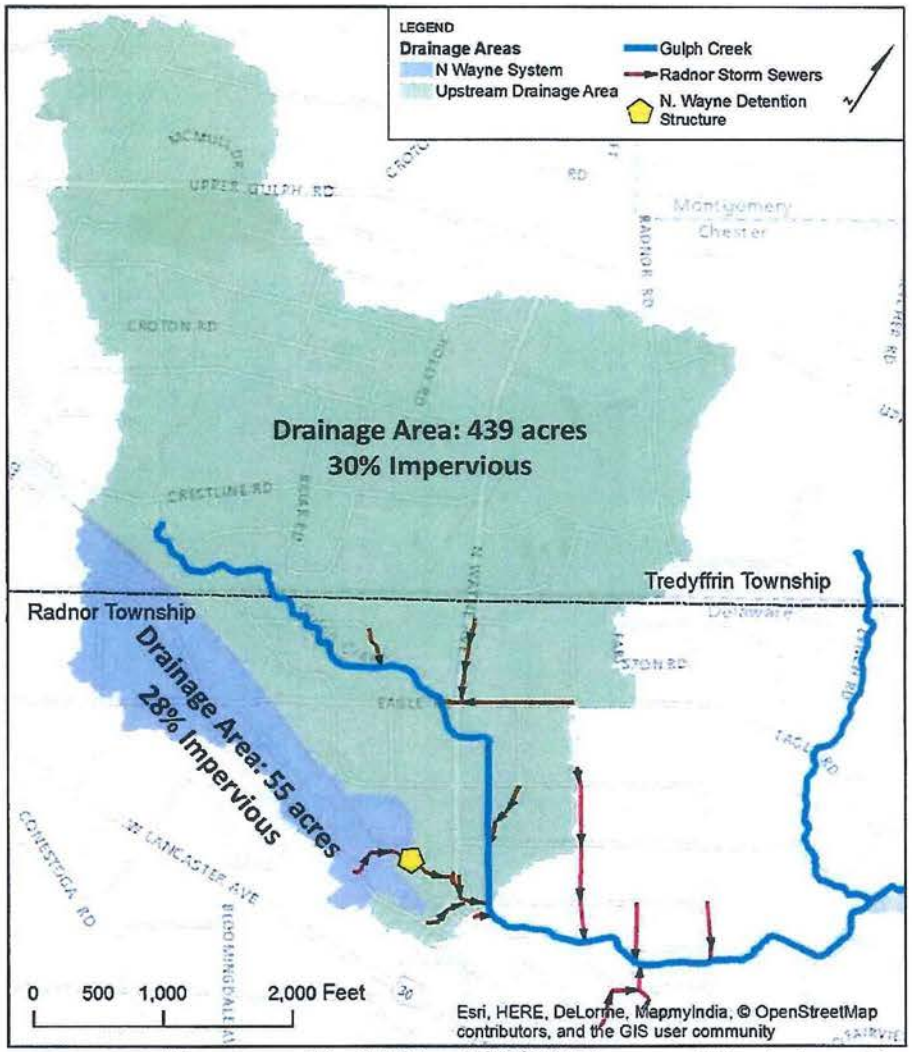
North Wayne Basin Model Results

November 14, 2016

ch2m

North Wayne basin is 11% of drainage area to stream at N. Wayne & Poplar Ave





Map prepared by CH2M on 8/18/2016 for presentation to township

Drainage Area to North Wayne Basin

Runoff comes predominantly from the residential area south of the RR tracks and west of the AT&T development

North Wayne Basin Modeling Analysis

Original design, existing conditions, and proposed improvements for several storm events

- Existing Conditions
  - 12-18 inches of sedimentation
  - Less than 30,000 ft^3 of storage
  - Obstructed inlet
- Original Design (i.e. existing basin is cleaned out / restored)
  - Approx. 49,000 ft^3 of storage (original storage volume restored)
  - Unobstructed inlet
- Proposed Improvements (CVE Option "E")
  - Approx. 147,000 ft^3 of storage
  - Reconfigured outlet structure
  - New outlet pipe (to existing pipe in N. Wayne Ave)

Design Storm	Total Rainfall (in)
2 year, 1 hour	1.44
5 year, 1 hour	1.79
10 year, 1 hour	2.03
25 year, 1 hour	2.40

North Wayne Basin Model Results Summary

Improvements from existing clogged basin conditions

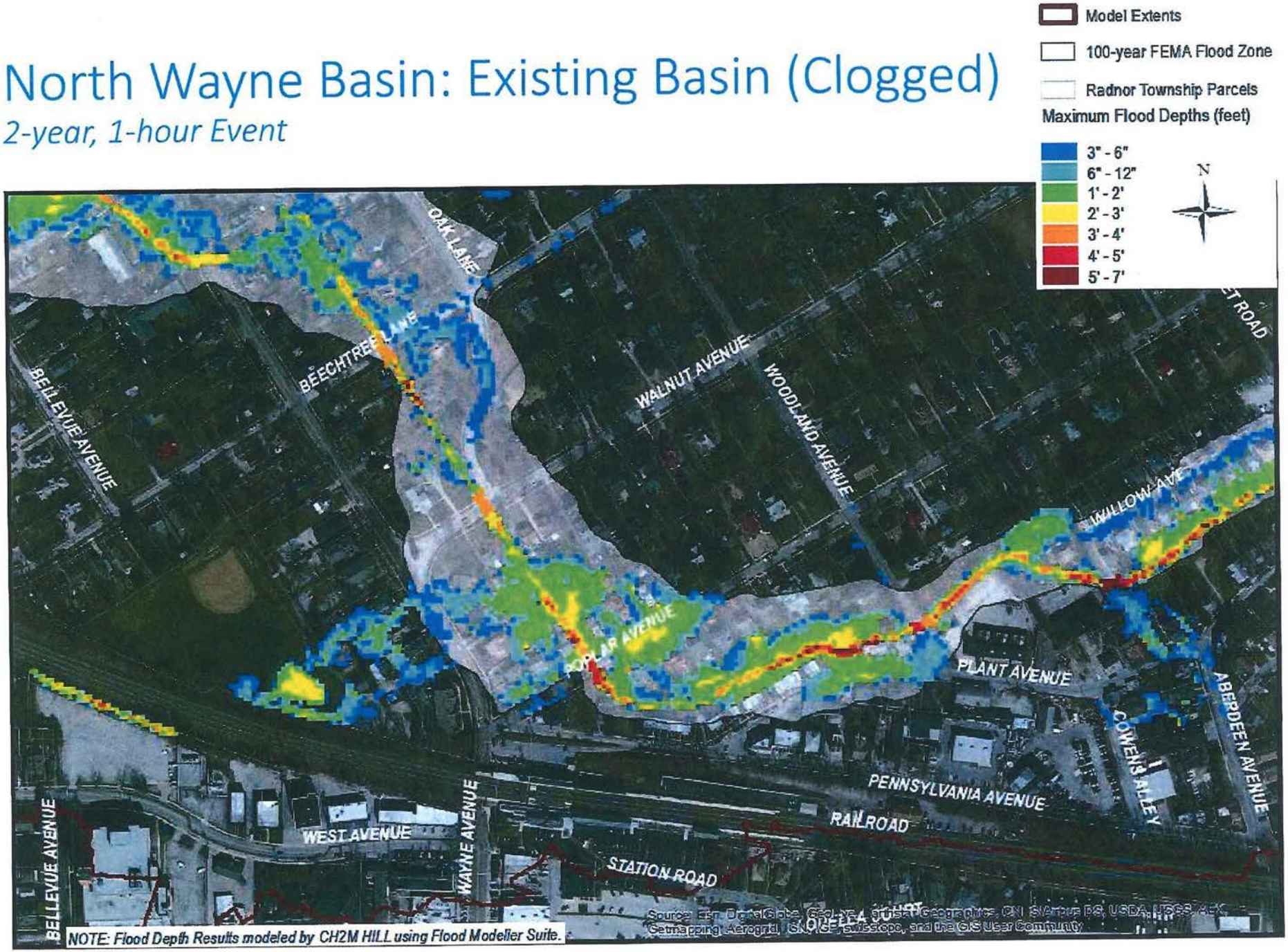
Storm Event (Total Depth)	Basin Improvement*	Flooding Locations				
		between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
2-year, 1-hour (1.44")	Cleaned	↓	↓	↓	↓	—
	Proposed	⇓	↓	↑	↓	↓
5-year, 1-hour (1.79")	Cleaned	↓	↓	↓	—	—
	Proposed	⇓	↓	↓	—	—
10-year, 1-hour (2.03")	Cleaned	↓	—	↑	—	—
	Proposed	⇓	↓	↑	—	—
25-year, 1-hour (2.40")	Cleaned	↓	—	↑	—	—
	Proposed	↓	↓	↑	—	—

**Improvement from Existing Clogged basin condition*

Key	
↓	slight decrease in flooding extent & depth
↓	decrease in flooding extent & depth
⇓	significant decrease in extent / depth
—	little to no change
↑	slight increase in flooding extent & depth

North Wayne Basin: Existing Basin (Clogged)

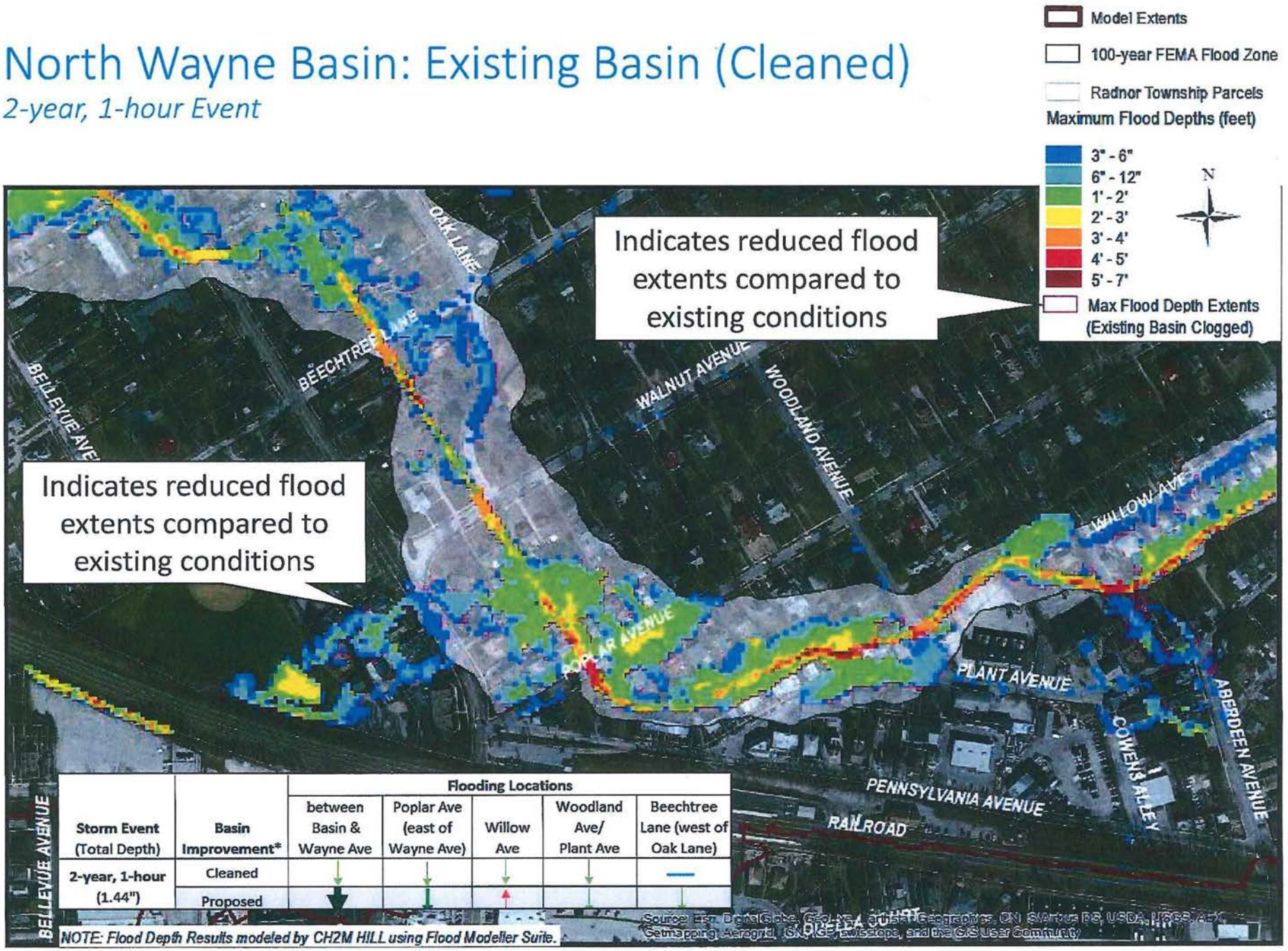
2-year, 1-hour Event



NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

North Wayne Basin: Existing Basin (Cleaned)

2-year, 1-hour Event



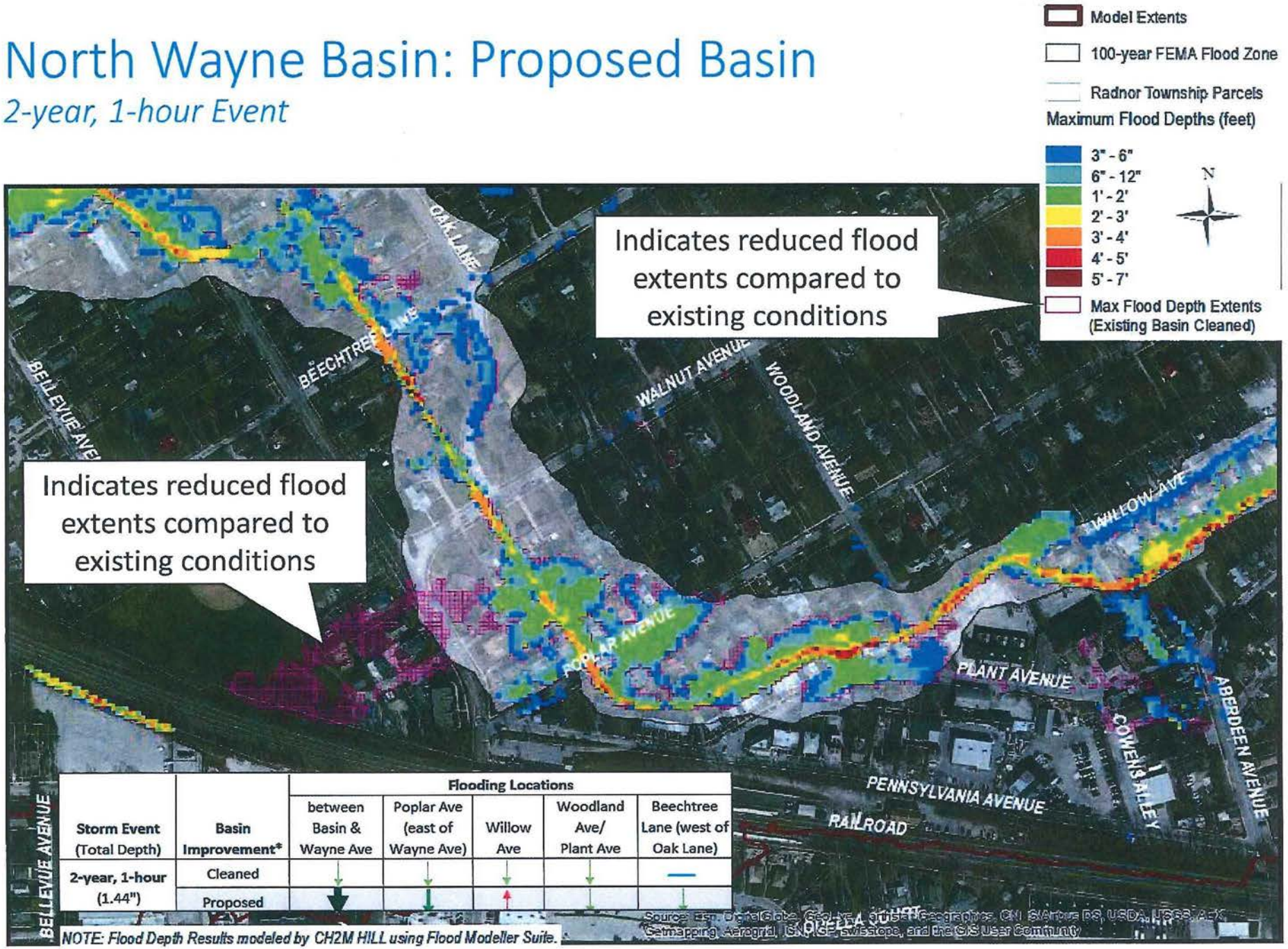
Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
2-year, 1-hour (1.44")	Cleaned	↓	↓	↓	↓	—
	Proposed	↓	↓	↑	↓	↓

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

North Wayne Basin: Proposed Basin

2-year, 1-hour Event

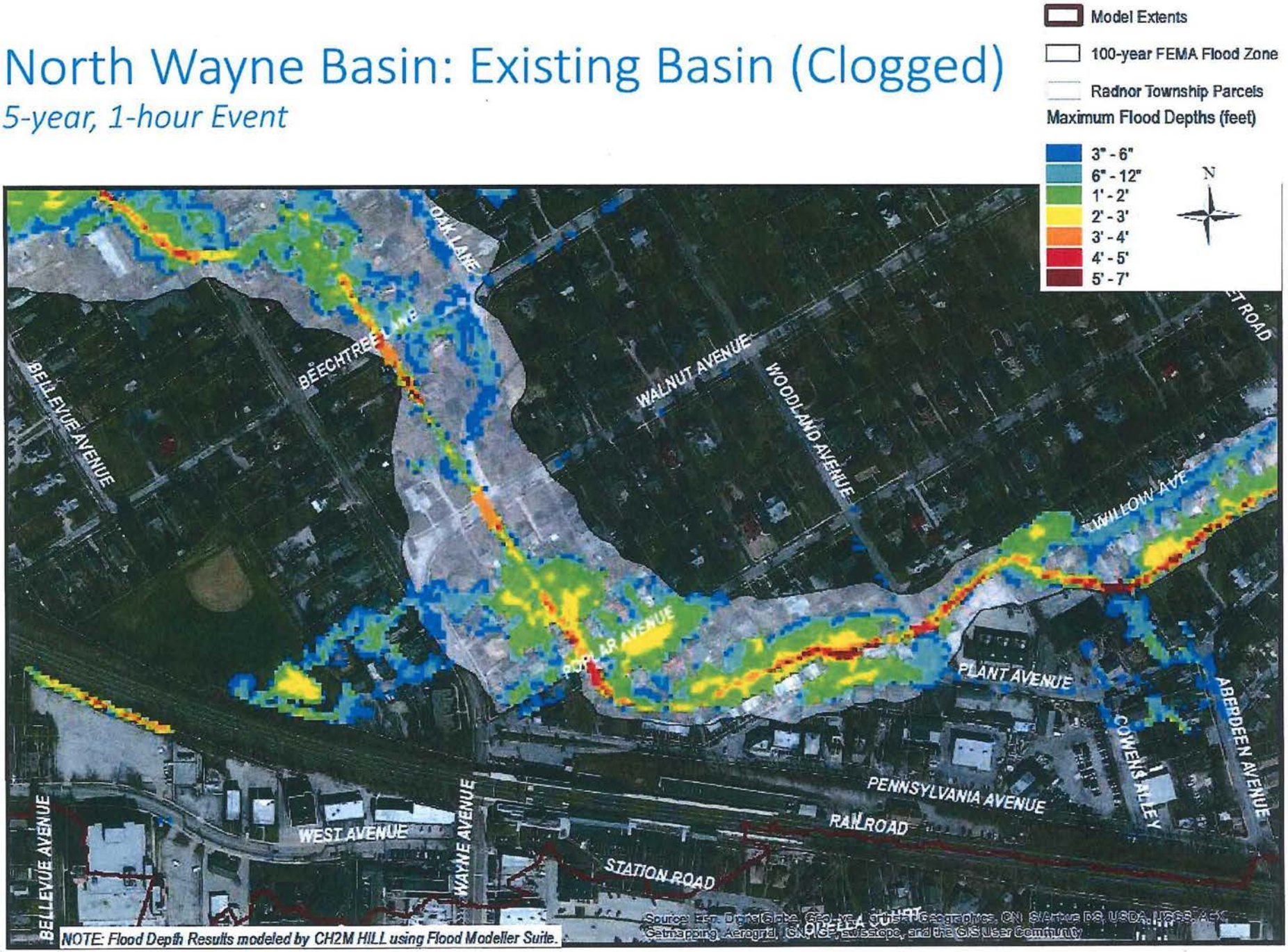


Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
2-year, 1-hour (1.44")	Cleaned	↓	↓	↓	↓	—
	Proposed	↓	↓	↑	↓	↓

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

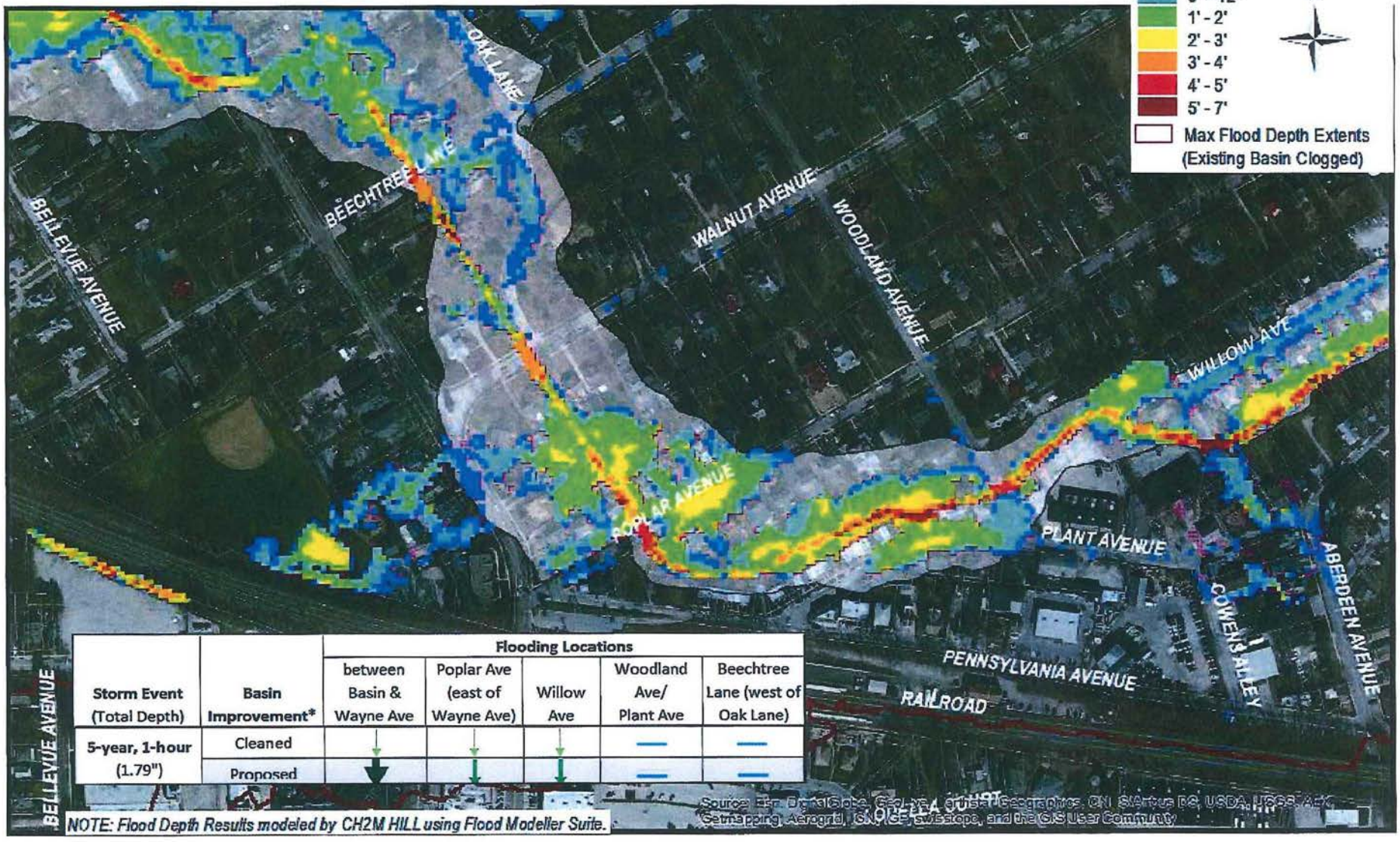
North Wayne Basin: Existing Basin (Clogged)

5-year, 1-hour Event



North Wayne Basin: Existing Basin (Cleaned)

5-year, 1-hour Event



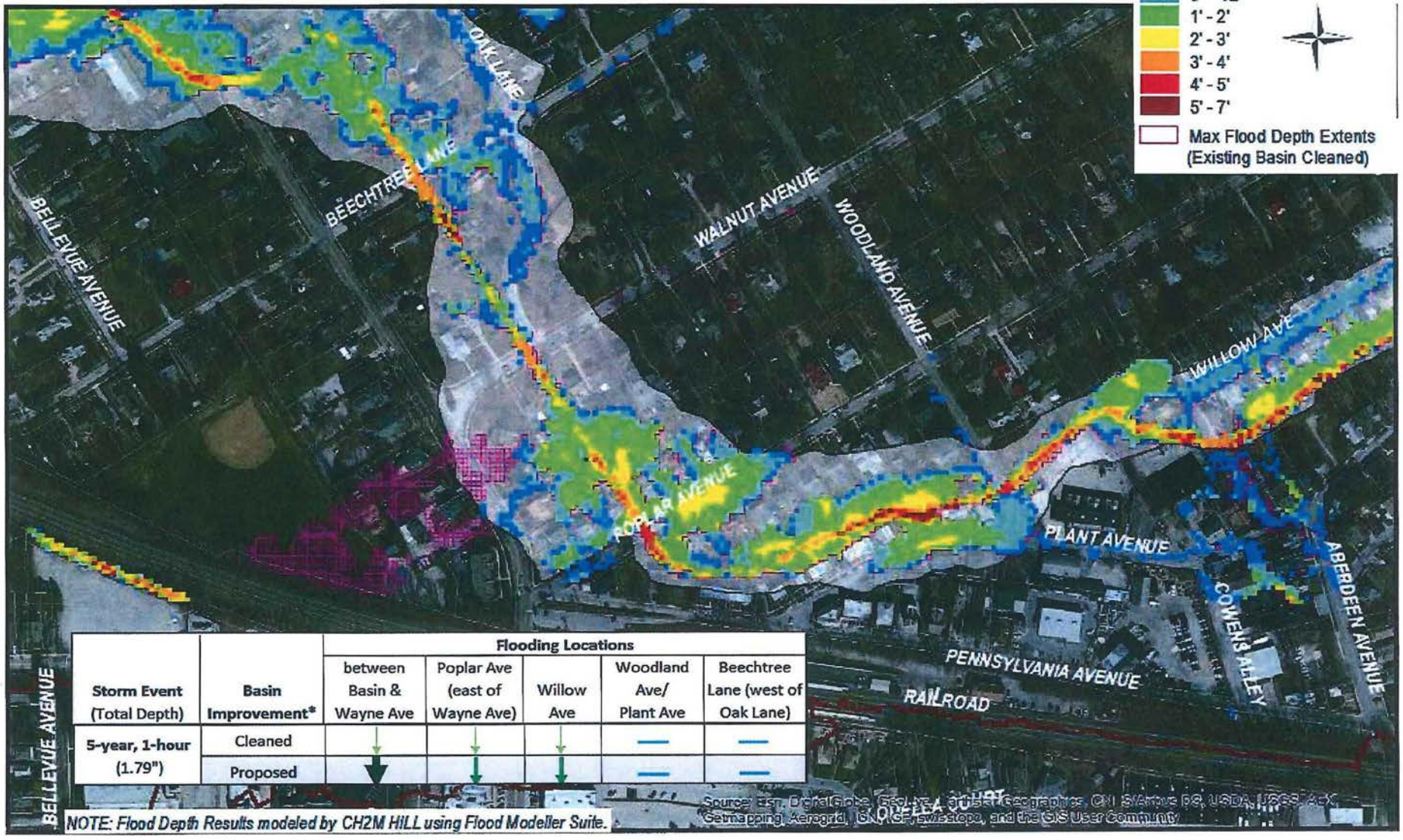
Storm Event (Total Depth)	Basin Improvement*	Flooding Locations				
		between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
5-year, 1-hour (1.79")	Cleaned	↓	↓	↓	—	—
	Proposed	↓	↓	↓	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

North Wayne Basin: Proposed Basin

5-year, 1-hour Event

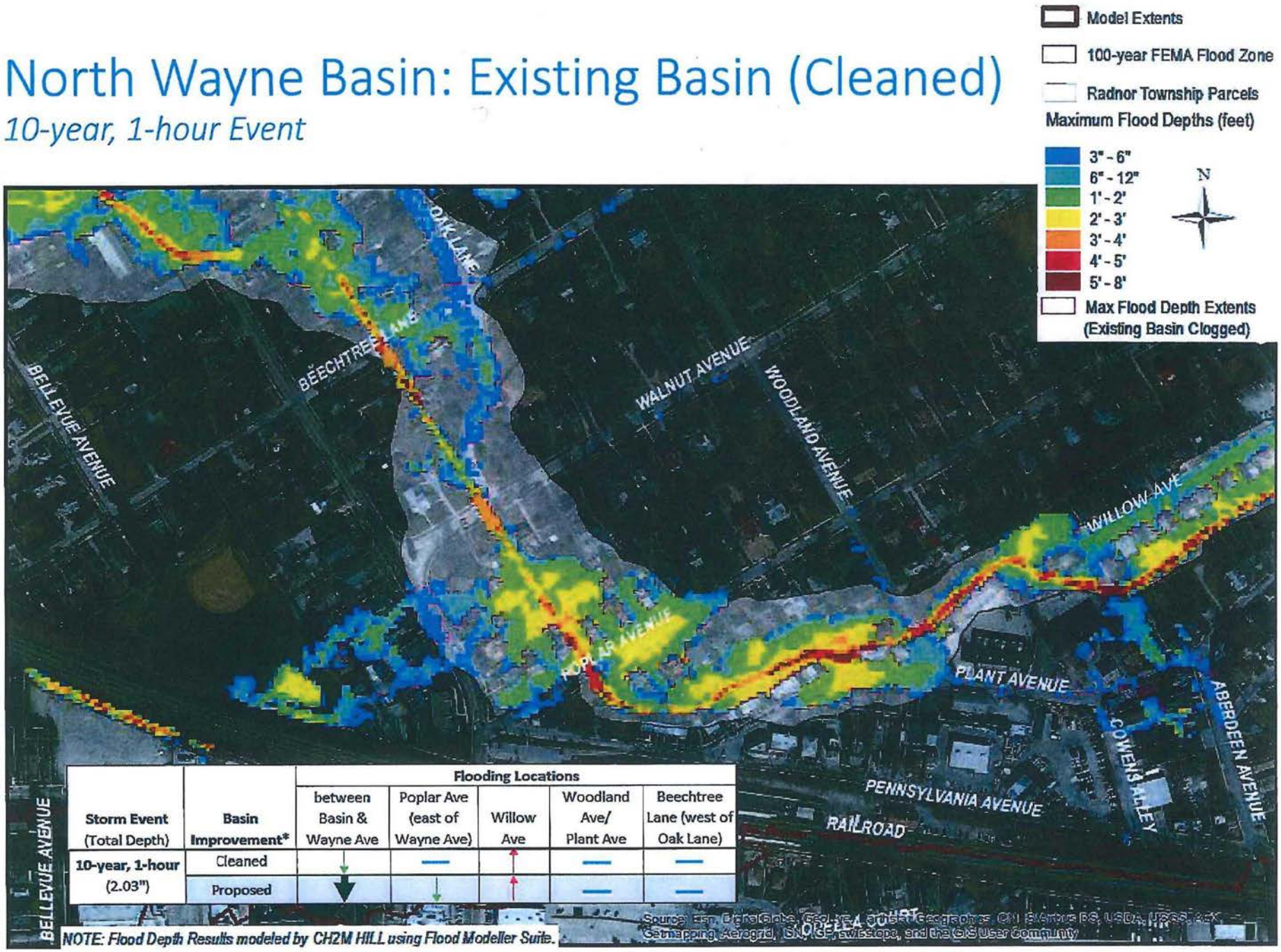


Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
5-year, 1-hour (1.79")	Cleaned	↓	↓	↓	—	—
	Proposed	↓	↓	↓	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

North Wayne Basin: Existing Basin (Cleaned)

10-year, 1-hour Event

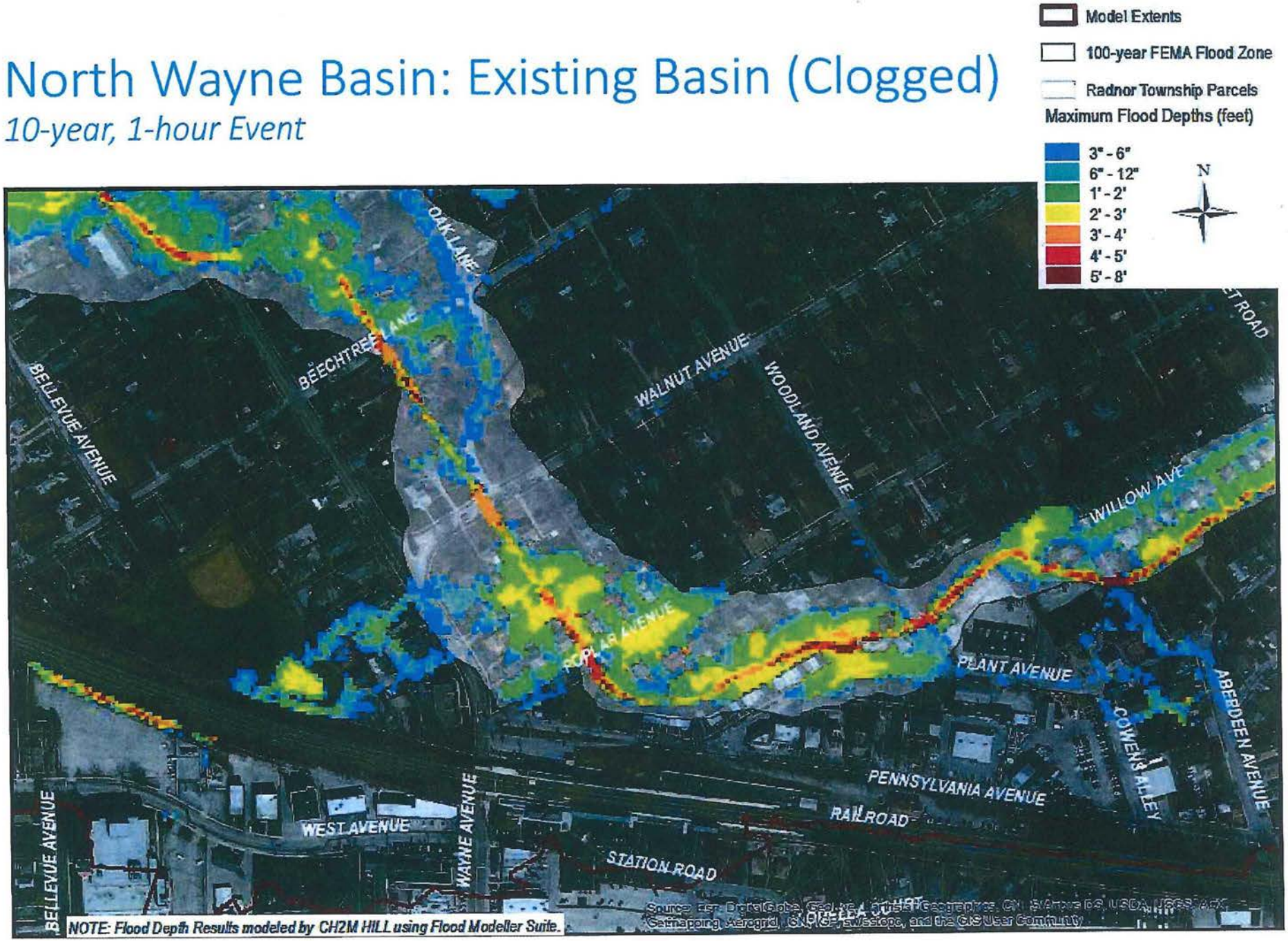


Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
10-year, 1-hour (2.03")	Cleaned	↓	—	↑	—	—
	Proposed	↓	↓	↑	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

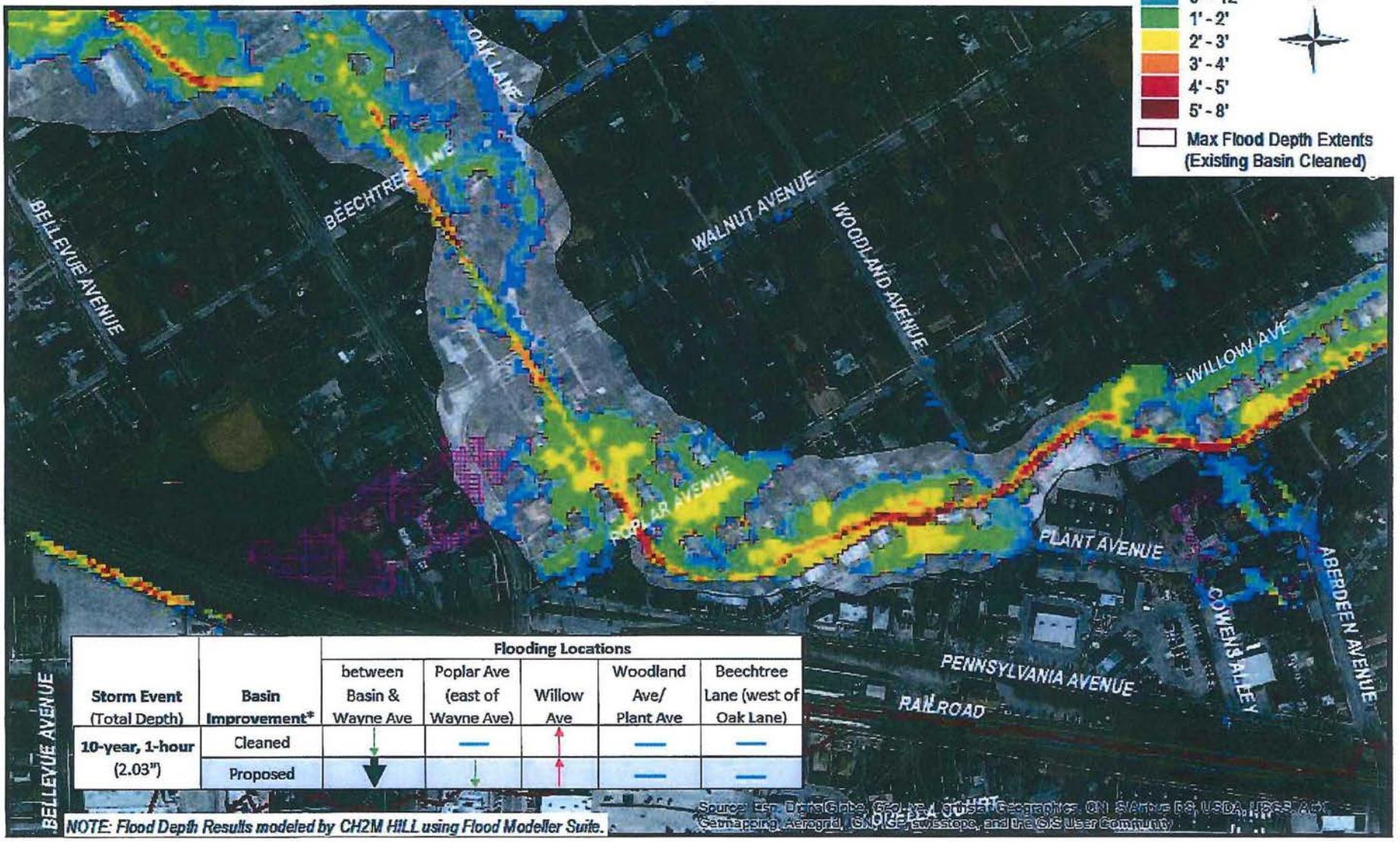
North Wayne Basin: Existing Basin (Clogged)

10-year, 1-hour Event



North Wayne Basin: Proposed Basin

10-year, 1-hour Event



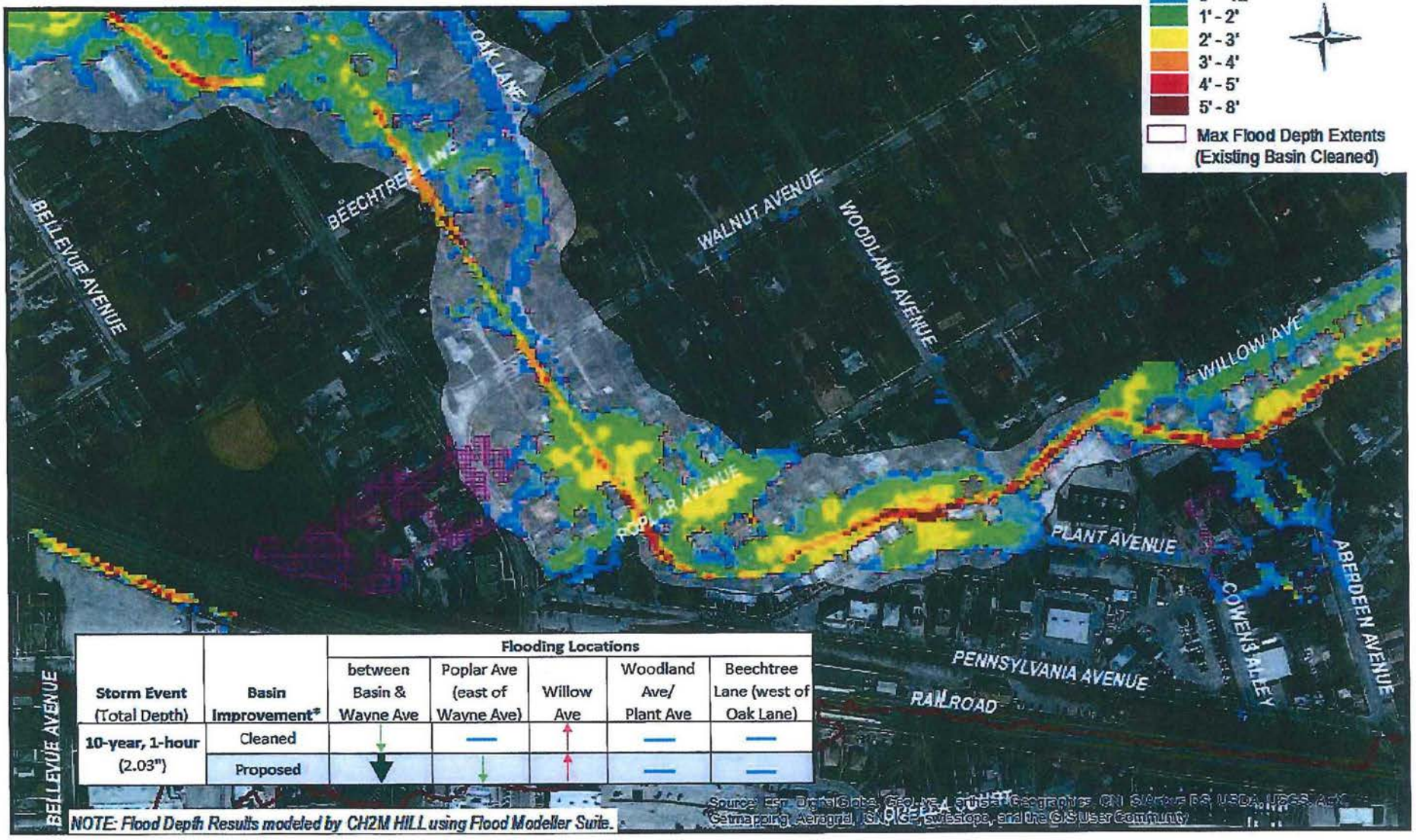
Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
10-year, 1-hour (2.03")	Cleaned	↓	—	↑	—	—
	Proposed	↓↓	↓	↑	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

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

North Wayne Basin: Proposed Basin

10-year, 1-hour Event

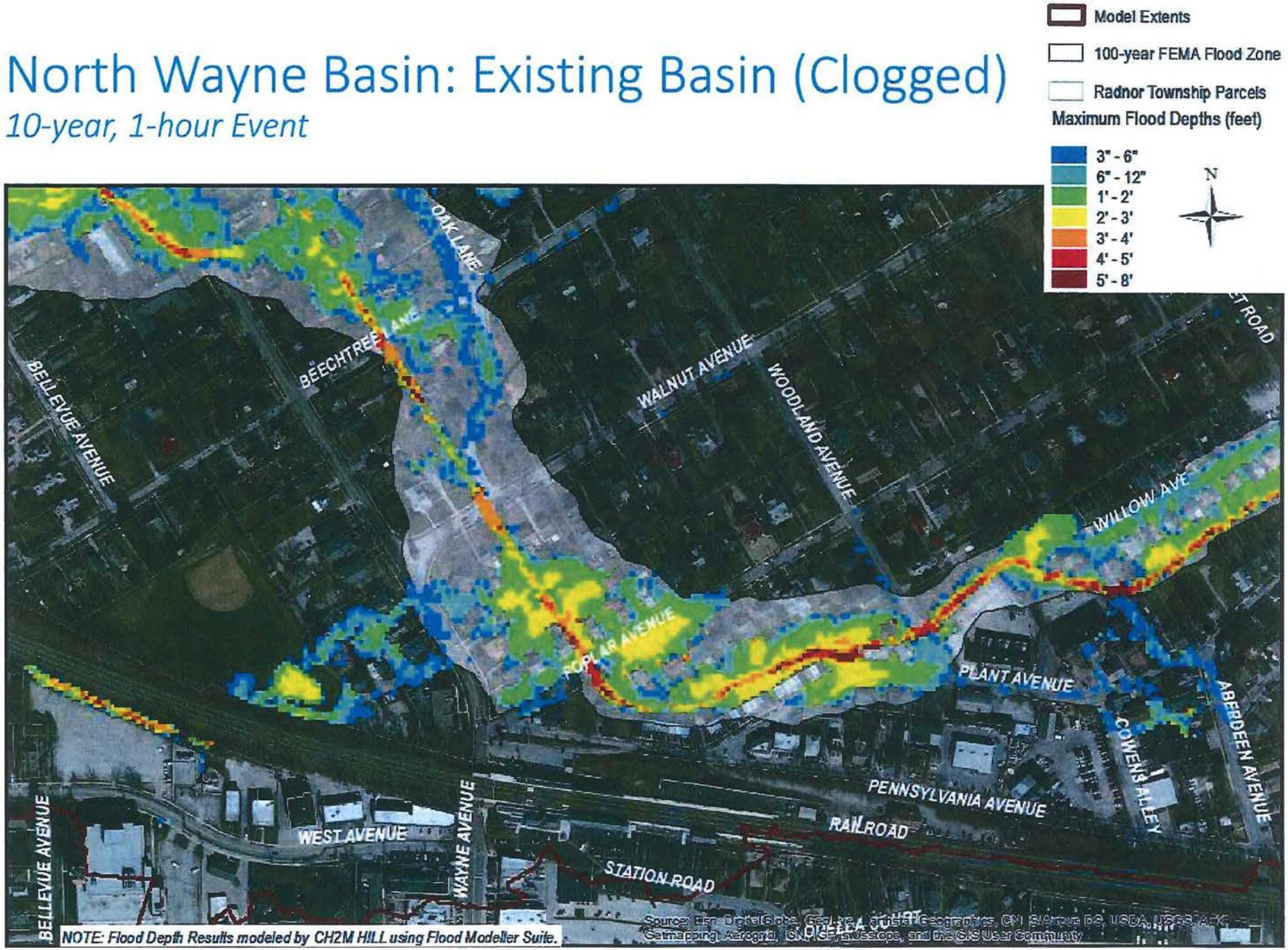


Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
10-year, 1-hour (2.03")	Cleaned	↓	—	↑	—	—
	Proposed	↓↓	↓	↑	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

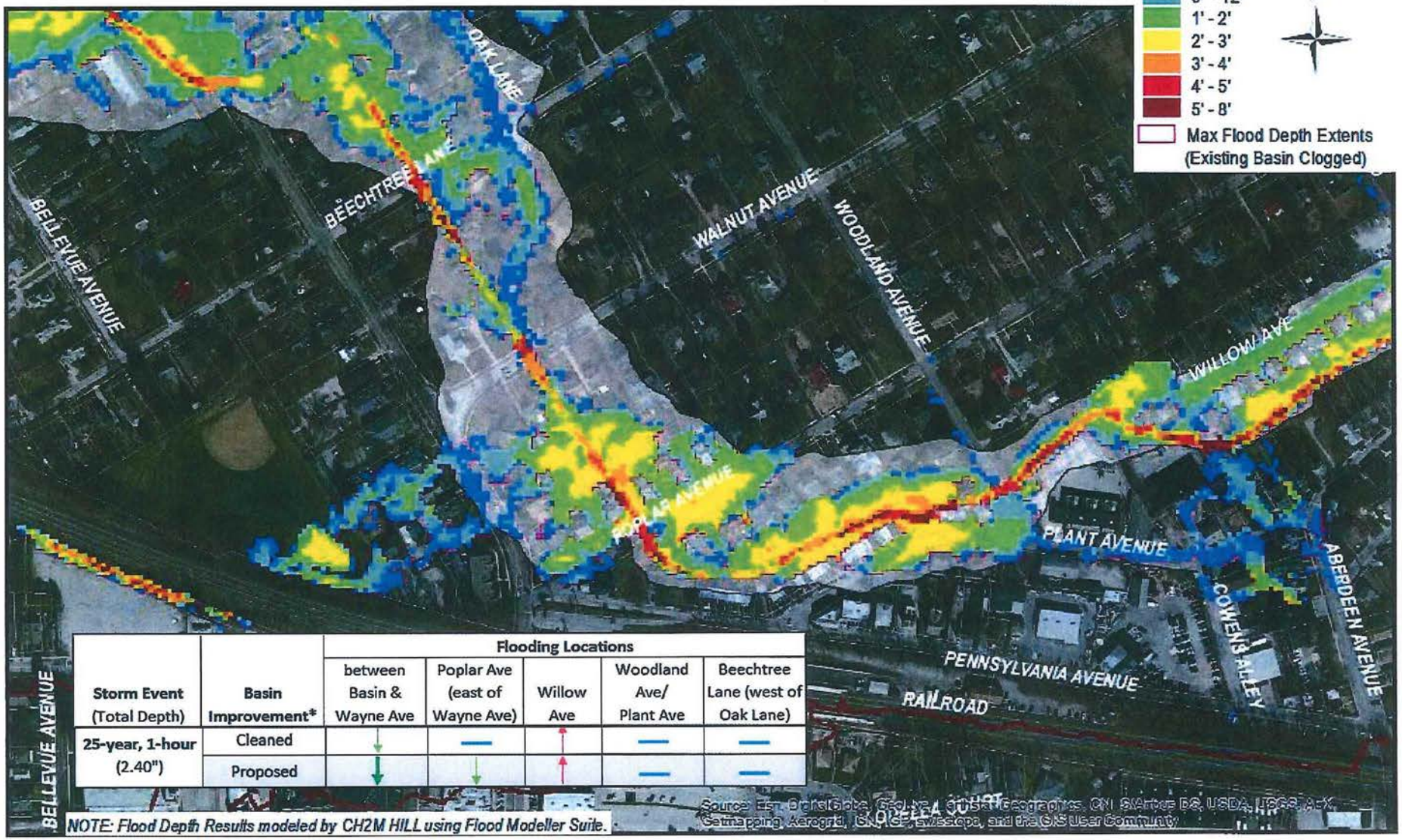
North Wayne Basin: Existing Basin (Clogged)

10-year, 1-hour Event



North Wayne Basin: Existing Basin (Cleaned)

25-year, 1-hour Event

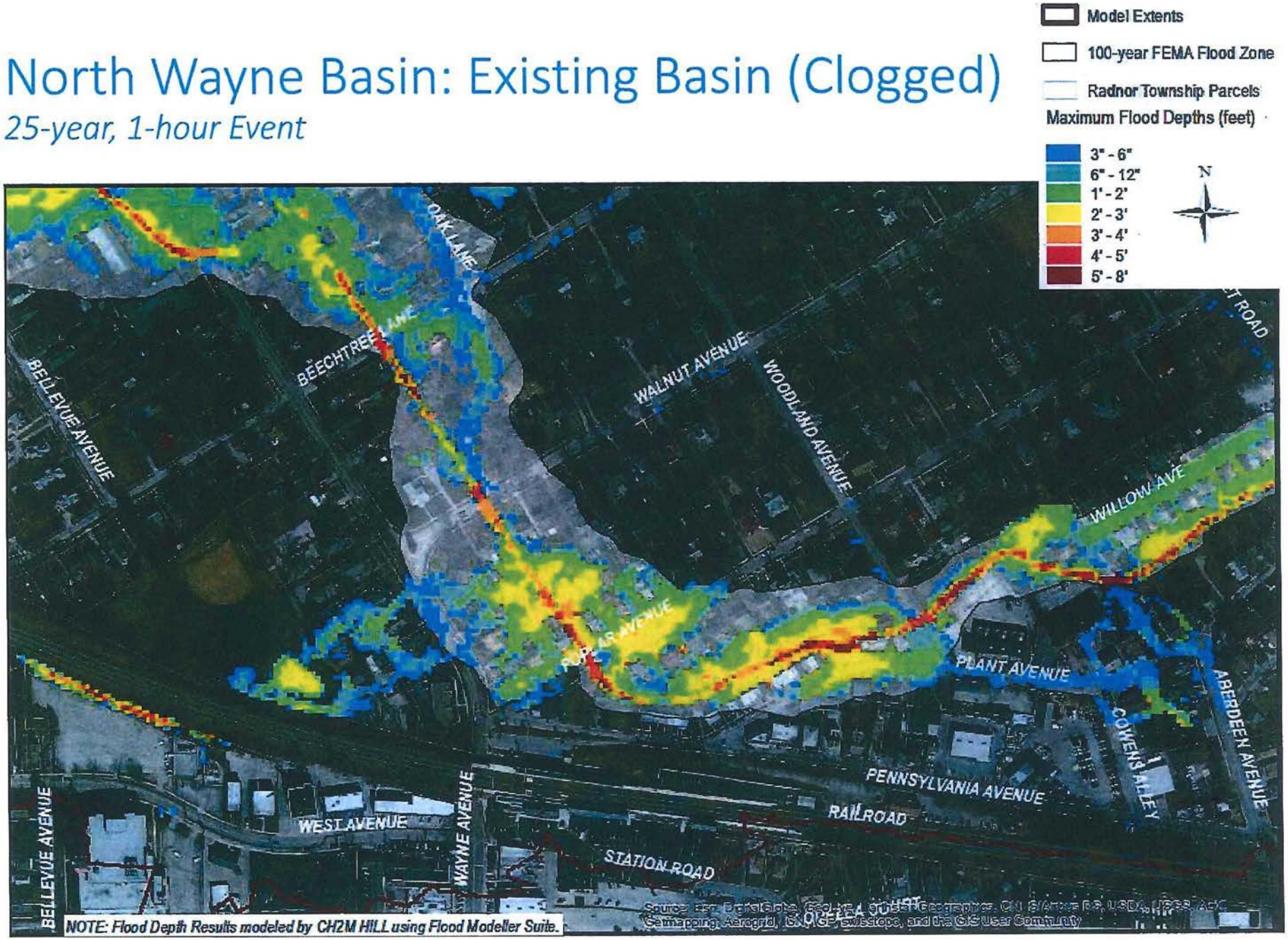


Storm Event (Total Depth)	Basin Improvement*	Flooding Locations: between Basin & Wayne Ave	Poplar Ave (east of Wayne Ave)	Willow Ave	Woodland Ave/ Plant Ave	Beechtree Lane (west of Oak Lane)
25-year, 1-hour (2.40")	Cleaned	↓	—	↑	—	—
	Proposed	↓	↓	↑	—	—

NOTE: Flood Depth Results modeled by CH2M HILL using Flood Modeller Suite.

North Wayne Basin: Existing Basin (Clogged)

25-year, 1-hour Event



Radnor Township Public Works & Engineering Departments

Memorandum

To: Radnor Township Board of Commissioners

From: Stephen F. Norcini, PE, Director of Public Works

cc: Robert A. Zienkowski, Township Manager
Roger Phillips, PE, Gannett Fleming, Incorporated

Date: November 8th, 2016

Re: Midland Avenue Sanitary Sewer Project – Presentation and Update by Gannett Fleming.

Gannett Fleming, the Township's appointed Township Engineer, was awarded the contract to design new sanitary sewer in the Midland Avenue area to eliminate sewage from backing up into resident's house, as well as eliminate Sanitary Sewer Overflows (SSO's). Roger Phillips, the lead for Gannett Fleming on the project, will step through the plans with Board of Commissioners at the regularly scheduled meeting on November 14th. When this design project was awarded, there was a discussion concerning lateral replacement, and its part in the project. By ordinance, laterals in the Township are owned and maintained by the property owner. To this end, Gannett Fleming was instructed to provide two cost estimates; one that only reflects replacing the Township's sanitary main solely, and another reflecting replacement of the laterals as part of the project. The pre-construction cost estimates for both iterations and a location map are attached for your review prior to the Board of Commissioners meeting. One last portion of the project is for Gannett Fleming to analyze the situation that occurs where the proposed, larger pipe, connects to the Township's existing manhole. It must be ensured that no problem from the current project is "moved down stream". Further analysis along this line may increase the project scope, but that is yet to be determined.

Pre-Construction Estimate

Midland Avenue Sewer Replacement
Radnor Township
56756.036

Alternate 1 - No Lateral Replacement

Item No.	Pre-Construction Estimated Items and Quantities Item Description	Quantity	Units	Pre-Construction Estimate Unit Price	Sub-Total
	Furnishing and Laying Culvert				
	15" Dia. PVC Sewer Main	2457	L.F.	$ 23.50	$ 57,739.50
	18" Dia. PVC Sewer Main	1312	L.F.	$ 26.00	$ 34,112.00
	CIPP rehabilitation (8" and 15" lines)	140	L.F.	$ 250.00	$ 35,000.00
	Demolition				
	Pavement Removal, Complete in Place	6947	S.Y.	$ 6.15	$ 42,724.05
	Removal of Trees (<6" Dia.)	3	EA.	$ 500.00	$ 1,500.00
	Removal of Trees (8" Dia.)	4	EA.	$ 1,125.00	$ 4,500.00
	Removal of Trees (12" Dia.)	3	EA.	$ 1,200.00	$ 3,600.00
	Removal of Trees (18" Dia.)	4	EA.	$ 1,500.00	$ 6,000.00
	Removal of Trees (24" Dia.)	2	EA.	$ 1,800.00	$ 3,600.00
	Concrete Sidewalk Removal	251	S.Y.	$ 15.00	$ 3,765.00
	Unclassified Trench Excavation and Backfill, Including Shoring				
	15" Pipe 0' to 8' Deep	2397	L.F.	$ 62.00	$ 148,614.00
	15" Pipe 8' to 10' Deep	60	L.F.	$ 67.00	$ 4,020.00
	18" Pipe 0' to 8' Deep	142	L.F.	$ 68.00	$ 9,656.00
	18" Pipe 8' to 10' Deep	1170	L.F.	$ 73.00	$ 85,410.00
	Aggregate Backfill	1919	C.Y.	$ 35.00	$ 67,171.55
	Misc. Unclassified Exc. & Backfill	50	C.Y.	$ 80.00	$ 4,000.00
	Precast Concrete Structures				
	4 ft. Dia Bases	20	EA.	$ 1,500.00	$ 30,000.00
	4 ft. Dia Walls	27	V.F.	$ 250.00	$ 6,750.00
	Standard MH Frame & Cover	20	EA.	$ 550.00	$ 11,000.00
	Pavement				
	5" Pavement Base Course Pavement Restoration	1316	S.Y.	$ 25.00	$ 32,900.00
	1.5" Wearing Course Pavement Restoration	6947	S.Y.	$ 7.00	$ 48,629.00
	Curb	0	L.F.	$ 30.00	$ -
	Erosion and Sedimentation Control				
	E&S Matting	0	S.Y.	$ 2.75	$ -
	Inlet Protection	10	EA.	$ 250.00	$ 2,500.00
	Silt Fence/Silt Sock	3000	L.F.	$ 1.75	$ 5,250.00
	Tree Protection Fence	3000	L.F.	$ 18.00	$ 54,000.00
	Site Restoration				
	Topsoil and Seeding	1	L.S.	$ 20,000.00	$ 20,000.00
	Miscellaneous				
	Traffic Control	1	L.S.	$ 25,000.00	$ 25,000.00
	Mobilization (assumed 10% of project)	1	L.S.	$ 82,218.52	$ 82,218.52
	Alternate #1 - No Lateral Replacement				
	6" PVC Sewer Lateral	0	L.F.	$ 25.00	$ -
	Lateral Cleanout - 6" PVC Tee	0	EA.	$ 190.00	$ -
	Lateral Cleanout - 6" PVC Plug	0	EA.	$ 76.50	$ -
	Pavement Removal	0	S.Y.	$ 6.15	$ -
	6" Pipe 0'-8' Deep, Unclass.Trench Ex. & Backfile/shoring	0	L.F.	$ 32.00	$ -
	6" Pipe 8'-10' Deep, Unclass.Trench Ex. & Backfile/shoring	0	L.F.	$ 37.00	$ -
	Restoration	0	S.Y.	$ 32.00	$ -
	Repairs to Culvert	0	L.S.	$ 25,000.00	$ -
					$ 829,659.62
Sub-Total				$	829,659.62
Contingency (10%)				$	82,965.96
Estimated Total Project Costs				$	912,625.59

Note: This opinion of the probable costs of construction has been made in accordance with good engineering practice and procedure. Since Gannett Fleming has no control over construction costs, competitive bidding and market conditions, or costs of financing, acquisition of land or rights-of-way, Gannett Fleming does not guarantee the accuracy of such opinions of the probable costs as compared to actual costs or contractor's bids.

Pre-Construction Estimate

Midland Avenue Sewer Replacement
Radnor Township
56756.036

Alternate 2 - Lateral Replacement

Pre-Construction Estimated Items and Quantities				Pre-Construction Estimate	
Item No.	Item Description	Quantity	Units	Unit Price	Sub-Total
	Furnishing and Laying Culvert				
	15" Dia. PVC Sewer Main	2457	L.F.	$ 23.50	$ 57,739.50
	18" Dia. PVC Sewer Main	1312	L.F.	$ 26.00	$ 34,112.00
	CIPP rehabilitation (8" and 15" lines)	140	L.F.	$ 250.00	$ 35,000.00
	Demolition				
	Pavement Removal, Complete in Place	6947	S.Y.	$ 6.15	$ 42,724.05
	Removal of Trees (<6" Dia.)	3	EA.	$ 500.00	$ 1,500.00
	Removal of Trees (8" Dia.)	4	EA.	$ 1,125.00	$ 4,500.00
	Removal of Trees (12" Dia.)	3	EA.	$ 1,200.00	$ 3,600.00
	Removal of Trees (18" Dia.)	4	EA.	$ 1,500.00	$ 6,000.00
	Removal of Trees (24" Dia.)	2	EA.	$ 1,800.00	$ 3,600.00
	Concrete Sidewalk Removal	251	S.Y.	$ 15.00	$ 3,765.00
	Unclassified Trench Excavation and Backfill, Including Shoring				
	15" Pipe 0' to 8' Deep	2397	L.F.	$ 62.00	$ 148,614.00
	15" Pipe 8' to 10' Deep	60	L.F.	$ 67.00	$ 4,020.00
	18" Pipe 0' to 8' Deep	142	L.F.	$ 68.00	$ 9,656.00
	18" Pipe 8' to 10' Deep	1170	L.F.	$ 73.00	$ 85,410.00
	Aggregate Backfill	1919	C.Y.	$ 35.00	$ 67,171.55
	Misc. Unclassified Exc. & Backfill	50	C.Y.	$ 80.00	$ 4,000.00
	Precast Concrete Structures				
	4 ft. Dia Bases	20	EA.	$ 1,500.00	$ 30,000.00
	4 ft. Dia Walls	27	V.F.	$ 250.00	$ 6,750.00
	Standard MH Frame & Cover	20	EA.	$ 550.00	$ 11,000.00
	Pavement				
	5" Pavement Base Course Pavement Restoration	1316	S.Y.	$ 25.00	$ 32,900.00
	1.5" Wearing Course Pavement Restoration	6947	S.Y.	$ 7.00	$ 48,629.00
	Curb	0	L.F.	$ 30.00	$ -
	Erosion and Sedimentation Control				
	E&S Matting	0	S.Y.	$ 2.75	$ -
	Inlet Protection	10	EA.	$ 250.00	$ 2,500.00
	Silt Fence/Silt Sock	3000	L.F.	$ 1.75	$ 5,250.00
	Tree Protection Fence	3000	L.F.	$ 18.00	$ 54,000.00
	Site Restoration				
	Topsoil and Seeding	1	L.S.	$ 20,000.00	$ 20,000.00
	Miscellaneous				
	Traffic Control	1	L.S.	$ 25,000.00	$ 25,000.00
	Mobilization (assumed 10% of project)	1	L.S.	$ 97,979.70	$ 97,979.70
	Alternate #2 - Lateral Replacement				
	6" PVC Sewer Lateral	1275	L.F.	$ 25.00	$ 31,875.00
	Lateral Cleanout - 6" PVC Tee	51	EA.	$ 190.00	$ 9,690.00
	Lateral Cleanout - 6" PVC Plug	51	EA.	$ 76.50	$ 3,901.50
	Pavement Removal	1316	S.Y.	$ 6.15	$ 8,093.40
	6" Pipe 0'-8' Deep, Unclass.Trench Ex. & Backfile/shoring	638	L.F.	$ 32.00	$ 20,400.00
	6" Pipe 8'-10' Deep, Unclass.Trench Ex. & Backfile/shoring	638	L.F.	$ 37.00	$ 23,587.50
	Restoration	648	S.Y.	$ 32.00	$ 20,736.00
	Repairs to Culvert	1	L.S.	$ 25,000.00	$ 25,000.00
					$ 988,704.20
Sub-Total				$	988,704.20
Contingency (10%)				$	98,870.42
Estimated Total Project Costs				$	1,087,574.62

Note: This opinion of the probable costs of construction has been made in accordance with good engineering practice and procedure. Since Gannett Fleming has no control over construction costs, competitive bidding and market conditions, or costs of financing, acquisition of land or rights-of-way, Gannett Fleming does not guarantee the accuracy of such opinions of the probable costs as compared to actual costs or contractor's bids.

SHEET LEGEND

G - SERIES	GENERAL SHEET/INDEX MAP
D - SERIES	EXISTING/DEMO PLAN/PROFILES
C - SERIES	SANITARY SEWER PLAN/PROFILES
MD - SERIES	MISCELLANEOUS DETAILS
ES - SERIES	EROSION AND SEDIMENT POLLUTION CONTROL PLAN NOTES AND DETAILS

CONSTRUCTION DRAWING LEGEND

- PROPOSED GRAVITY SEWER
- PROPOSED LATERAL (SERVICE) SEWER
- PROPOSED MANHOLE
- GRAVITY SERVICE CONNECTION
- EXISTING SANITARY SEWER
- EXISTING SEWER LATERAL
- EXISTING SANITARY MANHOLE
- EXISTING STORM MANHOLE
- EXISTING UTILITY MANHOLE
- PERMANENT SEWER R/W LINE
- TEMPORARY SEWER R/W LINE/LIMITS OF DISTURBANCE/NPDES PERMIT BOUNDARY
- ROAD R/W/LIMITS OF DISTURBANCE
- PROPERTY LINE
- D. MH. — DROP MANHOLE
- WT. MH. — WATERTIGHT MANHOLE COVER
- D./WT. MH. — DROP MANHOLE WITH WATERTIGHT COVER
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING ELECTRIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING STORM SEWER
- TOPSOIL STOCKPILE AREA
- INLET PROTECTION
- PROPOSED CONCRETE SIDEWALK
- LIMITS OF PAVEMENT REMOVAL
- X — TREES TO BE REMOVED

60% DRAFT

NO.	DATE	MODIFICATION	DRAWN	CHKD.	APPRVD.
		REVISIONS			

DISCLAIMER

This drawing is and shall remain the property of Gannett Fleming, Inc. Any reuse, modification, addition, and/or deletion of these drawings as prepared and contained on all or portions thereof for or by anyone without liability to Gannett Fleming, Inc. In the event that a conflict arises between the sealed electronic drawings and the electronic files, the sealed drawings will govern.

© GANNETT FLEMING, INC. 2016

PROFESSIONAL ENGINEER _____ DATE

PROFESSIONAL ENGINEER _____ DATE

DESIGNED	MJP
DRAWN	JFV
CHECKED	RAP
APPROVED	RAP

Gannett Fleming

VALLEY FORGE, PENNSYLVANIA

RADNOR TOWNSHIP

DELAWARE COUNTY
PENNSYLVANIA

MIDLAND AVENUE
SANITARY SEWER REPLACEMENT

LEGEND AND PROJECT AREA

PHASE: 036	CONTRACT NO.: 58756
SCALE: 1" = 150'	DATE: OCT 2016
DRAWING NAME: G-002	
SHEET: 2	OF: 10

Gannett Fleming

Excellence Delivered ***As Promised***

Date: November 8, 2016

To: Radnor Township Board of Commissioners

From: Roger Phillips, PE

cc: Robert Zienkowski – Township Manager
Stephen Norcini, P.E. – Director of Public Works
Kevin W. Kochanski, RLA, CZO – Director of Community Development
John Rice, Esq – Grim, Biehn, and Thatcher
Amy Kaminski, PE – Gilmore and Assoc.
Steve Gabriel - Rettew

RE: Academy of Notre Dame de Namur – Preliminary Subdivision Plan
Academy of Notre Dame de Namur – Applicant

Date Accepted: September 6, 2016
90 Day Review: December 5, 2016

Gannett Fleming, Inc. has completed a review of the Preliminary Subdivision Plans for compliance with the Radnor Township Code. These Plans was reviewed for conformance with Zoning, Subdivision and Land Development, and other applicable codes of the Township of Radnor.

The applicant is proposing to develop the property with a new Science, Technology, Engineering, and Mathematics building along with new walkways, ADA accessible ramps, grading and associated stormwater management improvements. This project is located in the PI zoning district of the Township.

Preliminary Subdivision Plans – Academy of Notre Dame de Namur
Plans Prepared By: Momeneee, Inc.
Dated: 08/31/2016

The applicant has indicated that the following waiver is being requested:

§255.20.B(5) – To not provide a Transportation Impact Study. The addition of the STEM building will not create any additional traffic load for the property.

I. Zoning

1. §280-69.C – No building or structure shall exceed three stories or 38 feet in height. The height of the proposed STEM building must be shown on the plans.

P.O. Box 80794 • Valley Forge, PA 19484-0794 | 1010 Adams Avenue • Audubon, PA 19403-2402
t: 610.650.8101 • f: 610.650.8190
www.gannettfleming.com

Printed on recycled paper

2. §280-69.C – No building or permanent structure, other than a guardhouse or facility which provides controlled access to a property, shall be located less than 120 feet from a street right-of-way line. There is an existing statue located less than 120 feet from the street right-of-way line that is an existing nonconformity that the applicant would like to continue.

3. §280-72.B(1) – Each application for a land development approval or application to establish a Planned Institutional District to any property not included in the district shall be accompanied by submission to the Township of Radnor of a current institutional long-range development plan describing the existing and anticipated future development of the institution. A institutional long-range development plan must be submitted.

4. §280-103.A – As a general requirement, each use in the Township shall provide sufficient off-street parking area to serve its users. The plans indicate that there are 310 existing parking spaces. Parking calculations must be submitted that indicate that there is adequate parking for the existing facilities and the proposed 14,822 square foot building.

II. Subdivision and Land Development

1. §255-20.B(1)(o)[6] – Rights-of-way and/or easements or all drainage facilities, utilities or other purposes must be shown on the plans. Any sanitary sewer easements must be shown on the plans.

2. §255-20.B(1)(o)[9] – The location of all fire hydrants must be shown on the proposed layout plan.

3. §255-43.1.B.(2) – For all nonresidential or institutional subdivisions and/or land developments involving more than 5,000 square feet of floor area, the amount of land to be dedicated for park and recreation area shall be 2,500 square feet per 6,400 square feet of floor area (existing or proposed), or portion thereof, unless the developer agrees to a fee in lieu of $3,307 per 6,400 square feet of floor area (existing or proposed).

III. Stormwater

1. Stormwater calculations demonstrating that the requirements of the stormwater ordinance must be submitted as part of the Final Plan submission. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

printed on recycled paper

2. As part of a condition for the Connelly Center Grading Permit (GP 16-017), we note that the applicant has included an additional 1,668 SF of impervious surface in the stormwater management design.

IV. General

1. The applicant is proposing to relocate a portion of the existing sanitary sewer. More details must be provided including plan and profiles of the proposed sewer.

2. The relocated sanitary sewer must be a minimum of 8".

The applicant appeared before the Planning Commission on October 4, 2016. The Planning Commission recommended approval of the preliminary plans contingent on addressing any outstanding Engineering comments as well as granting the requested waiver.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.
Senior Project Manager

printed on recycled paper

PIERCE, CANIGLIA & TAYLOR
ATTORNEYS AT LAW
125 Strafford Avenue - Suite 110
P. O. Box 312
Wayne, Pennsylvania 19087

JAMES M. PIERCE
NICHOLAS J. CANIGLIA
KENNETH C. TAYLOR

TELEPHONE (610) 688-2626
FAX (610) 688-5761
EMAIL: Nick@piercecanigliataylor.com

October 21, 2016

Steve Norcini, P.E.
Engineering Department
Township of Radnor
301 Iven Avenue
Wayne, Pa. 19087

RE: Academy of Notre Dame
Number: 2016-D-13
Preliminary Plan

Dear Steve:

As you know I represent the above applicant. The matter is listed for Caucus before the Board of Commissioners on October 24, 2016. Kindly continue this matter to the next meeting of the Board of Commissioners scheduled for November 14, 2016.

This letter grants the Board of Commissioners an extension of time for an additional twenty-one (21) days to December 26, 2016 to take action on the above Application.

Thank you for your time and consideration.

Very truly yours,

NICHOLAS J. CANIGLIA

c. John Rice, Esquire
Roger Phillips, P.E.
Kevin Kochanski
Amy Kaminski, P.E.

Gannett Fleming

Excellence Delivered ***As Promised***

Date: September 26, 2016

To: Radnor Township Planning Commission

From: Roger Phillips, PE

cc: Stephen Norcini, P.E. – Director of Public Works
Kevin W. Kochanski, RLA, CZO – Director of Community Development
Peter Nelson, Esq. – Grim, Biehn, and Thatcher
Amy B. Kaminski, P.E. – Gilmore & Associates, Inc.
Suzan Jones – Radnor Township Engineering Department
William Miller – Radnor Township Codes Official
Ray Daly – Radnor Township Codes Official
Steve Gabriel - Rettew

RE: Academy of Notre Dame de Namur – Preliminary Subdivision Plan
Goshen Holding Company, Inc. – Applicant

Date Accepted: September 6, 2016
90 Day Review: December 5, 2016

Gannett Fleming, Inc. has completed a review of the Preliminary Subdivision Plans for compliance with the Radnor Township Code. These Plans was reviewed for conformance with Zoning, Subdivision and Land Development, and other applicable codes of the Township of Radnor.

The applicant is proposing to develop the property with a new Science, Technology, Engineering, and Mathematics building along with new walkways, ADA accessible ramps, grading and associated stormwater management improvements. This project is located in the PI zoning district of the Township.

Preliminary Subdivision Plans – Academy of Notre Dame de Namur
Plans Prepared By: Momeneee, Inc.
Dated: 08/31/2016

The applicant has indicated that the following waiver is being requested:

§255.20.B(5) – To not provide a Transportation Impact Study. The addition of the STEM building will not create any additional traffic load for the property.

I. Zoning

1. §280-69.C – No building or structure shall exceed three stories or 38 feet in height. The height of the proposed STEM building must be shown on the plans.

2. §280-69.C – No building or permanent structure, other than a guardhouse or facility which provides controlled access to a property, shall be located less than 120 feet from a street right-of-way line. There is an existing statue located less than 120 feet from the street right-of-way line that is an existing nonconformity that the applicant would like to continue.

3. §280-72.B(1) – Each application for a land development approval or application to establish a Planned Institutional District to any property not included in the district shall be accompanied by submission to the Township of Radnor of a current institutional long-range development plan describing the existing and anticipated future development of the institution. A institutional long-range development plan must be submitted.

II. Subdivision and Land Development

1. §255-20.B(1)(o)[6] – Rights-of-way and/or easements or all drainage facilities, utilities or other purposes must be shown on the plans. Any sanitary sewer easements must be shown on the plans.

2. §255-20.B(1)(o)[9] – The location of all fire hydrants must be shown on the proposed layout plan.

3. §255-43.1.B.(2) – For all nonresidential or institutional subdivisions and/or land developments involving more than 5,000 square feet of floor area, the amount of land to be dedicated for park and recreation area shall be 2,500 square feet per 6,400 square feet of floor area (existing or proposed), or portion thereof, unless the developer agrees to a fee in lieu of $3,307 per 6,400 square feet of floor area (existing or proposed).

III. Stormwater

1. Stormwater calculations demonstrating that the requirements of the stormwater ordinance must be submitted as part of the Final Plan submission. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

printed on recycled paper

2. As part of a condition for the Connelly Center Grading Permit (GP 16-017), we note that the applicant has included an additional 1,668 SF of impervious surface in the stormwater management design.

IV. General

1. The applicant is proposing to relocate a portion of the existing sanitary sewer. More details must be provided including plan and profiles of the proposed sewer.

2. The relocated sanitary sewer must be a minimum of 8".

In addition to our review comments, a memorandum dated September 21, 2016 from Amy Kaminski of Gilmore & Associates, Inc. the Township Traffic Engineer and a memo dated September 21, 2016 from Ray Daly Building Code Official have been attached and are incorporated herein by reference.

Should the Planning Commission consider recommending approval of this project, we suggest that the recommendation be conditioned on requiring the applicant to satisfactorily address the above comments.

If you have any questions or require any additional information, please contact me.

Very truly yours,

GANNETT FLEMING, INC.

Roger A. Phillips, P.E.
Senior Project Manager

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

MEMORANDUM

Date: September 21, 2016

To: Steve Norcini, P.E.
Radnor Township Public Works Director

From: Amy Kaminski, P.E., PTOE
Transportation Services Manager

cc: Roger Phillips, P.E., Senior Project Manager, Gannett Fleming, Inc.
Damon Drummond, P.E., PTOE, Gilmore & Associates, Inc.

Reference: Academy of Notre Dame STEM Building
Preliminary Land Development Review 1
Radnor Township, Delaware County, PA
G&A 16-09027

Gilmore & Associates, Inc. (G&A) has completed a transportation review of the above referenced Preliminary Land Development Plan for the STEM Building at the Academy of Notre Dame, 560 Sproul Road. The applicant proposes to construct one (1) 14,822 square foot building located to the south end of the campus, just west of Godfrey Road and Sproul Road. We offer the following comments for Radnor Township consideration:

A. DOCUMENTS REVIEWED

1. Preliminary Land Development Plans for the Academy of Notre Dame STEM Building, prepared for the Academy of Notre Dame, prepared by Momenee, Inc., consisting of 11 sheets, dated August 31, 2016.

2. Subdivision and Land Development Application Form.

3. Delaware County Planning Commission Application for ACT 247 Review.

B. GENERAL COMMENTS

1. §255-20.B(5)(C)[1][e] – A transportation impact study shall be required for all major subdivisions and land developments, specifically any institutional development. The applicant has requested a waiver from this requirement.

2. §255-27: B(3)(d), C(1) and C(2): Sproul Road (S.R. 0320) is identified as an arterial road and the reviewed plans indicate a 50' right-of-way (25' half-width), an approximate 28' cartway width (14' half-width) with no curbing or sidewalks. The Board of Commissioners may require additional right-of-way and/or cartway widths

65 E. Butler Avenue | Suite 100 | New Britain, PA 18901
Phone: 215-345-4330 | Fax: 215-345-8606

www.gilmore-assoc.com

in order to lessen traffic congestion, to secure safety from fire, panic and other dangers, to facilitate the adequate provision for transportation and other public requirements and to promote the general welfare. The Board of Commissioners may want to consider additional improvements or right-of-way along this frontage. Although this is a PennDOT road, PennDOT would take this under consideration.

3. §255-27 both B(3)(d) and C(1): Godfrey Road (S.R. 1036) is required to have a 60 right-of-way, 36 foot cartway width, curbs and sidewalks. The reviewed plans indicate a 33' right-of-way (16.5' half-width), an approximate 20' cartway width (10' half-width) and no curbing or sidewalks. The Board of Commissioners may want to consider these additional improvements or right-of-way along this frontage. Although this is a PennDOT road, PennDOT would likely support the Township's request for improvements. The applicant is required to revise the plan or request a waiver.

4. Consideration should be given to providing an emergency access to the proposed building from the existing site driveway. Depending on the placement, this access could also serve the Connelly Arts Center building in the event of an emergency. The internal onsite circulation does not appear to provide adequate emergency access to buildings located in the southwest quadrant of the site. The access should be designed to accommodate the largest anticipated emergency vehicle.

5. The proposed handicap ramp from The Mansion building shows a slope of 8%. Although ADA requirements allows for up to maximum 8.33% slope for a ramp, the designer should reduce the slope to 7.5% in order to ensure the final slope is within the 8.33% tolerance following construction.

RADNOR TOWNSHIP

MEMORANDUM

TO: MR. STEVE NORCINI
FROM: RAY DALY
SUBJECT: 560 SPROUL ROAD, ACADEMY OF NOTRE DAME
DATE: SEPTEMBER 21, 2016
CC: MR. PHILLIPS

Mr. Norcini

From the Fire Codes perspective there is no access to any portion of the building via a roadway. The closest access to the new building is from the lawn area which measures approximately 200' from the road. During any evacuation the Emergency personal would need to walk across the lawn to gain access to the building. No Fire apparatus or Emergency vehicles can get close to the building. During inclement weather this route would most likely be impassable.

By placing the new STEM building at the end of the court yard, the access to the court yard and the rear of the existing building has been almost eliminated. There are Fire Department Connections located within the court yard for some existing buildings, this makes use of the FDC's in operational. The recommendation would be to relocate the FDC's to roadway facing locations.

There needs to be additional Fire Hydrant/s placed on site to meet the new building needs. The placement of the new hydrant/s will need to be determined upon final planning or if any additional access to the new building is agreed upon.

Respectfully,

Ray Daly

Building Codes/Fire Codes Official

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

924 County Line Road
Bryn Mawr, PA 19010
(610) 527 3030
momenee.com

August 31, 2016

Radnor Township
301 Iven Avenue
Wayne, PA 19087

RE: Preliminary Land Development Application **Our File # 15-372**
Academy of Notre Dame de Namur – STEM Building
Radnor Township, Delaware County

Gentlemen:

On behalf of the Academy of Notre Dame De Namur, we are submitting a Preliminary Land Development application for improvements to the school's campus. The intent of this plan is to develop the property with a new Science, Technology, Engineering, and Mathematics building along with other related site improvements. We are providing the enclosed documents and applications in support of a Preliminary Land Development application for the project.

Enclosed for review are the following:

- Signed Township Application
- Township Application fee of $2,050.00
- Township Escrow Review Fee of $15,000.00
- Signed County Act 247 Review Application
- County Act 247 Review fee of $970.00
- Copy of the Title Documentation and Deed Description
- 2 copies of the Stormwater Management Narrative
- 26 Sets of Preliminary Land Development Plans (8 signed and notarized)
- 7 Sets of size 11"x17" Plans
- 10 Thumb Drives of the submission materials

The applicant is requesting a waiver to not provide a Transportation Impact Study as required per code section 255-20.B(5). The addition of the new STEM building will not create an additional traffic load for the property. I trust that this information will be sufficient for you to review this application. Should you have any questions or require any additional information, please let me know.

Very truly yours,
MOMENEE, INC.

Brian D. Madsen, P.E.

15372L01_RT

cc: Academy of Notre Dame

DELAWARE COUNTY PLANNING COMMISSION

APPLICATION FOR ACT 247 REVIEW

Incomplete applications will be returned and will not be considered "received" until all required information is provided.

Please type or print legibly

DEVELOPER/APPLICANT

Name Academy of Notre Dame E-mail rschultz@ndapa.org

Address 560 Sproul Road, Villanova, PA 19085 Phone 610-687-0650

Name of Development Academy of Notre Dame - STEM Building

Municipality Radnor Township

ARCHITECT, ENGINEER, OR SURVEYOR

Name of Firm Momenee, Inc. Phone 610-527-3030

Address 924 County Line Road

Contact Kevin R. Momenee, P.E. E-mail kmomenee@momenee.com

Type of Review	Plan Status	Utilities: Existing	Utilities: Proposed	Environmental Characteristics
☐ Zoning Change	☐ Sketch	☑ Public Sewerage	☑ Public Sewerage	
☑ Land Development	☑ Preliminary	☐ Private Sewerage	☐ Private Sewerage	☐ Wetlands
☐ Subdivision	☐ Final	☑ Public Water	☑ Public Water	☐ Floodplain
☐ PRD	☐ Tentative	☐ Private Water	☐ Private Water	☐ Steep Slopes

Zoning District PI - Planned Institutional

Tax Map # 36 / 37 / 066.001

Tax Folio # 36 / 04 / 02648 / 00

STATEMENT OF INTENT
WRITING "SEE ATTACHED PLAN" IS NOT ACCEPTABLE.

Existing and/or Proposed Use of Site/Buildings:

It is proposed to improve the site with a new STEM classroom building at the campus of the Academy of Notre Dame. Other improvements will include new walkways, ADA accessible ramps, grading, and associated stormwater management improvements.

Total Site Area	38.143	Acres
Size of All Existing Buildings	83,110	Square Feet
Size of All Proposed Buildings	97,932	Square Feet
Size of Buildings to be Demolished	0	Square Feet

Academy of Notre Dame
Print Developer's Name

Developer's Signature

MUNICIPAL SECTION
ALL APPLICATIONS AND THEIR CONTENT ARE A MUNICIPAL RESPONSIBILITY.

Local Planning Commission Regular Meeting_____

Local Governing Body Regular Meeting_____

Municipal request for DCPD staff comments prior to DCPC meeting, to meet municipal meeting date:

Actual Date Needed _____

IMPORTANT: If previously submitted, show assigned DCPD File # _____

_____ _____
Print Name and Title of Designated Municipal Official Phone Number

_____ _____
Official's Signature Date

FOR DCPD USE ONLY

Review Fee: Check #_____ Amount $_____ Date Received_____

Applications with <u>original</u> signatures must be submitted to DCPD.

RADNOR TOWNSHIP
301 IVEN AVE
WAYNE PA 19087
P) 610 688-5600
F) 610 971-0450
WWW.RADNOR.COM

SUBDIVISION ~~ LAND DEVELOPMENT

Location of Property Academy of Notre Dame – 560 Sproul Road, Villanova, PA 19085

Zoning District: Pi – Planned Institutional Application No. _____ (Twp. Use)

Fee $2,050.00 Ward No. 3-1 Is property in HARB District NO

Applicant: (Choose one) Owner ☒ Equitable Owner ☐

Name Academy of Notre Dame

Address 560 Sproul Road, Villanova, PA 19085

Telephone 610-687-0650 Fax _____ Cell _____

Email rschultz@ndapa.org

Designer: (Choose one) Engineer ☒ Surveyor ☐

Name Kevin R. Momenee. P.E.

Address 924 County Line Road, Bryn Mawr, PA 19010

Telephone 610-527-3030 Fax 610-527-9008 Cell _____

Email kmomenee@momenee.com

Area of property 38.143 Acres Area of disturbance 71,500 SF

Number of proposed buildings 1 Proposed use of property Institutional

Number of proposed lots 1

Plan Status: Sketch Plan ☐ Preliminary ☒ Final ☐ Revised ☐

Are there any requirements of Chapter 255 (SALDO) not being adhered to?
Explain the reason for noncompliance.
255-20.B(5) – Request to not provide a Transportation Impact Study. The proposed plan and construction of the new STEM building will not create an additional traffic load on the area.

Are there any infringements of Chapter 280 (Zoning), and if so what and why?
N/A

Individual/Corporation/Partnership Name
Academy of Notre Dame

I do hereby certify that I am the owner, equitable owner or authorized representative of the property which is the subject of this application.

Signature Judith A Dwyer

Print Name JUDITH A DWYER

By filing this application, you are hereby granting permission to Township officials to visit the site for review purposes.

NOTE: All requirements of Chapter 255 (Subdivision of Lane) of the Code of the Township of Radnor must be complied with whether or not indicated in this application.

(1) — Please do not publish. Thank you 10

PREPARED BY:
Joseph J. Mezzanotte, Esquire
Whiteford, Taylor & Preston L.L.P
Seven Saint Paul Street
Baltimore, Maryland 21202

Recorder please return to:
Pennsylvania Land Transfer Co.
24 E. Front St, Media PA 19063
Phone 610-566-9045 14475

RECORD AND RETURN TO:
Pennsylvania Land Transfer Company
24 East Front Street
Media, Pennsylvania 19063
Folio No.: 36-04-02648-00 & 36-04-02648-01

RD BK04027-0810 DT-DEED
2007014029 02/12/2007 08:11:33 AM-1
RCD FEE: $90.00 POL SUB TAX: $166,500.00 RT TAX: $111,000.00
DELAWARE COUNTY
36-RADNOR $166,500.00 THOMAS J. JUDGE RR. ROD

DEED

THIS DEED (the "Deed") is made this 7th day of February 2007, from THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC., a Maryland nonstock, non-profit corporation (the "Grantor"), to THE ACADEMY OF NOTRE DAME DE NAMUR, a Pennsylvania nonstock, non-profit corporation (the "Grantee").

WITNESSETH, that for and in consideration of the sum of One Dollar ($1.00), the Grantor does grant, convey and assign to the Grantee, its successors and assigns, in fee simple, all that lot of ground in Delaware County, Pennsylvania, as more particularly described in EXHIBIT A attached hereto and made a part hereof (the "Property").

TOGETHER with the buildings and improvements on the Property, and the rights, alleys, ways, waters, easements, privileges, appurtenances and advantages belonging to or appertaining thereto.

SUBJECT, HOWEVER, to all easements, covenants, conditions, restrictions and all other matters of record.

SUBJECT FURTHER, to the following restrictions which are part of the consideration for this Deed and which shall run with the land and be binding upon the Property and the Grantee and its successors and assigns in accordance with the following terms:

1. For a period of fifteen (15) years from and after the date hereof the Property shall be used only as a Catholic School (together with related Catholic School activities and camps) and no portion of the Property, nor any building or other structure erected on the Property, shall be used for any purpose whatsoever other than as a Catholic School (together with related Catholic School activities and camps) unless the Grantee and its

A-2

successors and assigns obtains the Grantor's, and its successors' and/or assigns', prior written consent to such use, which consent may be withheld by Grantor or its successors or assigns, in their sole, absolute and subjective discretion. The preceding sentence is hereinafter referred to as the "Restrictive Covenant." The Restrictive Covenant shall be binding upon the Property and shall be a covenant running with the land which burdens the Property.

2. Notwithstanding the provisions of Paragraph 1 above, the Restrictive Covenant shall terminate and be of no further force and effect in the event of a transfer of title to the Property to any (a) mortgagee or holder of a deed of trust on the Property provided that such mortgagee or holder of a deed of trust is an ADC Lender with respect to ADC Financing and further provided that such mortgagee or holder takes title to the Property through foreclosure, (b) third party purchaser who is unrelated to the Grantee and who purchases the Property at a foreclosure sale of the Property conducted by an ADC Lender, or (c) mortgagee or purchaser who is not related to the named Grantee hereunder provided that such mortgagee or holder of a deed of trust is an ADC Lender with respect to ADC Financing and further provided that such mortgagee or holder takes title in good faith and for fair value by deed in lieu of foreclosure ("Exempt Deed-in-Lieu of Foreclosure"). For purposes of this Paragraph 2, "good faith" shall mean that the person or entity that takes title to the Property pursuant to a deed- in-lieu of foreclosure has not done so for the purpose of circumventing the operation and effect of the Restrictive Covenant for the continued benefit of the Grantor. For purposes of this Paragraph 2 "ADC Lender" shall mean a commercial bank or commercial financial institution that entered into an ADC Financing transaction in good faith and for fair value, and the term "ADC Lender" shall be deemed to include a financial institution that acts in good faith and for fair value in providing credit enhancement with respect to ADC Financing. The term "ADC Financing" shall mean acquisition, development or construction financing of the Property or refinancing of the same. Until the termination of the Restrictive Covenant in accordance with the terms hereof, in the event of any foreclosure under a mortgage or deed of trust on the Property, the Grantor hereunder shall be entitled to notice of such foreclosure, sent to the Grantor by certified mail and by first class mail at the following address or any substitute address supplied by Grantor to Grantee and/or its mortgagees: THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC., 1531 Greenspring Avenue, Stevenson, Maryland 21153, ATTN: President, with copy to JOSEPH J. MEZZANOTTE, ESQUIRE, Whiteford, Taylor & Preston L.L.P., 7 Saint Paul Street, Suite 1400, Baltimore, Maryland 21202. Notice of all foreclosures shall be given to Grantor at the above address or any

substitute address supplied by Grantor not more than sixty (60) and not less than thirty (30) days before the date of such foreclosure sale, and the Grantor's rights under the Restrictive Covenant shall be deemed sufficient to entitle it to such notice even if such rights would not otherwise entitle the Grantor to notice pursuant to Pennsylvania Rule of Civil Procedure 3129.2 (or any subsequent Rule requiring the mailing of notice of a foreclosure sale to persons having subordinate interests in the applicable property). By accepting this Deed, Grantee warrants to Grantor that it shall not participate in any activity or conduct intended to circumvent the intent and purpose of the Restrictive Covenant.

3. Notwithstanding the provisions of Paragraph 1 above of this Deed, Grantee shall be permitted, upon obtaining the prior written consent of the Grantor and its successors and/or assigns which consent shall not be unreasonably withheld by Grantor, to sell, lease or otherwise transfer to third parties, free and clear of the Restrictive Covenant, portions of the Property which the Grantee, in its good faith reasonable judgment, deems no longer to be necessary for its operation as a Catholic School, provided that (i) the portion of the Property which the Grantee intends to sell, lease or otherwise transfer does not exceed ten percent (10%) of the gross acreage of the Property in the aggregate during the fifteen (15) year Restrictive Covenant Period, and (ii) the intended sale, lease or other transfer will not adversely affect the current or futitre operations of the Academy of Notre Dame de Namur School which is currently operating on the Property or ingress, egress or access to the Academy of Notre Dame de Namur School and the Grantee shall so certify this in writing to Grantor at the time that Grantee requests Grantor's written consent for such sale, lease or other transfer, and (iii) the Academy of Notre Dame de Namur School is open and operating on the Property and neither the Grantee nor its successors has any plans at such time or in the then foreseeable future to cease all or any substantial portion of the Academy of Notre Dame de Namur School's operations at the Property as they are then conducted or to relocate all or any substantial portion of the Academy of Notre Dame de Namur School's operations from the Property to another location and the Grantee shall so certify this in writing to the Grantor at the time the Grantee requests Grantor's written consent. If Grantor consents to Grantee's request, then Grantor, upon the written request of Grantee, shall execute a written partial release of the Restrictive Covenant in recordable form and in form acceptable to Grantor to evidence Grantor's consent and release of up to ten percent (10%) of the gross acreage of the Property from the lien, operation and effect of the Restrictive Covenant. Any and all taxes, costs and expenses associated with the recordation of any such partial release shall be borne by Grantee.

4. The Restrictive Covenant shall inure to the benefit of and be enforceable by the Grantor and its successors and assigns, by any and all proceedings at law or in equity including, but not limited to, injunctive relief.

5. Failure by the Grantor or its successors or assigns to enforce any breach or violation of the Restrictive Covenant herein contained shall in no event be deemed a waiver of the right to do so unless such waiver is made in writing by Grantor, and any written waiver shall not be deemed to be a waiver of any other violation or breach occurring prior or subsequent thereto unless the written waiver expressly so states.

6. Damages shall, at the Grantor's option, not be deemed adequate compensation for any breach or violation of the Restrictive Covenant. For so long as the Restrictive Covenant is in force, the Grantee and any successor owner of all or any portion of the Property, as the case may be (an "Owner"), shall indemnify, defend and hold the Grantor and its successors and assigns harmless from and against any and all losses, damages, liabilities, costs and expenses (including reasonable attorneys' fees and litigation expenses) (collectively, "Claims") incurred or suffered by the Grantor and/or its successors and assigns as a result of any breach (including any anticipatory breach) or violation of the Restrictive Covenant by such Owner. The liability of any Owner under the terms of this Paragraph 6 shall be limited to Claims arising as a result of a breach or violation of the Restrictive Covenant by such Owner during the term of its ownership of the Property. No Owner shall be liable for Claims arising as a result of a breach or violation of the Restrictive Covenant by a predecessor or successor Owner.

7. Subject to the provisions of Paragraphs 2 and 10 hereof, any person or entity accepting a deed, lease or other instrument conveying any interest in the Property, whether or not the same incorporates reference to the Restrictive Covenant or the Deed, covenants for itself to observe, perform and be bound by the Restrictive Covenant.

8. By acceptance of this Deed, the Grantee hereby covenants and agrees to strictly observe and comply with the Restrictive Covenant. The Grantee acknowledges that but for the Grantee's agreement to accept title to the Property subject to the Restrictive Covenant, the Grantor would not have conveyed title to the Property to the Grantee.

9. Notwithstanding the provisions of Paragraph 1 of this Deed, Grantor agrees that if all sums due and owing from Grantee to Grantor under the Seller Financing Documents (as defined below) are paid in full to Grantor when and as such sums become due and payable under the Seller

Financing Documents then, on the twelfth (12th) anniversary of the date of this Deed, Grantor will execute a release of the Restrictive Covenant and/or agree to no longer enforce the Restrictive Covenant provided that all sums due and owing from Grantee to Grantor under the Seller Financing Documents have been paid in full to Grantor on or before the twelfth (12th) anniversary of the date of this Deed. The term "Seller Financing Documents" shall mean the following documents (and all amendments, modifications, restatements and extensions thereto) which have been executed and delivered by Grantee to Grantor in connection with the transaction evidenced by this Deed:

a. Promissory Note dated on or about the date of this Deed in the original principal amount of Four Million Six Hundred Thousand Dollars ($4,600,000.00) and made by Grantee, as maker, to Grantor (the "Promissory Note");

b. Open-End Mortgage and Security Agreement dated on or about the date hereof granted by Grantee to Grantor with respect to the property described in this Deed; and

c. All other documents now or hereafter evidencing or securing the loan in the original principal amount of Four Million Six Hundred Thousand Dollars ($4,600,000.00) made by Grantor to Grantee on or about the date hereof and which is evidenced by the Promissory Note.

10. In the event the Restrictive Covenant has not previously terminated in accordance with the provisions of Paragraph 2 or Paragraph 9 hereof, then on the fifteenth (15th) anniversary of the date hereof, the Restrictive Covenant shall automatically terminate without the necessary of any action by Grantor or Grantee.

TO HAVE AND TO HOLD the Property hereby conveyed unto the Grantee, its successors and assigns, in fee simple, forever, subject, however, to the foregoing Restrictive Covenant and all other restrictions, covenants, conditions, easements and instruments of record relating to the Property.

AND the Grantor hereby covenants to warrant specially the Property, and to execute such further assurances of the Property as may be requisite.

IN ADDITION to the preceding conveyance, Grantor does hereby quitclaim unto Grantee and its successors and assigns WITHOUT RECOURSE AND WITHOUT ANY REPRESENTATION OR WARRANTY (EXPRESS, IMPLIED OR OTHERWISE)

WHATSOEVER, all of Grantor's right, title and interest, if any, in that certain land situated in Delaware County, Pennsylvania, as more particularly described in EXHIBIT B attached hereto and made a part of (the "Quitclaimed Land").

IN WITNESS WHEREOF, the Grantor has caused this Deed to be duly executed as of the day and year first above written.

WITNESS:

GRANTOR

THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC.,
a Maryland corporation

By: _____(SEAL)
Sr. Marian Schaechtel
President

STATE OF PENNSYLVANIA, COUNTY OF Chester, TO WIT:

I HEREBY CERTIFY, that on this 7th day of February, 2007, before me, the subscriber, a Notary Public of the State of Pennsylvania, personally appeared SR. MARIAN SCHAECHTEL, SND, who acknowledged herself to be the President of The Baltimore Province of the Sisters of Notre Dame de Namur, Inc., Grantor herein, and that she, as such President, being authorized to do so, executed the foregoing Deed on behalf of The Baltimore Province of the Sisters of Notre Dame de Namur, Inc. by signing her name as President.

AS WITNESS my hand and Notarial Seal.

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
LEO F. CALLEN, Notary Public
Media Boro, Delaware County
My Commission Expires March 1, 2008

NOTARY PUBLIC

My Commission expires: _____

The address of the within-named Grantee is:
560 Sproul Road
Villanova, Pennsylvania 19085

Sr. Mary Anne Broughton, SND

Sr. Mary Anne Broughton
President
On Behalf of Grantee

EXHIBIT A
Description of Property

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, situate in the Township of Radnor, County of Delaware and Commonwealth of Pennsylvania, described in accordance with a Map of property of Academy of Notre Dame de Namur, made by Yerkes Engineering Company, Bryn Mawr, Pennsylvania, dated July 27, 1965, as follows, to wit:

BEGINNING at a drill hole at the intersection of the center line of Radnor Chester Road (Sproul Road) (fifty feet wide), with the center line of Godfrey Road (thirty-three feet wide); thence along the center line of Godfrey Road, South sixty-seven degrees, seventeen minutes West, one thousand one hundred twenty-four and thirty-two one-hundredths feet to a point, a corner of land of the Estate of R. L. Montgomery; thence along said land, North twenty-four degrees, thirty minutes West, one thousand five hundred eighty-eight and five one-hundredths feet to a marble stone in line of land now or formerly of Immaculata Gallagher; thence along said land, North sixty-five degrees, twenty-three minutes East, two hundred fifty feet to a point; thence extending South twenty-four degrees, thirty-seven minutes East, four hundred fifteen feet to a point; thence extending North sixty-five degrees, twenty-three minutes East, one thousand two hundred twenty-one and forty-three one-hundredths feet to a point in the center line of Radnor Chester Road (Sproul Road); thence extending along said Road the two following courses and distances: (1) South eleven degrees, fifty-five minutes East, one hundred ninety-seven and twenty-four one-hundredths feet to a drill hole an angle; and (2) South seven degrees, forty-eight minutes East, one thousand sixty-three and thirty-seven one-hundredths feet to a drill hole, the first mentioned point and place of beginning.

BEING the same property which was granted and conveyed by Academy of Notre Dame de Namur, Inc., a Pennsylvania nonprofit corporation, to The Baltimore Province of the Sisters of Notre Dame de Namur, Inc., a Maryland nonprofit corporation, pursuant to an Indenture dated May 22, 1970 which was recorded in the Office of the Recorder of Deeds for Delaware County, Pennsylvania in Deed Book 2369, Page 796.

EXHIBIT 'B'

ALL THAT CERTAIN LOT OR PIECE OF GROUND WITH THE BUILDINGS AND IMPROVEMENTS THEREON ERECTED, SITUATE IN THE TOWNSHIP OF RADNOR, COUNTY OF DELAWARE AND COMMONWEALTH OF PENNSYLVANIA, DESCRIBED IN ACCORDANCE WITH A SURVEY MADE BY MOMENEE SURVEY GROUP, INC., DATED 1-19-2005; LAST REVISED 12-19-2006, AS FOLLOWS:

BEGINNING AT A DRILL HOLE AT THE INTERSECTION OF THE CENTER LINE OF RADNOR CHESTER ROAD (SPROUL ROAD) (FIFTY FEET WIDE), WITH THE CENTER LINE OF GODFREY ROAD (THIRTY THREE FEET WIDE); THENCE ALONG THE CENTER LINE OF GODFREY ROAD, SOUTH 67 DEGREES 16 MINUTES 58 SECONDS WEST, 1124.37 FEET, A CORNER OF LAND OF THE ESTATE OF R.L. MONTGOMERY; THENCE ALONG SAID LAND, NORTH TWENTY FOUR DEGREES, THIRTY MINUTES WEST, ONE THOUSAND FIVE HUNDRED EIGHTY EIGHT AND FIVE ONE-HUNDREDTHS FEET TO A MARBLE STONE IN LINE OF LAND NOW OR FORMERLY OF IMMACULATA GALLAGHER; THENCE ALONG SAID LAND, NORTH SIXTY FIVE DEGREES, TWENTY THREE MINUTES EAST, TWO HUNDRED FIFTY FEET TO A POINT; THENCE EXTENDING SOUTH TWENTY FOUR DEGREES, THIRTY SEVEN MINUTES EAST, FOUR HUNDRED FIFTEEN FEET TO A POINT; THENCE EXTENDING NORTH SIXTY FIVE DEGREES, TWENTY THREE MINUTES EAST, ONE THOUSAND TWO HUNDRED TWENTY ONE AND FORTY THREE ONE-HUNDREDTHS FEET TO A POINT IN THE CENTER LINE OF RADNOR CHESTER ROAD (SPROUL ROAD); THENCE EXTENDING ALONG SAID ROAD THE TWO FOLLOWING COURSES AND DISTANCES: (1) SOUTH ELEVEN DEGREES, FIFTY FIVE MINUTES EAST, ONE HUNDRED NINETY SEVEN AND TWENTY FOUR ONE-HUNDREDTHS FEET TO A DRILL HOLE AN ANGLE; AND (2) SOUTH SEVEN DEGREES, FORTY EIGHT MINUTES EAST, ONE THOUSAND SIXTY THREE AND THIRTY SEVEN ONE-HUNDREDTHS FEET TO A DRILL HOLE, THE FIRST MENTIONED POINT AND PLACE OF BEGINNING.

UNDER AND SUBJECT TO CERTAIN RESTRICTIONS OF RECORD.

FOLIO #36-04-02648-00 & #36-04-02648-01

SCHEDULE "A"

NUMBER: **75846-TD**

Effective Date: 3/31/96 JTF/SMP

1. Policy or Policies to be issued:
   (a) ALTA Owners Policy Form: 10/17/1992 Amount **$0.00**
   Proposed insured:

   Endorsement(s): Pa. ____

   (b) ALTA Loan Policy Form: 10/17/1992 Amount **$0.00**
   Proposed insured:

   Endorsement(s): Pa. 300 ____ Pa. 100 ____ Pa. 900 ____

2. The estate or interest in the land described or referred to in the Commitment and covered herein is fee simple and is at the effective date hereof vested in:

   THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC., A MARYLAND NON-PROFIT CORPORATION by Deed from ACADEMY OF NOTRE DAME DE NAMUR, INC. (A PENNSYLVANIA NON-PROFIT CORPORATION) dated 5/22/1970, recorded 5/22/1970, in DEED BOOK 2369, PAGE 796.

3. The land referred to in this Commitment is described in Schedule C.

   ALL THAT CERTAIN lot or piece of land, situate in RADNOR TOWNSHIP, DELAWARE COUNTY, PENNSYLVANIA.

   Being known as: 560 SPROUL ROAD

SCHEDULE "B" - Section I

NUMBER: **75846-TD**

The following are the requirements to be complied with:

1. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attached subsequent to the effective date hereof but prior to the date the proposed insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Payment of the full consideration to or for the account of the grantors or mortgagors.

3. Instrument(s), in insurable form, creating the estate or interest to be insured must be executed, delivered and filed for record:

Mortgage:
THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC., A MARYLAND NON-PROFIT CORPORATION

to:

SCHEDULE "B" - Section - I (continued)

NUMBER: 75846-TD

UPON SATISFACTORY EVIDENCE OF DISCHARGE, SATISFACTION OR COMPLIANCE WITH THE FOLLOWING ITEMS AFFECTING TITLE TO THE SUBJECT PREMISES, SUCH ITEMS WILL BE REMOVED AND THE POLICY WILL BE ISSUED WITHOUT EXCEPTION THEREFOR.

4. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by public records.

5. Rights or claims by parties in possession or under agreement(s) of sale not shown by public records.

6. Proof of identity, legal age, competency of Grantors/Mortgagors and marital status (including deaths and divorces) affecting any individual Grantors/Mortgagors, herein.

7. Township, County and School tax receipts for the following prior years to be produced and filed with the Company, viz: 1993 to 1995 inclusive.

8. Township, County and School Taxes for current year. (If paid-receipts to be produced and filed with the Company.)
Assessment: $5,000.00 Folio No. 36-04-02648-00 (38.142 acres ground)
1996 Assessment $225,150.00 (12.688 acres misc. bldgs. exempt)

9. Receipts for Water and Sewer Rents for the following years. (If paid-receipts to be produced and filed with the Company.) viz: 1993 to 1995 inclusive.

10. Water and Sewer Rents for current year. (If paid-receipts to be produced and filed with the Company.)

11. Proof that no sewers have been installed or have been ordered to be installed upon or abutting these premises.

12. **MORTGAGES:** NONE

13. **MECHANICS LIENS AND MUNICIPAL CLAIMS:** NONE

14. **JUDGMENTS:** NONE

15. Articles of Incorporation or Charter of Mortgagor to be produced and filed with Company.

16. Proof that the Charter of Mortgagor is still in full force and effect.

17. By-Laws of Mortgagor to be produced and filed with Company.

18. Consent of governing body, if any, of Mortgagor to the present transaction, to be produced and filed with Company.

SCHEDULE "B" - Section - II

NUMBER: 75846-TD

SCHEDULE B OF THE POLICY OR POLICIES TO BE ISSUED WILL CONTAIN THE FOLLOWING EXCEPTIONS UNLESS THE SAME ARE DISPOSED OF TO THE SATISFACTION OF THE COMPANY.

1. Any discrepancies, conflicts or shortages in area or boundary lines, or any encroachments, or any overlapping of improvements which a correct survey would show.

2. Possible additional tax assessments for new construction and/or major improvements.

3. Easements or claims of easements not appearing of record.

4. Acreage content not insured.

5. Title to that portion of premises in the beds of Radnor-Chester Road (Sproul Road) and Godfrey Road is subject to public and private rights therein.

6. Rights granted to Philadelphia Electric Company as in Deed Books 2258 page 67 and 2336 page 950.

7. Rights granted to Philadelphia Suburban Water Company as in Deed Books 2258 page 105 and 2266 page 229.

SCHEDULE "C"

NUMBER: **75846-TD**

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, SITUATE in the Township of Radnor, County of Delaware, and Commonwealth of Pennsylvania, described in accordance with a Map of property of Academy of Notre Dame de Namur, made by Yerkes Engineers Company, Bryn Mawr, Pennsylvania, dated 7/27/1965, as follows, to wit:

BEGINNING at a drill hole at the intersection of the center line of Radnor-Chester Road (Sproul Road)(50 feet wide), with the center line of Godfrey Road (33 feet wide); thence along the center line of Godfrey Road, South 67 degrees, 17 minutes West, 1124.32 feet to a point, a corner of land of the Estate of R.L. Montgomery; thence along said land, North 24 degrees, 30 minutes West, 1588.05 feet to a marble stone in line of land now or formerly of Immaculate Gallagher; thence along said land, North 65 degrees, 23 minutes East, 250 feet to a point; thence extending South 24 degrees, 37 minutes East, 415 feet to a point; thence extending North 65 degrees, 23 minutes East, 1221.43 feet to a point in the center line of Radnor-Chester Road (Sproul Road); thence extending along said Road the two following courses and distances: (1) South 11 degrees, 55 minutes East, 197.24 feet to a drill hole an angle; and (2) South 07 degrees, 48 minutes East, 163.37 feet to a drill hole, the first mentioned point and place of BEGINNING.

BEING Folio No. 36-04-02648-00.

BEING THE SAME PREMISES WHICH ACADEMY OF NOTRE DAME DE NAMUR, INC. (A PENNSYLVANIA NON-PROFIT CORPORATION), by Deed dated 5/22/1970 and recorded 5/22/1970 in DELAWARE COUNTY, PENNSYLVANIA in Deed Book 2369, Page 796, conveyed unto THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC., A MARYLAND NON-PROFIT CORPORATION, in fee.

CONDITIONS AND STIPULATIONS

1. The term "mortgage", when used herein, shall include deed of trust, trust deed, or other security instrument.

2. If the proposed Insured has acquired actual knowledge of any defect, lien, encumbrance, adverse claim or other matter affecting the estate or interest or mortgage thereon covered by this Commitment other than those shown in Schedule B hereof, and shall fail to disclose such knowledge to the Company in writing, the Company shall be relieved from liability for any loss or damage resulting from any act of reliance hereon to the extent the Company is prejudiced by failure to so disclose such knowledge. If the proposed Insured shall disclose such knowledge to the Company, or if the Company otherwise acquires actual knowledge of any such defect, lien, encumbrance, adverse claim or other matter, the Company at its option may amend Schedule B of this Commitment accordingly, but such amendment shall not relieve the Company from liability previously incurred pursuant to paragraph 3 of these Conditions and Stipulations.

3. Liability of the Company under this Commitment shall be only to the named proposed Insured and such parties included under the definition of Insured in the form of policy or policies committed for and only for actual loss incurred in reliance hereon in undertaking in good faith (a) to comply with the requirements hereof, or (b) to eliminated exceptions shown in Schedule B, or (c) to acquire or create the estate or interest or mortgage thereon covered by this Commitment. In no event shall such liability exceed the amount stated in Schedule A for the policy or policies committed for and such liability is subject to the insuring provisions, the Conditions and Stipulations and the Exclusions from Coverage of the form of policy or policies committed for in favor of the proposed Insured which are hereby incorporated by reference and are made a part of this Commitment except as expressly modified herein.

4. Any action or actions or rights of action that the proposed Insured may have or may bring against the Company arising out of the status of the title to the estate or interest or the status of the mortgage thereon covered by this Commitment must be based on and are subject to the provisions of this Commitment.

STANDARD EXCEPTIONS

The policy or policies to be issued will contain exceptions to the following matters unless the same are disposed of to the satisfaction of the Company.

1. Defects, liens, encumbrances, adverse claims or other matters, if any, created, first appearing in the public records or attaching subsequent to the effective date hereof but prior to the date the proposed Insured acquires for value of record the estate or interest or mortgage thereon covered by this Commitment.

2. Any lien, or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the public records.

3. Any discrepancies, conflicts in boundary lines, encroachments, easements, measurements, variations in area or content, party walls and/or other facts which a correct survey and/or a physical inspection of the premises would disclose.

4. Rights or claims of parties in possession not shown in the public records.

5. In the event this Commitment is issued with respect to a construction loan to be disbursed in future periodic installments, then the policy shall contain an additional exception which shall read as follow:

Pending disbursement of the full proceeds of the loan secured by the mortgage insured, this policy only insures the amount actually disbursed, but increases as proceeds are disbursed in good faith and without knowledge of any intervening lien or interest to or for the account of the mortgagor up to the amount of the policy. Such disbursement shall not extend the date of the policy or change any part thereof unless such change is specifically made by written endorsement duly issued on behalf of the Company. Upon request by the Insured (and payment of the proper charges therefore), the Company's agent or approved attorney will search the public records subsequent to the date of the policy and furnish the insured a continuation report showing such matters affecting title to the land as they have appeared in the public records subsequent to the date of the policy or date of the last preceding continuation report, and if such continuation report shows intervening lien, or liens, or interest to or for the account of the mortgagor, then in such event this policy does not increase in liability unless such matters as actually shown on such continuation report are removed from the public records by the insured.

COMMITMENT FOR TITLE INSURANCE

UNITED GENERAL TITLE INSURANCE COMPANY

United General Title Insurance Company, a Louisiana Corporation, herein called the Company, for a valuable consideration, hereby commits to issue its policy or policies of title insurance, as identified in Schedule A, in favor of the proposed Insured named in Schedule A, as owner or mortgagee of the estate or interest covered hereby in the land described or referred to in Schedule A, upon payment of the premiums charged therefore; all subject to the provisions of Schedule A and B and to the Conditions and Stipulations hereto.

This Commitment shall be effective only when the identity of the proposed Insured and the amount of the policy or policies commited for have been inserted in Schedule A hereof by the Company, either at the time of issuance of this Commitment or by subsequent endorsement.

This Commitment is preliminary to the issuance of such policy or policies of title insurance and all liability and obligations hereunder shall cease and terminate 180 days after the Effective Date hereof or when the policy or policies commited for shall be issued, whichever first occurs, provided that the failure to issue policy or policies is not the fault of the Company.

In Witness Whereof, the Company has caused its Corporate Name and Seal to be hereunto affixed: this instrument, including Commitment, Conditions and Stipulation attached, to become valid when Schedule A and Schedule B have been attached hereto.

UNITED GENERAL TITLE INSURANCE COMPANY

Richard H Himes Jr
President

Rhonda E. Anderson
Secretary

Countersigned Sister Mary Anne Broughton, SSND
Authorized Officer or Agent

37-408

6542

KNOW IT THAT for and in consideration of the payment by PHILADELPHIA ELECTRIC COMPANY, (hereinafter called Company) to the undersigned of the sum of One Dollar ($1.00), the receipt whereof is hereby acknowledged, the said Company, its successors and assigns is hereby granted by the undersigned owner of premises situate on the northwest side of Godfrey Road, in the Township of [illegible], County of [illegible], Commonwealth of PENNSYLVANIA, as more particularly described in Deed dated April 2, 1966, and recorded in the aforesaid County in Deed Book No. 2237, page 414 &c., the uninterrupted right, liberty and privilege to install, operate, maintain, inspect, renew, repair and remove aerial and underground electric facilities required to supply aerial and underground electric service to the premises and those adjacent thereto.

Together with the right of ingress and egress at all times for the purposes aforesaid.

The aforesaid rights are granted under and subject to the following conditions:

(1) The location of the electric facilities to be installed hereunder shall be shown and delineated on plans prepared by Philadelphia Electric Company, copies of which will be in the possession of the parties hereto having first been approved by them.

(2) The undersigned agrees that the initial exercise of any of the rights and powers herein granted shall not be construed as fixing or limiting Company's rights and privileges hereunder.

(3) The undersigned agrees that no building or other permanent structure shall be erected over the underground electric facilities.

EXECUTED this 2nd day of March A.D. 1967

ACADEMY OF NOTRE DAME DE NAMUR, INC.

ATTEST: [signature] Secretary

By: [signature] President

COMMONWEALTH OF PENNSYLVANIA
COUNTY OF

On this, the 2nd day of March 1967, before me, the undersigned officer, personally appeared [signature], who acknowledged himself to be the President of ACADEMY OF NOTRE DAME DE NAMUR, INC., a corporation, and that he as such President, being authorized to do so executed the foregoing instrument, for the purposes therein contained by signing the name of the corporation by himself as President.

In witness whereof, I hereunto set my hand and official seal.

[signature] Notary Public
My Commission Expires:

I hereby certify that the true, full and complete value

[signature] Agent

BOOK 2336 PAGE 369

GRANT OF RIGHT OF WAY

KNOW ALL MEN BY THESE PRESENTS that THE ACADEMY OF NOTRE DAME DE NAMUR a Pennsylvania corporation, hereinafter called "GRANTOR", being owner of certain lands and property on the Northwest Corner of Radnor-Chesmer Road and Godfrey Road located in Radnor Township, Delaware County, Pennsylvania, and specifically described in deed dated 15 April 1966 recorded in Deed Book 2247, Page 814, in the Office for the Recording of Deeds in and for said County at Media, Pennsylvania, in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America and other good and valuable consideration paid to GRANTOR at the sealing and delivery of these presents, the receipt of which is hereby acknowledged, and intending to be legally bound hereby, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell and convey to PHILADELPHIA SUBURBAN WATER COMPANY, a Pennsylvania corporation with its principal office at Bryn Mawr, Pennsylvania, its successors and assigns, the perpetual and exclusive Right of Way and easement at any and all times hereafter to lay, relay, install, inspect, operate, repair, alter, remove, renew and replace through, across and under said lands and property now of GRANTOR an eight (8) inch inside diameter water transmission main.

The permanent Right of Way granted herein to consist of a strip of land twenty (20) feet wide, with an additional ten (10) feet of width of temporary Right of Way during the initial installation to facilitate the moving and storing of necessary materials and equipment. The twenty (20) feet wide permanent strip

described as follows:

BEGINNING at a point in the centerline of Godfrey Road, as laid out thirty-three (33.00) feet wide, said point further described as being South sixty-seven degrees seventeen minutes West (S.67°17'W) one thousand ninety-three and thirty hundredths feet (1093.30') from the intersection of the centerline of Radnor-Chester Road, as laid out fifty (50.00') feet wide and the centerline of Godfrey Road; thence from said point of beginning, continuing along the centerline of Godfrey Road, South sixty-seven degrees seventeen minutes West (S.67°17'W), twenty and one hundredths feet (20.01') to a point; thence through the lands of GRANTOR North twenty-four degrees thirty minutes West (N.24°30'W) five hundred twenty-nine and sixty-nine hundredths feet (529.69') to a point; thence North sixty-five degrees thirty minutes East (N.65°30'E), one hundred twenty and no hundredths feet (120.00') to a point; thence South twenty-four degrees thirty minutes East (S.24°30'E), twenty and no hundredths feet (20.00') to a point; thence South sixty-five degrees thirty minutes West (S.65°30'W), one hundred and no hundredths feet (100.00') to a point; thence South twenty-four degrees thirty minutes East (S.24°30'E), five hundred ten and thirty-one hundredths feet to the aforementioned point and place of beginning.

CONTAINING twenty-eight hundredths (0.28) acres more or less.

The foregoing description and location shown on Plan E-6412 prepared by PHILADELPHIA SUBURBAN WATER COMPANY, attached and made a part hereof.

TOGETHER with the rights of ingress, egress and regress to and from said Right of Way and water main at any and all times for the purpose of laying, re-laying, installing, operating, inspecting, maintaining, repairing, altering, removing, renewing, and replacing said water main and its appurtenances, together with the right to move in and use such equipment and materials as may be required to accomplish the foregoing. Subject to the obligation of said PHILADELPHIA SUBURBAN WATER COMPANY, its successors and assigns, after laying said water main and appurtenances, and after any subsequent maintenance, repair, alteration, removal or replacement thereof by it or them, to restore the surface of the ground disturbed as nearly as practicable to its contour and condition prior to such disturbance thereof.

RESERVING, however, to GRANTOR the right to use the ground over said water main and Right of Way granted for egress and regress, provided such use shall not obstruct the rights herein granted, and more specifically, GRANTOR agrees not to erect any building or structure on the permanent Right of Way or to change the grade of the surface over the water main.

TO HAVE AND TO HOLD all and singular the rights, liberties, privileges, Right of Way and easement above described unto said PHILADELPHIA SUBURBAN WATER COMPANY, its successors and assigns forever.

This grant and all of the covenants herein contained shall inure to the benefit of and shall be binding upon GRANTOR, its successors and assigns.

GRANTOR understands that the person securing this grant is without authority to make any agreement in regard to the subject matter hereof which is not expressed herein and that no such agreement will be binding on said PHILADELPHIA SUBURBAN WATER COMPANY, its successors or assigns.

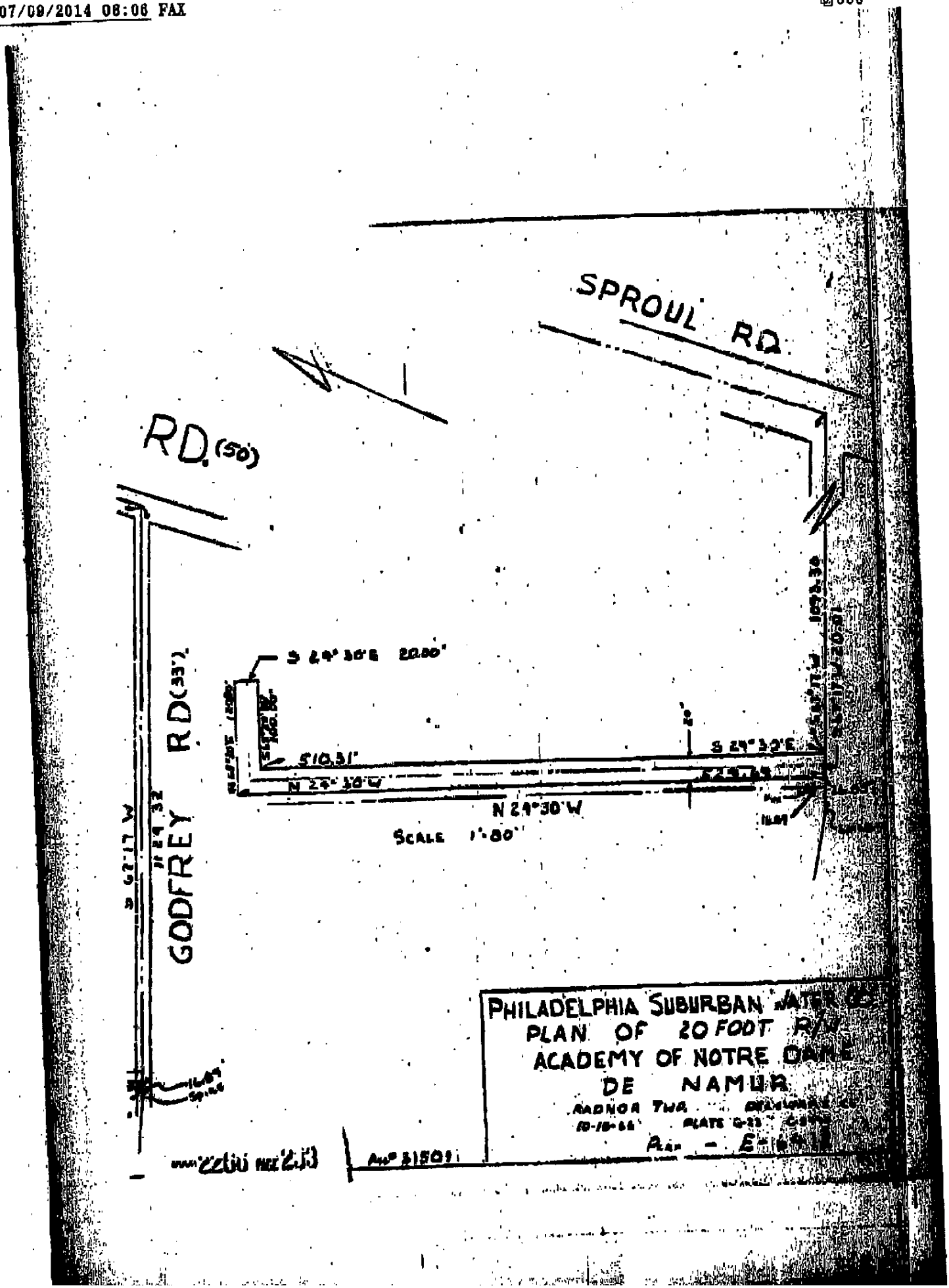
IN WITNESS WHEREOF this instrument is signed and sealed this 12th day of February

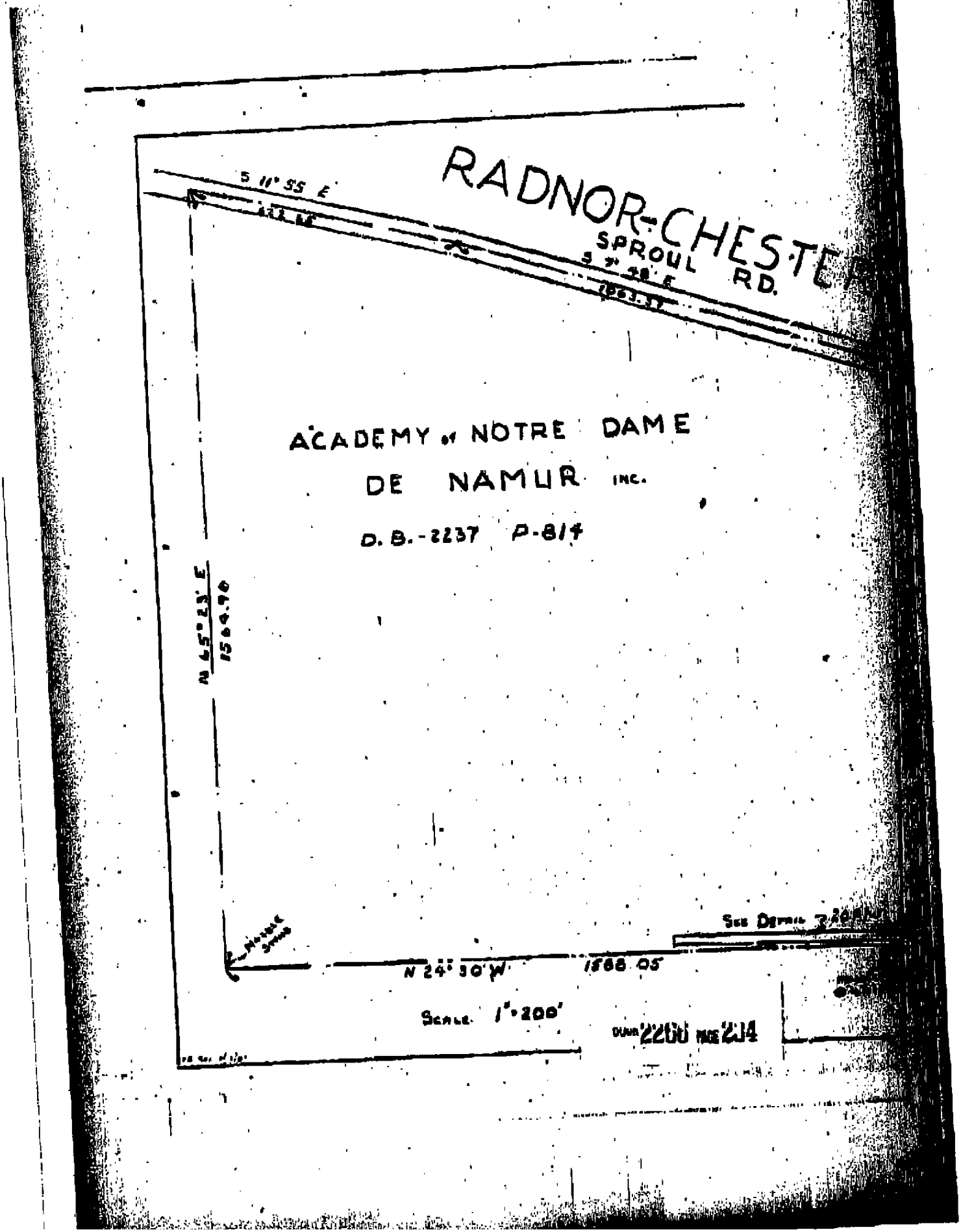
Sister Anne Raymond

Witness

- 3 -

BOOK 2460 PAGE 231


SPROUL RD.
RD. (50')
GODFREY RD (33')
S 24° 30' E 20.00'
S 10.31'
N 24° 30' W
S 24° 30' E
N 24° 30' W
SCALE 1" = 80'
PHILADELPHIA SUBURBAN WATER CO.
PLAN OF 20 FOOT R/W
ACADEMY OF NOTRE DAME
DE NAMUR
RADNOR TWP.
10-18-66
PLATE G-22
Plan - E-
Ave 31501


RADNOR-CHESTER
SPROUL R.D.
S 11° 55 E
S 7° 28 E
1563.37
ACADEMY of NOTRE DAME
DE NAMUR INC.
D. B. - 2237 P-814
N 65° 23' E
1564.90
N 24° 30' W
1568.05
SCALE 1" = 200'
DWN 2260 PGE 234

M-6457

THIS INDENTURE, made this day of A.D. 1966, between ACADEMY OF NOTRE DAME DE NAMUR, INC., (hereinafter called the grantor) of the one part and PHILADELPHIA ELECTRIC COMPANY, a corporation organized and existing under the laws of the Commonwealth of Pennsylvania, (hereinafter called the grantee) of the other part:

WHEREAS, the grantor is the owner of the premises situate on the north side of Godfrey Road, in the Township of RADNOR, County of DELAWARE, Commonwealth of PENNSYLVANIA, more particularly described in Deed dated April 4, 1966, recorded in the aforesaid County in Deed Book 2237, page 814, etc.:

NOW, THEREFORE, THIS INDENTURE WITNESSETH: That in consideration of the payment of the sum of One Dollar ($1.00), and for other good and valuable considerations the receipt whereof is hereby acknowledged, the said grantor does hereby give and grant to the said grantee, its successors and assigns, the perpetual right, liberty and privilege to erect, operate and maintain a pole line including poles, wires, anchor guys and appurtenances:

BEGINNING at a point on the said north side of Godfrey Road approximately 800 feet west of Sproul Road; thence extending from said point of beginning in a northerly direction for a distance of approximately 170 feet to a point on premises of the undersigned,

together with the right to serve others from the aforesaid pole line who now or in the future may request service; also the perpetual right of ingress and egress to and from the pole line, as well as the right to trim and keep trimmed in a workmanlike manner all trees and branches of trees to the extent deemed necessary by grantee to provide sufficient clearance for the protection of the pole line.

IN WITNESS WHEREOF, the said grantor has duly executed this Indenture on the day and date first above written.

ACADEMY OF NOTRE DAME
DE NAMUR, INC.

ATTEST: Sister Catherine Joan
Secretary

BY: Sister Anne Raymond
President

BOOK 2258 PAGE 67

GRANT OF RIGHT OF WAY

KNOW ALL MEN BY THESE PRESENTS that THE ACADEMY OF NOTRE DAME DE NAMUR a Pennsylvania corporation, hereinafter called "GRANTOR", being owner of certain lands and property on the Northwest Corner of Radnor-Chester Road and Godfrey Road located in Radnor Township, Delaware County, Pennsylvania, and specifically described in deed dated 15 April 1966 recorded in Deed Book 2237, Page 814, in the Office for the Recording of Deeds in and for said County at Media, Pennsylvania, in consideration of the sum of One Dollar ($1.00) lawful money of the United States of America and other good and valuable consideration paid to GRANTOR at the sealing and delivery of these presents, the receipt of which is hereby acknowledged, and intending to be legally bound hereby, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell and convey to PHILADELPHIA SUBURBAN WATER COMPANY, a Pennsylvania corporation with its principal office at Bryn Mawr, Pennsylvania, its successors and assigns, the perpetual and exclusive Right of Way and easement at any and all times hereafter to lay, relay, install, inspect, operate, repair, alter, remove, renew and replace through, across and under said lands and property now of GRANTOR an eight (8) inch inside diameter water transmission main.

The permanent Right of Way granted herein to consist of a strip of land twenty (20) feet wide, with an additional ten (10) feet of width of temporary Right of Way during the initial installation to facilitate the moving and storing of necessary materials and equipment. The twenty (20) foot wide permanent strip described as follows:

BEGINNING at a point in the centerline of Godfrey Road, as laid out thirty-three (33.00) feet wide, said point further described as being South eighty-seven degrees

seventeen minutes West (S.67°-17'W.) one thousand ninety-three and thirty hundredths feet (1093.30') from the intersection of the centerline of Radnor-Chester Road, as laid out fifty (50.00') feet wide and the centerline of Godfrey Road; thence from said point of beginning, continuing along the centerline of Godfrey Road, South sixty-seven degrees seventeen minutes West (S.67°-17'W.), twenty and one hundredths feet (20.01') to a point; thence through the lands of GRANTOR North twenty-four degrees thirty minutes West (N.24°-30'W.) five hundred fifty-nine and sixty-nine hundredths feet (559.69) to a point; thence North sixty-five degrees thirty minutes East (N.65°-30'E.), twenty and no hundredths (20.00') feet to a point; thence South twenty-four degrees thirty minutes East (S.24°-30'E.), five hundred sixty and thirty-one hundredths feet (560.31') to a point, the aforementioned point and place of beginning, CONTAINING twenty-six hundredths (0.26) acres more or less.

The foregoing description and location shown on Plan E-6412 prepared by PHILADELPHIA SUBURBAN WATER COMPANY, attached and made a part hereof.

TOGETHER with the rights of ingress, egress and regress to and from said Right of Way and water main at any and all times for the purpose of laying, relaying, installing, operating, inspecting, maintaining, repairing, altering, removing, renewing, and replacing said water main and its appurtenances, together with the right to move in and use such equipment and materials as may be required to accomplish the foregoing, subject to the obligation of said PHILADELPHIA SUBURBAN WATER COMPANY, its successors and assigns, after laying said water main and appurtenances, and after any subsequent maintenance, repair, alteration, removal or replacement thereof by it or them, to restore the surface of the ground disturbed as nearly as practicable to its contour and condition prior to such disturbance thereof.

RESERVING, however, to GRANTOR the right to use the ground over said water main and Right of Way granted for egress and regress, provided such use shall not obstruct the rights herein granted, and more specifically, GRANTOR agrees not to erect any building or structure on the permanent Right of Way or to change the grade of the surface over the water main.

TO HAVE AND TO HOLD all and singular the rights, liberties, privileges, Right of Way and easement above described unto said PHILADELPHIA SUBURBAN WATER COMPANY, its successors and assigns forever.

This grant and all of the covenants herein contained shall inure to the benefit of and shall be binding upon GRANTOR, its successors and assigns.

GRANTOR understands that the person securing this grant is without authority to make any agreement in regard to the subject matter hereof which is not expressed herein and that no such agreement will be binding on said PHILADELPHIA SUBURBAN WATER COMPANY, its successors or assigns.

IN WITNESS WHEREOF this instrument is signed and sealed this 11th day of November, 1948

Sister Anna Raymonde (SEAL)
Witness

Sister Catherine Joan (SEAL)
Witness

07/09/2014 06:09 FAX

State of: Pennsylvania

County of: Delaware

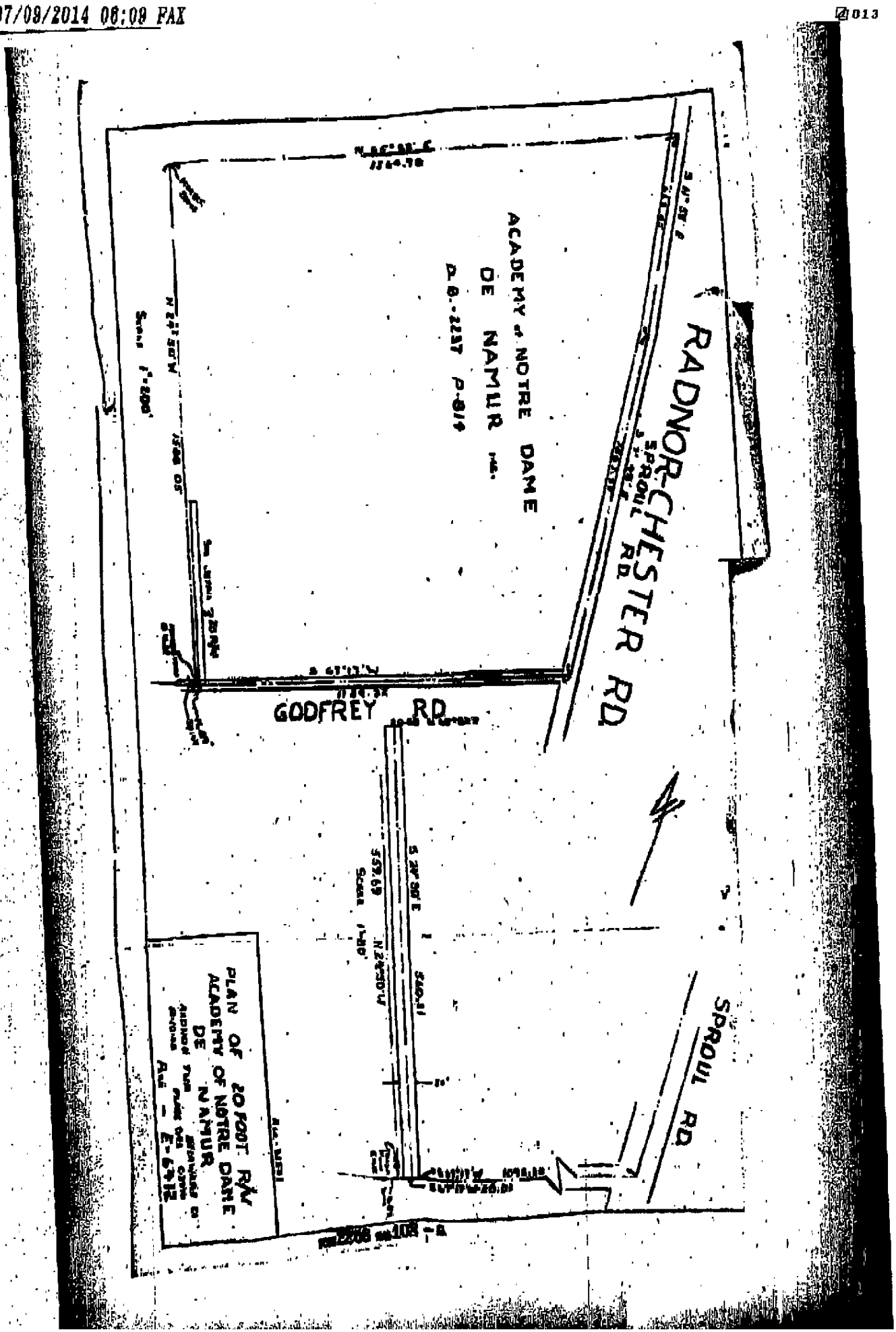
On this, the 15th day of November 1966, before me a Notary Public the undersigned officer, personally appeared Sister Catherine Joan who acknowledged Sister Anne Raymond to be the President of Academy of Notre Dame DeNamur, Inc., a Pennsylvania corporation being authorized to do so, executed the foregoing instrument for the purposes therein contained by signing the name of the by Sister Anne Raymond as President

IN WITNESS WHEREOF, I hereunto set my hand and Official Seal

Notary Public

DOROTHY B. MCDONALD
Notary Public, Media Boro, Delaware County
My Commission Expires January 10, 2008

Book 2535 Page 102-A


ACADEMY of NOTRE DAME DE NAMUR INC.
RADNOR-CHESTER RD.
SPROUL RD.
GODFREY RD.
PLAN OF 20 FOOT R/W ACADEMY OF NOTRE DAME DE NAMUR
SPROUL RD.

This Deed, this 4th day of April 1966

Between, ACADEMY OF NOTRE DAME DE NAMUR, INC., ——————

——————, a corporation organized and existing under and by virtue of the laws of the Commonwealth of Pennsylvania, —————— (hereinafter called "Grantor"), of the one part, and THE FIVE-FIFTY CORPORATION, a Pennsylvania Corporation, —————— (hereinafter called the "Grantee"), of the other part.

Witnesseth, That in consideration of EIGHTY FIVE THOUSAND DOLLARS ($85,000.00) —— Dollars, in hand paid, the receipt whereof is hereby acknowledged, the said Grantor does hereby grant and convey unto the said Grantee, its successors —— and assigns, ——————

ALL THAT CERTAIN tract or parcel of ground, Situate in the Township of Radnor, County of Delaware and Commonwealth of Pennsylvania, described according to a Map of property of Academy of Notre Dame De Namur, made by Yerkes Engineering Co., Consulting Engineers, Bryn Mawr, Pennsylvania, dated July 27th, 1965 as follows, to wit: ——————

BEGINNING at a point in the middle of Radnor-Chester Road (Sproul Road, Fifty feet wide), said point is at the distance of One thousand two hundred sixty and sixty one one-hundredths feet measured Northwesterly along the middle of Radnor-Chester Road (Sproul Road) from its intersection with the middle of Godfry Road (Thirty three feet wide); -thence leaving Radnor-Chester Road (Sproul Road) by other land of Academy of Notre Dame De Namur, of which this is a part, the two following courses and distances; (1) South sixty five degrees, twenty three minutes West, One thousand two hundred twenty one and forty three one-hundredths feet to a point; (2) North twenty four degrees, thirty seven minutes West, Four hundred fifteen feet to a point in line of land now or formerly of Immaculata Gallagher; thence by same, North sixty five degrees, twenty three minutes East, One thousand three hundred fourteen and ninety six one-hundredths feet to a point in the middle of Radnor-Chester Road (Sproul Road); thence along the middle of same, South eleven degrees, fifty five minutes East, Four hundred twenty five and forty one one-hundredths feet to the place of beginning. Containing Twelve and eighty four one-thousandths acres be the same more or less. ——————

BEING part of the same premises which The Baltimore Province of the Sisters of Notre Dame De Namur, Inc., a Maryland Corp., by Indenture bearing date the 4th day of April, A. D. 1966, and recorded at Media in the office for the Recording of Deeds, in and for the County of Delaware on the 15th day of April, A. D. 1966, in Deed Book No. , Page , etc., granted and conveyed unto Academy of Notre Dame De Namur, Inc., a Pa. Corp., in fee. ——————

UNDER AND SUBJECT to certain restrictions of record. ——————

93.50

Rec'd 4/15/66 Deed Book 2237 page 818

THIS INDENTURE, MADE the 27th day of December in the year of our Lord One Thousand Nine Hundred and Forty-three (1943). —

BETWEEN H.S. SCHUTT, FLORENCE H. GEIST, ELOISE GEIST CHAPMAN, ELIZABETH GEIST ELY, and MARY GOLDEN GEIST ZANTZINGER, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, hereinafter called the Grantors, of the one part, ————

AND

THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC. a Corporation existing under and by virtue of the laws of the State of Maryland, hereinafter called the Grantee of the other part. ————

WITNESSETH, That the said Grantors, for and in consideration of the sum of SEVENTY-FIVE THOUSAND DOLLARS, lawful money of the United States of America, unto them well and truly paid by the said Grantee at and before the sealing and delivery of these presents, the receipt whereof is hereby acknowledged , have granted, bargained, sold, aliened, enfeoffed, released and confirmed, and by these presents, and by virtue of the power and authority in them vested by the hereinafter recited Deed of Trust, do grant, bargain, sell, alien, enfeoff, release and confirm unto the said Grantee, its Successors and Assigns, ————

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, SITUATE in the Township of Radnor, in the County of Delaware, and State of Pennsylvania, and described according to a survey and plan thereof, made by Pugh-Hubbard, Civil Engineer, as follows, to wit:-

BEGINNING at the intersection of Radnor and Chester Road and Godfrey Road; thence along the said Godfrey Road South sixty-eight degrees, forty-eight minutes West One Thousand One Hundred and Sixteen and Thirty-nine One-hundredths feet to a point in

Godfrey Road; thence extending North twenty-three degrees fifteen minutes West one thousand five hundred and eighty-one and ninety-two one-hundredths feet to a point in the line of land of J.M. Wilcox and Lincoln Godfrey, which point is two hundred and seventy-one and forty-five one-hundredths feet Northeast from a stone on said line being the point of intersection of land now or late of Tyron Lewis, J.M. Wilcox and Lincoln Godfrey; thence along said line North sixty-six degrees, thirty-five minutes East one thousand five hundred and sixty-five and six one-hundredths feet to a point in the centre line of Radnor Road; thence along said Road South ten degrees, twenty-four minutes East six hundred and twenty-four and eighty-five one-hundredths feet to a point; thence extending along said Road South six degrees, sixteen minutes, forty seconds East one thousand and sixty-three and fifty-three one-hundredths feet to the first mentioned point and place of beginning.

CONTAINING Fifty Acres of land, be the same, more or less.

BEING the same premises, inter alia, which H.S. SCHUTT, ET AL, Executers and Trustees &c. by Indenture bearing date the Twenty-sixth day of August A.D. 1942, and recorded at Media, in the Office for the Recording of Deeds, in and for the County of Delaware, in Deed Book No. 1192, Page 1 &c., granted and conveyed unto the said H.S. Schutt, Florence H.Geist, Eloise Geist Chapman, Formerly (Shoaffer), Elizabeth Geist Ely and Mary Golden Geist Zantzinger, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, in fee.

UNDER AND SUBJECT TO CERTAIN BUILDING RESTRICTIONS.

AND in said Deed of Trust the Trustees and their Successors, Survivors and or Survivor of them were given the following powers, inter alia viz:-

"1. To sell any real estate which may at any time form part

of this Trust for such prices, upon such terms, in such way and manner and for such interest and estates as may be deemed wise, and to make good Deeds therefor to the purchaser or purchasers thereof without any obligation on the latter to see to or be responsible for the application of the Purchase money".

TOGETHER with all and singular the buildings, improvements, streets, alleys, passages, ways, waters, water-courses, rights, liberties, privileges, hereditaments and appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the reversions and remainders, rents, issues and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever, of them the said Grantors, Trustees as aforesaid in law, equity, or otherwise, howsoever, of, in, and to the same and every part thereof,

TO HAVE AND TO HOLD the said lot or piece of ground with the buildings and improvements thereon erected, Hereditaments and premises hereby granted, or mentioned and intended so to be, with the appurtenances, unto the said Grantee, its Successors and Assigns, to and for the only proper use and behoof of the said Grantee, its Successors and Assigns, forever; UNDER AND SUBJECT NEVERTHELESS to the aforesaid certain building restrictions.

AND THE SAID H.S. SCHUTT, FLORENCE H. GEIST, ELOISE GEIST CHAPMAN, ELIZABETH GEIST ELY, and MARY GOLDEN Geist ZANTZINGER, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, for themselves, and their and each of their respective heirs, executors, and administrators, do severally and not jointly covenant, promise and agree to and with the said Grantee, and its Successors and Assigns, by these presents, that they, the said H.S. Schutt, Florence H. Geist, Eloise Geist Chapman, Elizabeth Geist Ely and Mary Golden Geist Zantzinger, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, have not

or willingly
done, committed or knowingly suffered to be done or committed, any act, matter or thing whatsoever whereby the premises hereby granted, or any part thereof, is, are, shall or may be impeached, or incumbered in title, charge, estate, or otherwise, howsoever.

IN WITNESS WHEREOF the said H.S. Schutt, Florence H. Geist, Eloise Geist Chapman, Elizabeth Geist Ely and Mary Golden Geist Zantzinger, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, have hereunto set their hands and seals, this 27th day of December in the year of our Lord one thousand nine hundred and forty-three (1943).

SEALED AND DELIVERED IN THE PRESENCE OF US:	:	H.S. Schutt (Seal)
L. G. Waring	:	Florence H. Geist (Seal)
	:	Eloise Geist Chapman (Seal)
U.S.A. $82.50 Stamps	:	Elizabeth Geist Ely (Seal)
	Mary Golden Geist Zantzinger	(Seal)

RECEIVED, the day of the date of the above Indenture of the above-named Grantee, the full consideration hereinbefore mentioned.

WITNESS AT SIGNING:	H.S. Schutt
L.G. Waring	Florence H. Geist
	Eloise Geist Chapman
Robert D. Binnets as to EGC	Elizabeth Geist Ely and
	Mary Golden Geist Zantzinger
	Trustees under Deed of Trust
	of Clarence H. Geist, dated
	October 7, 1935.

ON THE 28th day of December Anno Domini 1943, before me, the subscriber, a Notary Public for the Commonwealth of Pennsylvania, residing in the City of Philadelphia personally appeared the above-named H.S. SCHUTT, FLORENCE H. GEIST, and ELIZABETH GEIST

ELY, three of the Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, and in due form of law acknowledged the above Indenture to be their and each of their act and deed, and desired the same might be recorded as such. ——————

WITNESS my hand and notarial seal the day and year aforesaid.

Louis G. Waring (Seal)

Notary Public

My Commission expires January 27th 1945.

STATE OF N.Y. :
: SS.
COUNTY & CITY OF N.Y :

ON THE 27th day of December Anno Domini 1943, before me the subscriber, a Notary Public for the State of New York, residing in the City of Mt. Vernon N.Y. personally appeared the above-named ELOISE GEIST CHAPMAN, one of the Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, and in due form of law acknowledged the above Indenture to be her act and deed, and desired the same might be recorded as such. ——————

WITNESS my hand and Notarial seal the day and year aforesaid.

Harold E. Proszano (Seal)

Attorney & Counseller-at-law

Office Address: 40 Wall St N.Y. City.

Residing in Westchester County

Cert filed in N.Y. Co. No. 44 Reg No 4P409

Cert. filed in Kings Co No 11 Reg No. A4014

Cert. filed in Bronx Co No 5 Reg No P44-13

Cert. filed in Queens Co No 182 Reg No A4539

Cert. filed in Richmond County

Commission expires March 30, 1944

STATE OF NEW YORK :
: SS. No. 5913
COUNTY OF NEW YORK :

I, ARCHIBALD R. WATSON, County Clerk and Clerk of the——

Supreme Court of New York County, the same being a Court of Record having by law a Seal, do hereby CERTIFY that HAROLD E. PREZZANO, whose name is subscribed to the annexed Deposition Certificate of acknowledgment or proof, was at the time of taking the same an Attorney and Counsellor at law duly commissioned to have and exercise the power of a Notary Public acting in and for said County, and sworn and qualified to act as such; that he has filed in the Clerk's Office of the County of New York a CERTIFIED COPY of his appointment and qualification for the County of Westchester, with his autograph signature; that as such Officer he was duly authorized by the laws of the State of New York to protest notes, to take and certify depositions, to administer oaths and affirmations, to take affidavits and certify the hereditaments, to be read in evidence or recorded in this State; and further, that I am well acquainted with the handwriting of such Attorney and Counseller at law or have compared the signature of such officer with that deposited in my Office and believe that the signature to the said annexed instrument is genuine. ———————

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal this 27th day of Dec. 1943.

Archibald R. Watson (Seal)

County Clerk and Clerk of the Supreme Court

New York County.

ON THE 28th day of December Anno Domini 1943, before me, the subscriber, a Notary Public for the Commonwealth of Pennsylvania, residing in the City of Philadelphia, personally appeared the above-named MARY GOLDEN GEIST ZANTZINGER, One of the Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, and in due form of law acknowledged the above Indenture to be —

her act and deed, and desired the same might be recorded as such.

WITNESS my hand and Notarial seal the day and year aforesaid.

Louis G. Waring (Seal)

Notary Public

My Commission expires January 27, 1945.

The address of the Grantee above-named is Baltimore Maryland

(W. Chester

Registered in Radnor Township E S A 12/31/43 — L.G. Waring — On behalf of Grantee

Recorded December 31, 1943. — Evans — Recorder.

DELAWARE COUNTY : SS

I, JOSEPH L. EYRE, Recorder of Deeds for Delaware County, do CERTIFY that the above DEED from H.S. SCHUTT, FLORENCE H. GEIST, ELOISE GEIST CHAPMAN, ELIZABETH GEIST ELY, and MARY GOLDEN GEIST ZANTZINGER, Trustees under Deed of Trust of Clarence H. Geist, dated October 7, 1935, to THE BALTIMORE PROVINCE OF THE SISTERS OF NOTRE DAME DE NAMUR, INC. and recorded in DEED BOOK NO. 1232, PAGE 170, is a true and correct Copy as full and entire as appears on the Record of this Office.

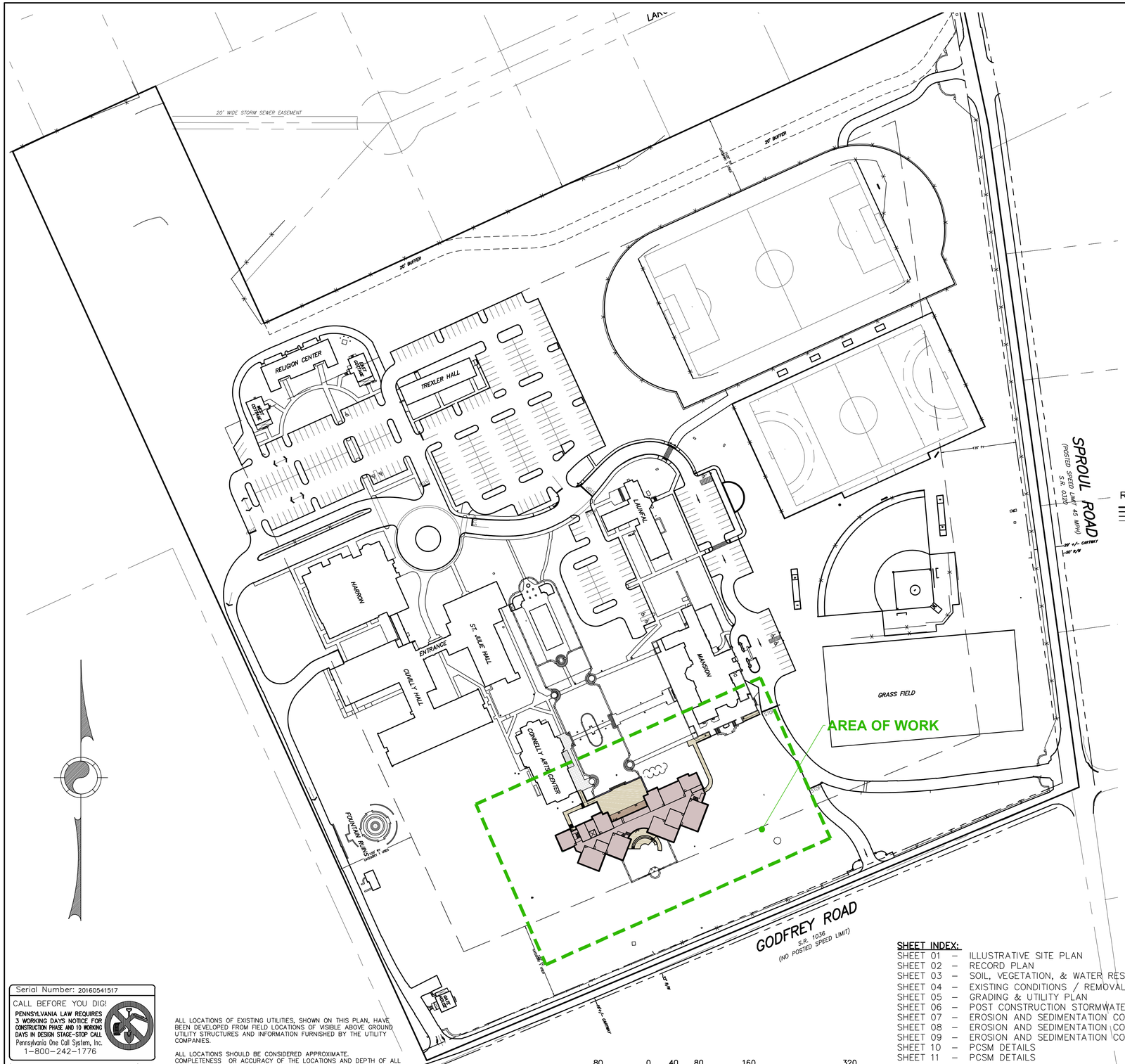
WITNESS my hand and seal this Twenty-third day of December, Anno Domini 1964.

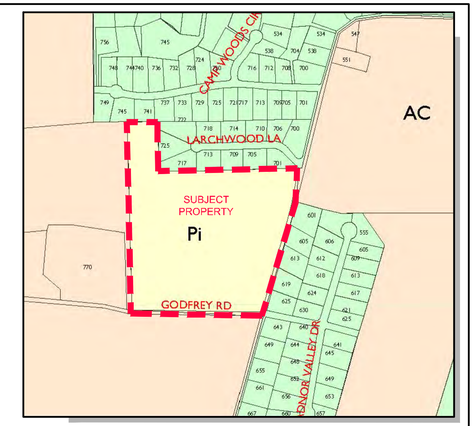
Joseph L. Eyre

Recorder of Deeds

By: Fred L. MacDougall

Deputy Recorder





LOCATION MAP
SCALE: 1" = 600'

PRELIMINARY LAND DEVELOPMENT PLAN FOR ACADEMY OF NOTRE DAME DENAMUR

RADNOR TOWNSHIP | DELAWARE COUNTY | PENNSYLVANIA

OWNER/APPLICANT:
ACADEMY OF NOTRE DAME DENAMUR
560 SPROUL ROAD
VILLANOVA, PA 19085-1220
(610) 687-0650

SHEET INDEX:

SHEET 01 – ILLUSTRATIVE SITE PLAN
SHEET 02 – RECORD PLAN
SHEET 03 – SOIL, VEGETATION, & WATER RESOURCES MAP
SHEET 04 – EXISTING CONDITIONS / REMOVALS PLAN
SHEET 05 – GRADING & UTILITY PLAN
SHEET 06 – POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
SHEET 07 – EROSION AND SEDIMENTATION CONTROL PLAN
SHEET 08 – EROSION AND SEDIMENTATION CONTROL DETAILS
SHEET 09 – EROSION AND SEDIMENTATION CONTROL DETAILS
SHEET 10 – PCSM DETAILS
SHEET 11 – PCSM DETAILS

ACADEMY of NOTRE DAME de NAMUR
INSPIRING YOUNG WOMEN

Serial Number: 20160541517
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

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE, INC. THEY ARE NOT TO BE USED WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY TO MOMENEE, INC. AND THE USER OR THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

G:\PROJECTS\2015\15372\MAI\DRAWINGS\15372

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.

80 0 40 80 160 320
1 INCH = 80 FT.

ILLUSTRATIVE SITE PLAN | FILE NO.: 15-372

MOMENEE, INC. a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN
ACADEMY OF NOTRE DAME - STEM BUILDING
RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

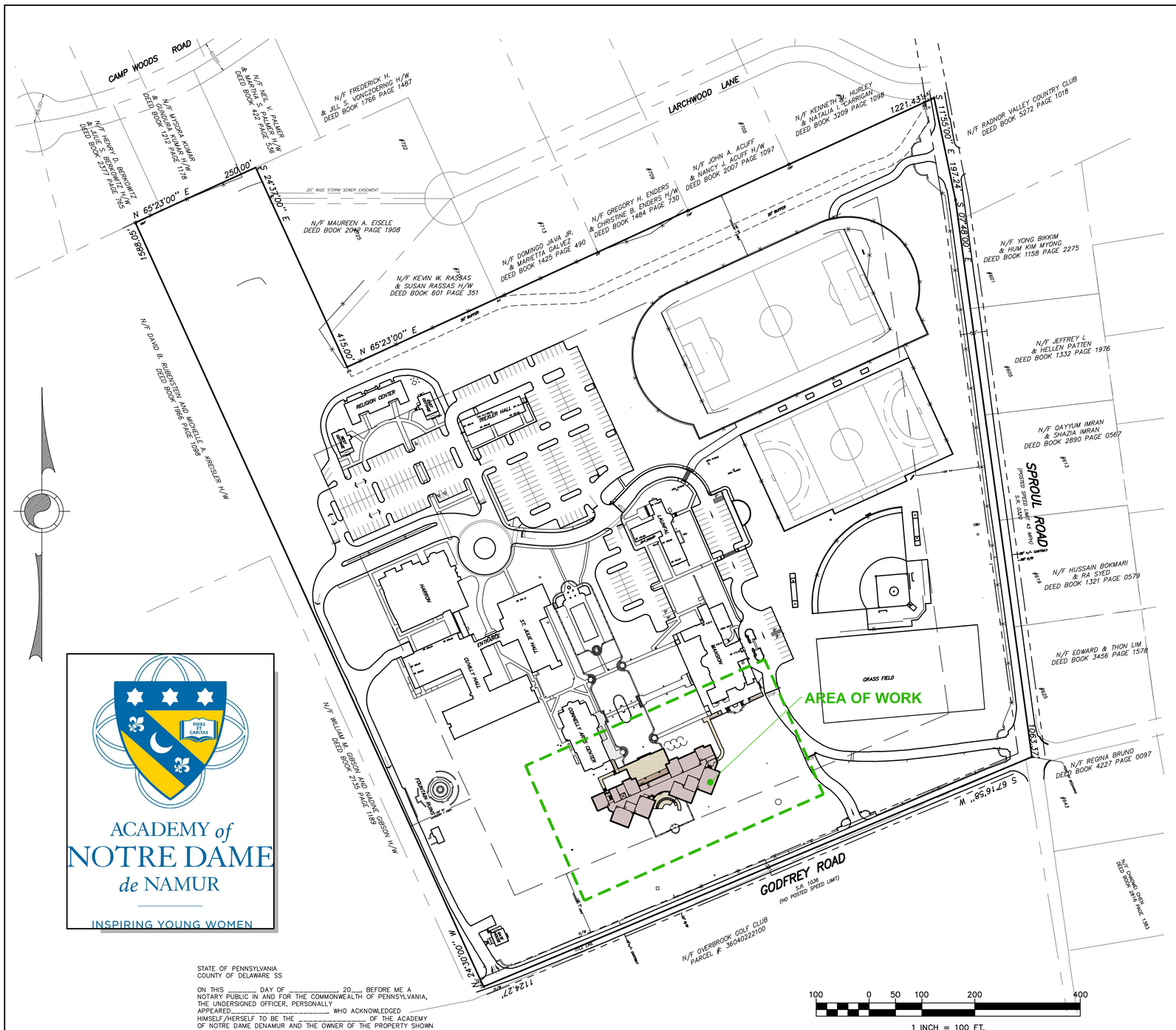
REV.	DATE	COMMENTS

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KEVIN R. MOMENEE ENGINEER PE020326E

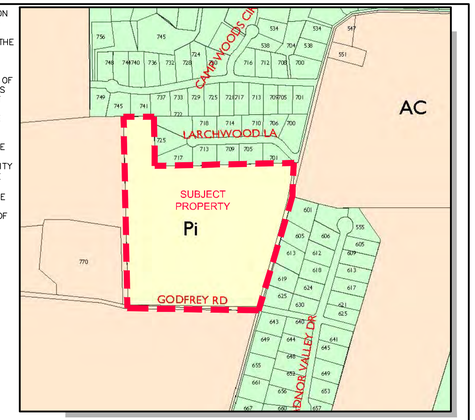
SHEET 1 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" = 80'



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.



LOCATION MAP
SCALE: 1" = 600'

TOTAL AREA:(TO THE TITLE LINE)
38.143 ACRES/1,661,497 S.F.

EXISTING IMPERVIOUS COVERAGE:		PROPOSED IMPERVIOUS COVERAGE:	
BUILDINGS	83,110 SF (5.0%)	BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	208,524 SF	DRIVES/PARKING	208,524 SF
WALLS	3,399 SF	WALLS	3,126 SF
WALKS, PATIOS, ETC.	59,873 SF	WALKS, PATIOS, ETC.	65,760 SF
TRACK	60,136 SF	TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)	TOTAL	435,478 SF (26.2%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)	ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)	SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)	GRASSPAVE	1,664 SF (0.1%)

GENERAL NOTES

1. OWNER/APPLICANT:
   NOTRE DAME DE NAMUR INC.
   560 SPROUL ROAD
   VILLANOVA, PA 19085-1220
   PHONE: 610-687-0650
2. TAX MAP PARCEL: 36-37-086-001
3. TAX FOLIO NUMBER: 36040264800
4. GROSS TRACT AREA: 1,661,497 S.F., 38.143 ACRES
5. SOURCE OF TITLE: DEED BOOK 2369, PAGE 796
6. BOUNDARY SURVEY, AND PARTIAL TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED 'BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY OF ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE SURVEY GROUP INC. DATED JANUARY 19, 2005 (FILE #04232). THE NOTED SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT PROVIDED BY THE CLIENT.
7. UPDATED FIELD SURVEY IN THE AREA OF THE PROPOSED IMPROVEMENTS FROM A FIELD SURVEY BY MOMENEE SURVEY GROUP INC. PERFORMED IN FEBRUARY 2016.
8. ADDITIONAL SITE INFORMATION TAKEN FROM A PLAN ENTITLED "MINOR GRADING PERMIT – ACADEMY OF NOTRE DAME DE NAMUR" PREPARED BY MOMENEE & ASSOCIATES, INC. DATED MARCH 31, 2014, LAST REVISED JULY 8, 2014. FILE # 12-043.
9. ADDITIONAL TOPOGRAPHY TAKEN FROM A PLAN ENTITLED 'FINE ARTS BUILDING – ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE AND ASSOCIATES INC. DATED AUGUST 12, 1998, LAST REVISED 12/14/98 (FILE #98114).
10. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
11. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
12. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
13. SOIL INFORMATION TAKEN FROM THE SOIL SURVEY FOR CHESTER AND DELAWARE COUNTIES PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
14. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
15. THE SITE IS SERVED BY PUBLIC SEWERS.
16. THE INTENT OF THIS PLAN SET IS TO SHOW THE CONSTRUCTION OF A NEW SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS BUILDING AND RELATED SITE IMPROVEMENTS.
17. THE STORMWATER MANAGEMENT IMPROVEMENTS SHOWN INCLUDE CONTROL OF THE PREVIOUSLY INSTALLED CONNELLY FINE ARTS BUILDING PATIO REPLACEMENT.

EXISTING PARKING COUNT:
310 (NO STACKED PARKING SPACES)

WAIVERS REQUESTED:
§ 255-20.B.(5): REQUEST TO NOT PROVIDE A TRANSPORTATION IMPACT STUDY.

ZONING DATA – PI (PLANNED INSTITUTIONAL DISTRICT):

ITEM	REQUIREMENT	EXISTING	PROPOSED
LOT AREA	10 ACRES MINIMUM	38.143 ACRES (GROSS) 1,612,673 SF 37.022 ACRES (NET) OF R/W AND & REGULATED STEEP SLOPES	38.143 ACRES (GROSS) 1,612,673 SF 37.022 ACRES (NET) OF R/W AND REGULATED STEEP SLOPES
LOT WIDTH	300' MIN	1,243' ALONG SPROUL ROAD, 1,139' ALONG GODFREY ROAD	1,243' ALONG SPROUL ROAD, 1,139' ALONG GODFREY ROAD
BUILDING AREA	MAX 30%	83,110 SF (5.0%)	97,932 SF (5.9%)
REQUIRED GREEN AREA	NOT LESS THAN 55% OF NET AREA	1,179,205 SF (73.1%)	1,158,769 SF (71.9%)
BUILDING HEIGHT	38 FEET MAX	38' MAX	38' MAX
FRONT YARD	120' MIN FOR BUILDINGS 60' MIN FOR PARKING, VEHICULAR ACCESS**	170' 177'	170' 177'
SIDE YARD	MIN 125' FOR CATEGORY 1 USES MIN 200' FOR CATEGORY 2 USES	50' 70'	50' 70'
REAR YARD	MIN 125' FOR CATEGORY 1 USES MIN 200' FOR CATEGORY 2 USES	116' 108'	116' 108'

** WITH THE EXCEPTION OF APPROVED ACCESS ROADS

LINETYPE LEGEND:

- ADJOINER LINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- PROPOSED BUILDING AREA
- PROPOSED IMPERVIOUS AREA

SYMBOL LEGEND:

- SURVEY MONUMENT
- SURVEY MARKER

ACADEMY of NOTRE DAME de NAMUR

INSPIRING YOUNG WOMEN

STATE OF PENNSYLVANIA
COUNTY OF DELAWARE SS

ON THIS _____ DAY OF _____, 20__, BEFORE ME A NOTARY PUBLIC IN AND FOR THE COMMONWEALTH OF PENNSYLVANIA, THE UNDERSIGNED OFFICER, PERSONALLY APPEARED _____ WHO ACKNOWLEDGED HIMSELF/HERSELF TO BE THE _____ OF THE ACADEMY OF NOTRE DAME DENAMUR AND THE OWNER OF THE PROPERTY SHOWN ON THIS PLAN AND THE LAND DEVELOPMENT 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.

WITNESS MY HAND AND SEAL THE DAY AND DATE ABOVE WRITTEN.

_____
(SIGNATURE)

_____
NOTARY PUBLIC OR OTHER OFFICER

MY COMMISSION EXPIRES:_____

Serial Number: 20160541517

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

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND OTHER PROPERTY RIGHTS IN THESE PLANS, REPORTS, DESIGNS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE. THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, OR FOR ANY PURPOSE OTHER THAN THE INTENDED USE OR FOR ANY SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2015\15372\MA\DRAWINGS\15372

REVI.	DATE	COMMENTS

RECORD PLAN

FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

REGISTERED PROFESSIONAL ENGINEER
KEVIN R. MOMENEE
PE020326E

SHEET 2 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" =100'

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.

SOURCE OF TITLE

ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-086:001
DEED BOOK-PAGE: 4027-0810

GENERAL NOTES

1. OWNER/APPLICANT:
   NOTRE DAME DE NAMUR INC.
   560 SPROUL ROAD
   VILLANOVA, PA 19085-1220
   PHONE: 610-687-0650
2. TAX MAP PARCEL: 36-37-086-001
3. TAX FOLIO NUMBER: 36040264800
4. GROSS TRACT AREA: 1,661,497 S.F., 38.143 ACRES
5. SOURCE OF TITLE: DEED BOOK 4027, PAGE 810
6. BOUNDARY SURVEY, AND PARTIAL TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED 'BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY OF ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE SURVEY GROUP INC. DATED JANUARY 19, 2005 (FILE #04232). THE NOTED SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT PROVIDED BY THE CLIENT.
7. UPDATED FIELD SURVEY IN THE AREA OF THE PROPOSED IMPROVEMENTS FROM A FIELD SURVEY BY MOMENEE SURVEY GROUP INC. PERFORMED IN FEBRUARY 2016.
8. ADDITIONAL SITE INFORMATION TAKEN FROM A PLAN ENTITLED "MINOR GRADING PERMIT – ACADEMY OF NOTRE DAME DE NAMUR" PREPARED BY MOMENEE & ASSOCIATES, INC. DATED MARCH 31, 2014, LAST REVISED JULY 8, 2014. FILE # 12-043.
9. ADDITIONAL TOPOGRAPHY TAKEN FROM A PLAN ENTITLED 'FINE ARTS BUILDING – ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE AND ASSOCIATES INC. DATED AUGUST 12, 1998, LAST REVISED 12/14/98 (FILE #98114).
10. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
11. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
12. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
13. SOIL INFORMATION TAKEN FROM THE SOIL SURVEY FOR CHESTER AND DELAWARE COUNTIES PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
14. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
15. THE SITE IS SERVED BY PUBLIC SEWERS.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

LINETYPE LEGEND:

- ADJOINER LINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- EXISTING 1' MINOR CONTOUR
- EXISTING 5' MAJOR CONTOUR
- TO BE REMOVED
- EXISTING SLOPES 14-20%
- EXISTING SLOPES 20%+

SYMBOL LEGEND:

- SURVEY MONUMENT
- SURVEY MARKER
- LIGHT
- UTILITY POLE
- EXISTING TREE
- TREE TO BE REMOVED

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	EROD.	GROUP	HYDRO SOIL LIMITATIONS
GeB2 Glenelg Channery Silt Loam	3-8	6.6+	6.6+	Moderate	B	Moderate

100 0 50 100 200 400

1 INCH = 100 FT.

Serial Number: 20160541517

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

COPYRIGHT© MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS. ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE. THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2016\15372\MAI\DRAWINGS\15372

SOIL, VEGETATION & WATER RESOURCES MAP

FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER
PE020326E

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

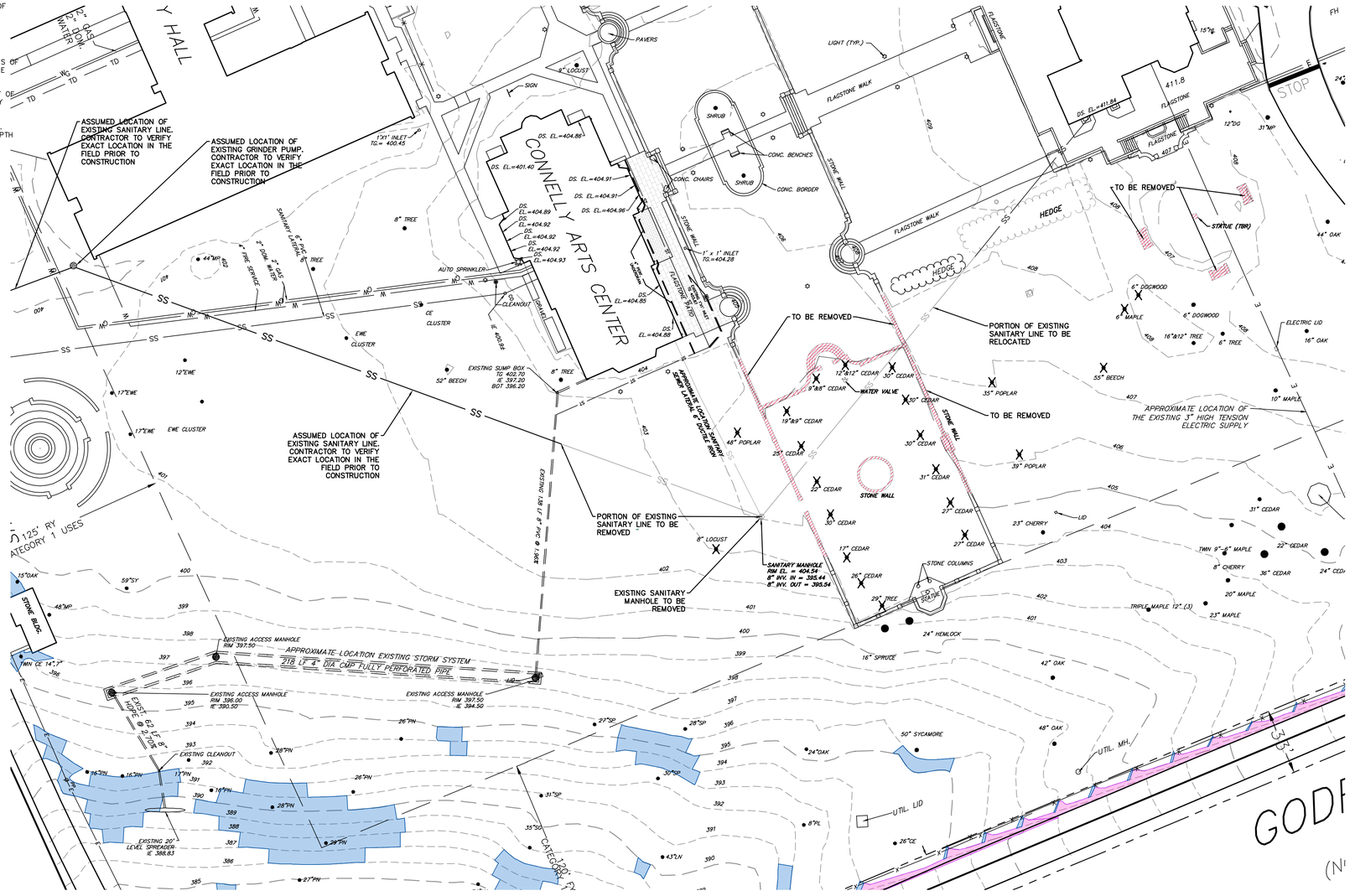
SHEET 3 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" =100'

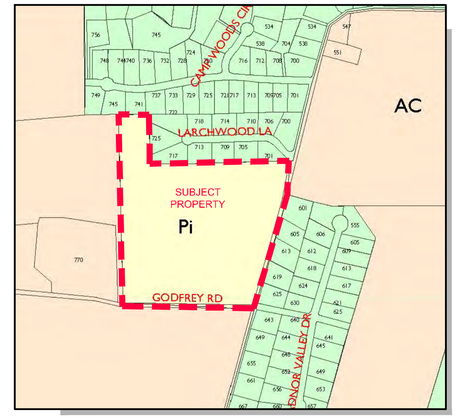
REV. | DATE | COMMENTS

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.





LOCATION MAP
SCALE: 1" = 600'

SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-086-001
DEED BOOK-PAGE: 4027-0810

GENERAL NOTES
1. OWNER/APPLICANT:
   NOTRE DAME DE NAMUR INC.
   560 SPROUL ROAD
   VILLANOVA, PA 19085-1220
   PHONE: 610-687-0650
2. TAX MAP PARCEL: 36-37-086-001
3. TAX FOLIO NUMBER: 36040264800
4. GROSS TRACT AREA: 1,661,497 S.F., 38.143 ACRES
5. SOURCE OF TITLE: DEED BOOK 4027, PAGE 810
6. BOUNDARY SURVEY, AND PARTIAL TOPOGRAPHIC INFORMATION TAKEN FROM A PLAN ENTITLED 'BOUNDARY AND PARTIAL TOPOGRAPHIC SURVEY OF ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE SURVEY GROUP INC. DATED JANUARY 19, 2005 (FILE #04232). THE NOTED SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT PROVIDED BY THE CLIENT.
7. UPDATED FIELD SURVEY IN THE AREA OF THE PROPOSED IMPROVEMENTS FROM A FIELD SURVEY BY MOMENEE SURVEY GROUP INC. PERFORMED IN FEBRUARY 2016.
8. ADDITIONAL SITE INFORMATION TAKEN FROM A PLAN ENTITLED "MINOR GRADING PERMIT – ACADEMY OF NOTRE DAME DE NAMUR" PREPARED BY MOMENEE & ASSOCIATES, INC. DATED MARCH 31, 2014, LAST REVISED JULY 8, 2014. FILE # 12-043.
9. ADDITIONAL TOPOGRAPHY TAKEN FROM A PLAN ENTITLED 'FINE ARTS BUILDING – ACADEMY OF NOTRE DAME DE NAMUR' PREPARED BY MOMENEE AND ASSOCIATES INC. DATED AUGUST 12, 1998, LAST REVISED 12/14/98 (FILE #98114).
10. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
11. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
12. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
13. SOIL INFORMATION TAKEN FROM THE SOIL SURVEY FOR CHESTER AND DELAWARE COUNTIES PREPARED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE.
14. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
15. THE SITE IS SERVED BY PUBLIC SEWERS.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

LINETYPE LEGEND:
- ADJOINER LINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- EXISTING 1' MINOR CONTOUR
- EXISTING 5' MAJOR CONTOUR
- TO BE REMOVED
- EXISTING SLOPES 14-20%
- EXISTING SLOPES 20%+

SYMBOL LEGEND:
- SURVEY MONUMENT
- SURVEY MARKER
- LIGHT
- UTILITY POLE
- EXISTING TREE
- TREE TO BE REMOVED

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	EROD.	GROUP	HYDRO SOIL LIMITATIONS
GeB2 Glenelg Channery Silt Loam	3-8	6.6+	6.6+	Moderate	B	Moderate

30 0 15 30 60 120
1 INCH = 30 FT.

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE, THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE, WITHOUT LIMITATION, NOT TO BE USED ON ANY OTHER PROJECT. THESE PLANS ARE NOT TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2015\15372\VAR\DRAWINGS\15372

EXISTING CONDITIONS / REMOVALS PLAN
FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

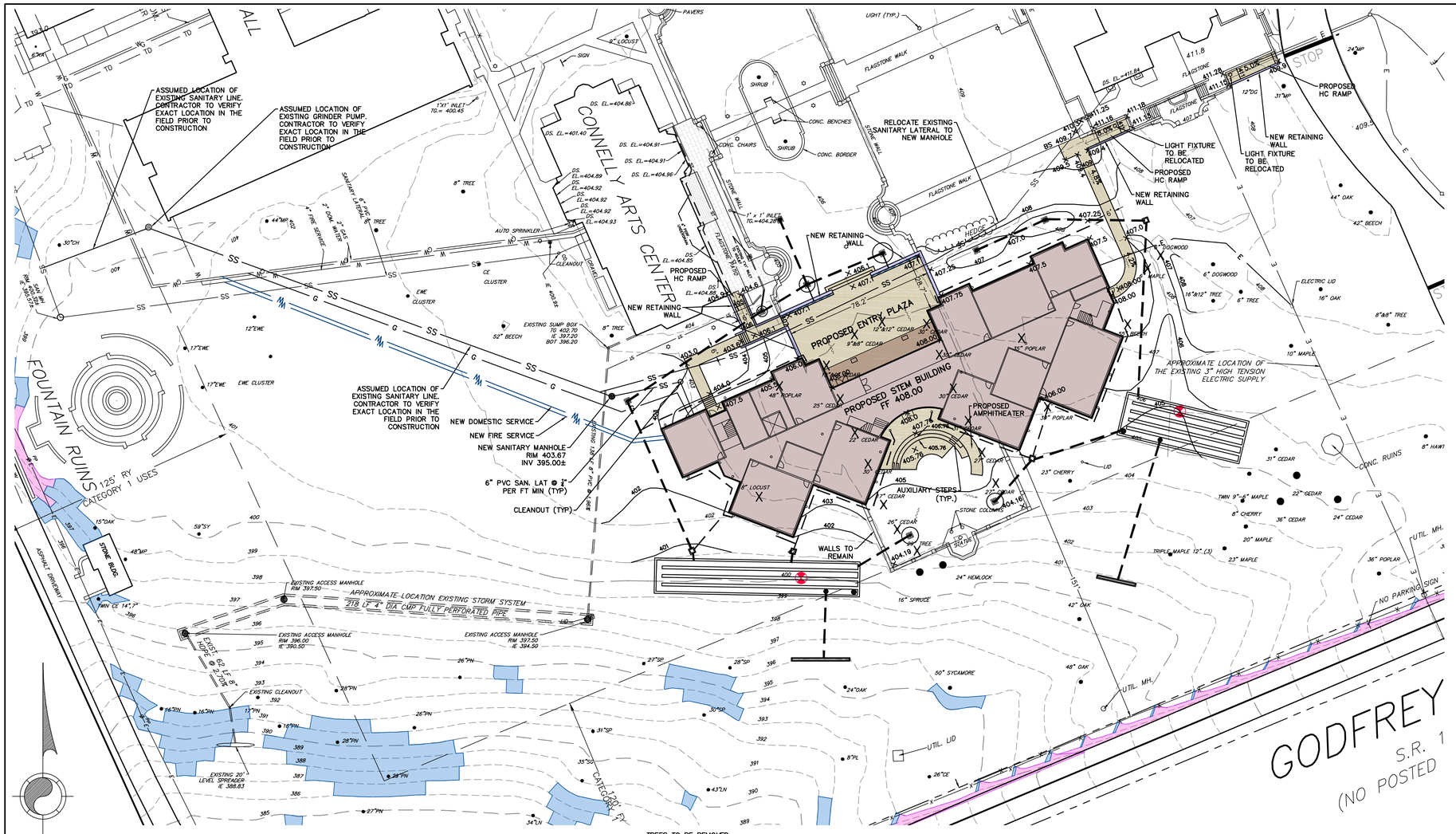
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL KEVIN R. MOMENEE ENGINEER PE020326E

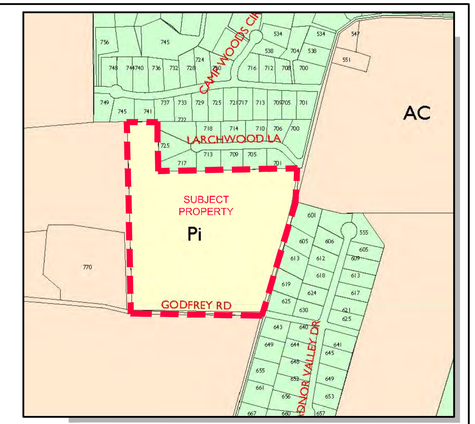
REV.	DATE	COMMENTS

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

SHEET 4 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" = 30'





LOCATION MAP
SCALE: 1" = 600'

SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-086:001
DEED BOOK-PAGE: 4027-0810

GENERAL NOTES:
1. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
2. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
3. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
4. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
5. THE SITE IS SERVED BY PUBLIC SEWERS.
6. THE REFERENCED SURVEY(S), AND THIS PLAN, WERE COMPLETED WITHOUT THE AVAILABILITY OF A CURRENT TITLE REPORT AND SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED IN A FULL AND ACCURATE TITLE REPORT.
7. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
9. THE PA ONE-CALL NUMBER FOR THIS SITE IS 20160541517.
10. SOIL DATA RETRIEVED VIA THE WEB SOIL SURVEY PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

IMPERVIOUS COVERAGE TO BE REMOVED:

WALLS	581 SF
WALKS, PATIOS, ETC.	223 SF
TOTAL	804 SF

IMPERVIOUS COVERAGE TO BE ADDED:

BUILDINGS	14,822 SF
WALLS	308 SF
WALKS, PATIOS, ETC.	6,110 SF
TOTAL	21,240 SF

PROPOSED IMPERVIOUS COVERAGE:

BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	208,524 SF
WALLS	3,126 SF
WALKS, PATIOS, ETC.	65,760 SF
TRACK	60,136 SF
TOTAL	435,478 SF (26.2%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

30 0 15 30 60 120

1 INCH = 30 FT.

LINETYPE LEGEND:
- ADJOINER LINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- EXISTING 1' MINOR CONTOUR
- EXISTING 5' MAJOR CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM PIPE
- PROPOSED BUILDING AREA
- PROPOSED IMPERVIOUS AREA

SYMBOL LEGEND:
- SURVEY MONUMENT
- SURVEY MARKER
- PERC TEST
- LIGHT
- UTILITY POLE
- EXISTING TREE
- TREE TO BE REMOVED
- 405.5 PROPOSED SPOT ELEVATION

TREES TO BE REMOVED:

1-6" MAPLE	19"&9" CEDAR	4-30" CEDAR
1-6" DOGWOOD	1-22" CEDAR	1-31" CEDAR
1-8" LOCUST	1-25" CEDAR	1-35" POPLAR
8"&9" CEDAR	1-26" CEDAR	1-39" POPLAR
12"&12" CEDAR	2-27" CEDAR	1-48" POPLAR
1-17" CEDAR	1-29" TREE	1-55" BEECH

TREE REPLACEMENT FORMULA:

6 – 18 INCH DBH REMOVED	=	1 REPLACEMENT TREE
19 – 29 INCH DBH REMOVED	=	3 REPLACEMENT TREES, 2 BEING LARGE CANOPY TREES
30 INCH DBH & GREATER REMOVED	=	6 REPLACEMENT TREES, 4 BEING LARGE CANOPY TREES

TOTAL TREES BEING REMOVED:

6 – 18 INCH DBH	=	9
19 – 29 INCH DBH	=	7
30 INCH DBH & GREATER	=	9
TOTAL	=	25

REPLACEMENT TREES REQUIRED = 84, 50 BEING LARGE CANOPY TREES

NOTE: SHOULD ANY ADDITIONAL TREES BE REMOVED, ADDITIONAL REPLACEMENT TREES SHALL BE PROVIDED IN ACCORDANCE WITH THE RADNOR TOWNSHIP ORDINANCE No. 2012-05.

TREE REPLACEMENT NOTES:
1) REPLACEMENT TREES WILL BE SELECTED FROM THE LIST OF TOWNSHIP APPROVED TREES PRIOR TO THE ISSUANCE OF A GRADING PERMIT.
2) TREES TO BE PLANTED OUTSIDE OF REQUIRED SITE LINE.

CARE OF EXISTING TREES:

1. TREE PROTECTION FENCING SHALL BE INSTALLED TO PROTECT ALL EXISTING TREES FROM DAMAGE DUE TO LANDSCAPE OPERATIONS, OPERATIONS BY OTHER CONTRACTORS AND TRADES, AND OTHERS. MAINTAIN PROTECTION FENCING FOR THE DURATION OF PROJECT.
2. SELECTIVELY PRUNE EXISTING TREES AT THE EDGE OF ALL TREE PROTECTION ZONES, AND OTHER EXISTING TREES AFFECTED BY CONSTRUCTION, UNDER LANDSCAPE ARCHITECT'S DIRECTION. REMOVE SUCKER SHOOTS, DEAD, RUBBING AND DAMAGED BRANCHES.
3. ANY EXCAVATION NEAR ADJACENT ROOT SYSTEMS WILL REQUIRE ROOT PRUNING OF AFFECTED TREE(S).
4. FERTILIZE PRUNED EXISTING TREES WITH 3 TO 4 LBS. OF LIQUID FERTILIZER PER 1,000 SQUARE FEET OF DRIP AREA, OR, 5 GALLONS OF LIQUID FERTILIZER PER CALIPER INCH OF TRUNK DIAMETER.
5. FERTILIZE IN EARLY SPRING BEFORE GROWTH BEGINS.
6. FERTILIZE BEGINNING 2' FROM TRUNK AT INTERVALS 2' TO 3' ON CENTER IN A GRID-LIKE PATTERN TO A DEPTH OF 6-18" WITHIN THE DRIPLINE AND BEYOND WHERE POSSIBLE. INJECTION FERTILIZATION METHOD SHALL BE ACCEPTABLE SUBJECT TO LANDSCAPE ARCHITECT'S APPROVAL.

NOTES:

1.) THE STORMWATER MANAGEMENT FACILITIES ARE DESIGNED FOR THE NEW AND/OR REPLACEMENT IMPERVIOUS COVER ON SITE PLUS AN ADDITIONAL 1,000 SF FOR POSSIBLE FUTURE DEVELOPMENT. IF THIS IS CONSTRUCTED IN THE FUTURE, 500 SF MAY BE DIRECTED TO PCSM #1 AND 500 SF MAY BE DIRECTED TO PCSM #2. IN ADDITION, THE STORMWATER FACILITIES WERE DESIGNED TO ACCOUNT FOR 1,668 SF OF IMPERVIOUS COVER FROM THE CONNELLY CENTER PATIO.

2.) THE MAINTENANCE OF THE ON-SITE STORMWATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE OWNER.

3.) THE TOWNSHIP ENGINEER'S OFFICE SHALL BE NOTIFIED 48 HOURS PRIOR TO THE CONSTRUCTION OF THE SEEPAGE BED AND PRIOR TO THE START OF EARTHMOVING ACTIVITIES.

4.) ON-SITE TREES ARE TO BE SAVED AND PRESERVED WHEREVER POSSIBLE.

5.) ALL WOODY VEGETATION TO BE RETAINED WITHIN TWENTY-FIVE FEET OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING PLACED AT THE DRIPLINES.

6.) GRADE CHANGES AROUND THE DRIPLINES OF TREES TO BE RETAINED SHALL BE MINIMIZED. TREATMENT OF THE TREES PRIOR TO CONSTRUCTION TO PROTECT THE ROOT SYSTEM SHALL BE PERFORMED.

7.) ALL DISTURBED ROOTS MUST BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH MUST BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING COMPACTION. TREE LIMBS MUST BE CUT BACK IN PROPORTION TO THE ROOT AREA LOSS.

8.) ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING. ALL TREES ARE TO BE DEEP ROOT FERTILIZED USING 16-32-16 SLOW RELEASE, WATER DISPERSABLE @ 15 LBS. PER 100 GALLON OR EQUAL.

9.) A GENERAL EASEMENT IS HEREBY CREATED OVER THE STORMWATER MANAGEMENT SYSTEM THAT PERMITS INGRESS AND EGRESS BY RADNOR TOWNSHIP.

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	EROD.	GROUP	HYDRO SOIL LIMITATIONS
GeB2 Glenelg Chanrery Silt Loam	3-8	6.6+	6.6+	Moderate	B	Moderate

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.

Serial Number: 20160541517
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

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE. THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2015\15372\MA\DRAWINGS\15372

GRADING & UTILITY PLAN — FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

REGISTERED PROFESSIONAL ENGINEER KEVIN R. MOMENEE PE020326E

REV.	DATE	COMMENTS

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

SHEET 5 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" = 30'

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.

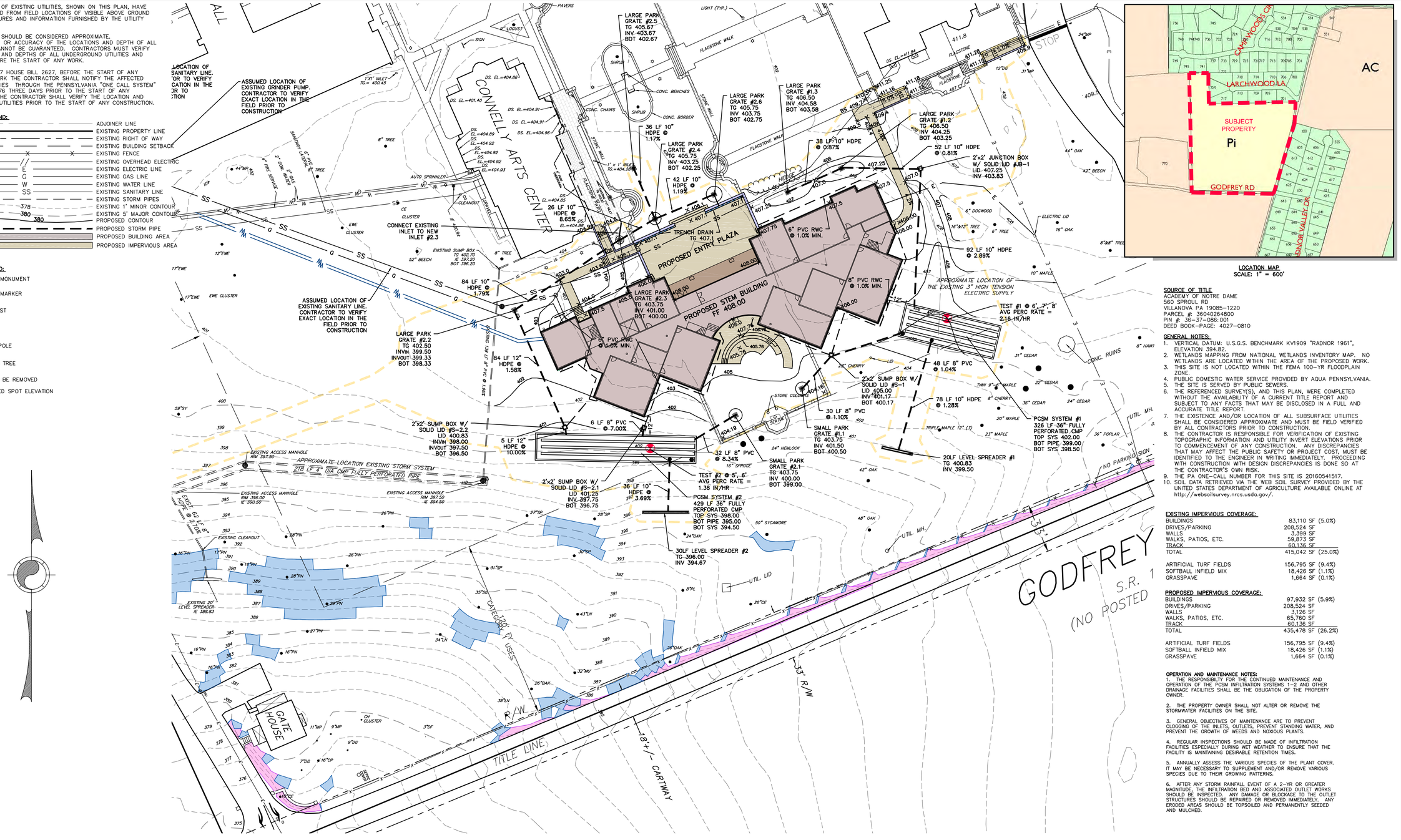
AS PER ACT 187 HOUSE BILL 2627, BEFORE THE START OF ANY EXCAVATION WORK THE CONTRACTOR SHALL NOTIFY THE AFFECTED UTILITY COMPANIES THROUGH THE PENNSYLVANIA "ONE CALL SYSTEM" 1-800-242-1776 THREE DAYS PRIOR TO THE START OF ANY EXCAVATION. THE CONTRACTOR SHALL VERIFY THE LOCATION AND DEPTH OF ALL UTILITIES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

LINETYPE LEGEND:

- ADJOINER LINE
- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- EXISTING BUILDING SETBACK
- EXISTING FENCE
- EXISTING OVERHEAD ELECTRIC
- EXISTING ELECTRIC LINE
- EXISTING GAS LINE
- EXISTING WATER LINE
- EXISTING SANITARY LINE
- EXISTING STORM PIPES
- EXISTING 1' MINOR CONTOUR
- EXISTING 5' MAJOR CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM PIPE
- PROPOSED BUILDING AREA
- PROPOSED IMPERVIOUS AREA

SYMBOL LEGEND:

- SURVEY MONUMENT
- SURVEY MARKER
- PERC TEST
- LIGHT
- UTILITY POLE
- EXISTING TREE
- TREE TO BE REMOVED
- 405.5 PROPOSED SPOT ELEVATION



SOURCE OF TITLE
ACADEMY OF NOTRE DAME
560 SPROUL RD
VILLANOVA PA 19085-1220
PARCEL #: 36040264800
PIN #: 36-37-086:001
DEED BOOK-PAGE: 4027-0810

GENERAL NOTES:
1. VERTICAL DATUM: U.S.G.S. BENCHMARK KV1909 "RADNOR 1961", ELEVATION 394.82.
2. WETLANDS MAPPING FROM NATIONAL WETLANDS INVENTORY MAP. NO WETLANDS ARE LOCATED WITHIN THE AREA OF THE PROPOSED WORK.
3. THIS SITE IS NOT LOCATED WITHIN THE FEMA 100-YR FLOODPLAIN ZONE.
4. PUBLIC DOMESTIC WATER SERVICE PROVIDED BY AQUA PENNSYLVANIA.
5. THE SITE IS SERVED BY PUBLIC SEWERS.
6. THE REFERENCED SURVEY(S), AND THIS PLAN, WERE COMPLETED WITHOUT THE AVAILABILITY OF A CURRENT TITLE REPORT AND SUBJECT TO ANY FACTS THAT MAY BE DISCLOSED IN A FULL AND ACCURATE TITLE REPORT.
7. THE EXISTENCE AND/OR LOCATION OF ALL SUBSURFACE UTILITIES SHALL BE CONSIDERED APPROXIMATE AND MUST BE FIELD VERIFIED BY ALL CONTRACTORS PRIOR TO CONSTRUCTION.
8. THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF EXISTING TOPOGRAPHIC INFORMATION AND UTILITY INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. ANY DISCREPANCIES THAT MAY AFFECT THE PUBLIC SAFETY OR PROJECT COST, MUST BE IDENTIFIED TO THE ENGINEER IN WRITING IMMEDIATELY. PROCEEDING WITH CONSTRUCTION WITH DESIGN DISCREPANCIES IS DONE SO AT THE CONTRACTOR'S OWN RISK.
9. THE PA ONE-CALL NUMBER FOR THIS SITE IS 20160541517.
10. SOIL DATA RETRIEVED VIA THE WEB SOIL SURVEY PROVIDED BY THE UNITED STATES DEPARTMENT OF AGRICULTURE AVAILABLE ONLINE AT http://websoilsurvey.nrcs.usda.gov/.

EXISTING IMPERVIOUS COVERAGE:

BUILDINGS	83,110 SF (5.0%)
DRIVES/PARKING	208,524 SF
WALLS	3,399 SF
WALKS, PATIOS, ETC.	59,873 SF
TRACK	60,136 SF
TOTAL	415,042 SF (25.0%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

PROPOSED IMPERVIOUS COVERAGE:

BUILDINGS	97,932 SF (5.9%)
DRIVES/PARKING	208,524 SF
WALLS	3,126 SF
WALKS, PATIOS, ETC.	65,760 SF
TRACK	60,136 SF
TOTAL	435,478 SF (26.2%)
ARTIFICIAL TURF FIELDS	156,795 SF (9.4%)
SOFTBALL INFIELD MIX	18,426 SF (1.1%)
GRASSPAVE	1,664 SF (0.1%)

OPERATION AND MAINTENANCE NOTES:
1. THE RESPONSIBILITY FOR THE CONTINUED MAINTENANCE AND OPERATION OF THE PCSM INFILTRATION SYSTEMS 1-2 AND OTHER DRAINAGE FACILITIES SHALL BE THE OBLIGATION OF THE PROPERTY OWNER.
2. THE PROPERTY OWNER SHALL NOT ALTER OR REMOVE THE STORMWATER FACILITIES ON THE SITE.
3. GENERAL OBJECTIVES OF MAINTENANCE ARE TO PREVENT CLOGGING OF THE INLETS, OUTLETS, PREVENT STANDING WATER, AND PREVENT THE GROWTH OF WEEDS AND NOXIOUS PLANTS.
4. REGULAR INSPECTIONS SHOULD BE MADE OF INFILTRATION FACILITIES ESPECIALLY DURING WET WEATHER TO ENSURE THAT THE FACILITY IS MAINTAINING DESIRABLE RETENTION TIMES.
5. ANNUALLY ASSESS THE VARIOUS SPECIES OF THE PLANT COVER. IT MAY BE NECESSARY TO SUPPLEMENT AND/OR REMOVE VARIOUS SPECIES DUE TO THEIR GROWING PATTERNS.
6. AFTER ANY STORM RAINFALL EVENT OF A 2-YR OR GREATER MAGNITUDE, THE INFILTRATION BED AND ASSOCIATED OUTLET WORKS SHOULD BE INSPECTED. ANY DAMAGE OR BLOCKAGE TO THE OUTLET STRUCTURES SHOULD BE REPAIRED OR REMOVED IMMEDIATELY. ANY ERODED AREAS SHOULD BE TOPSOILED AND PERMANENTLY SEEDED AND MULCHED.

Serial Number: 20160541517
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

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS. ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE. THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2015\15372\MA\DRAWINGS\15372

RESOLUTION TO SOIL LIMITATIONS:
BASED ON THE EXISTING SOIL TYPES AND 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.

SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	EROD.	GROUP	HYDRO SOIL LIMITATIONS
GeB2 Glenelg Channery Silt Loam	3-8	6.6+	6.6+	Moderate	B	Moderate

STORMWATER INFILTRATION TESTING:
INFILTRATION TESTING WAS PERFORMED ON SITE IN AUGUST 2016 BY DELAWARE VALLEY SEPTICS. TESTING WAS CONDUCTED ON SITE AS SHOWN ON THE PLAN.

TEST #1 - AVG RATE = 2.16 IN/HR.
TEST #2 - AVG RATE = 1.38 IN/HR.

30 0 15 30 60 120
1 INCH = 30 FT.

POST CONSTRUCTION STORMWATER MANAGEMENT PLAN
FILE NO.: 15-372

MOMENEE, INC. a Karins Company
ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER PE020326E

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

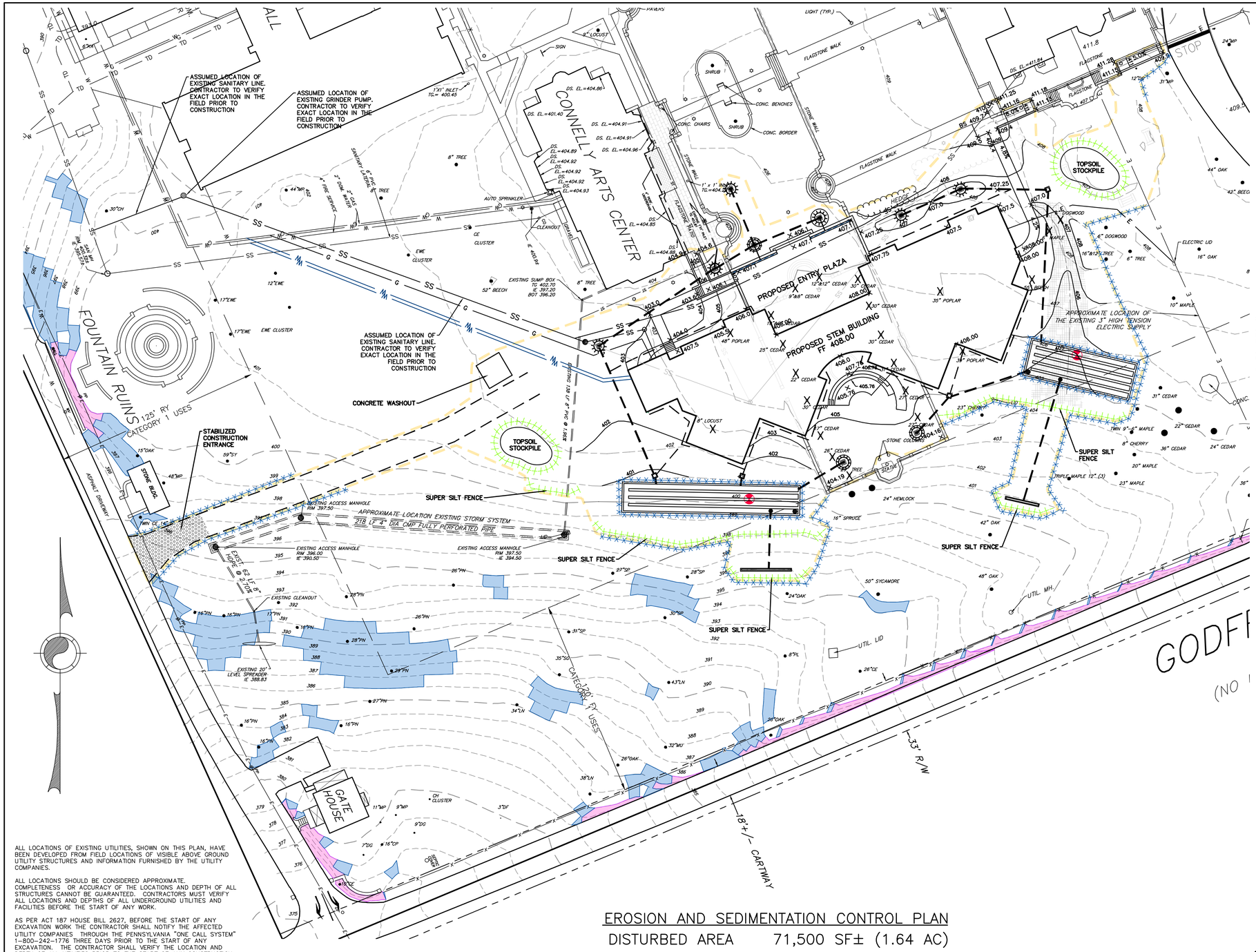
RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

REV.	DATE	COMMENTS

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

SHEET 6 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" = 30'



LOCATION MAP
SCALE: 1" = 600'

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.

Serial Number: 20160541517

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

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS. ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE, THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND SHALL NOT BE USED IN WHOLE OR IN PART ON ANY PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OF LEGAL EXPOSURE TO MOMENEE, INC. AND THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM

M:\PROJECTS\2015\15372\MKR\DRAWINGS\15372

RESOLUTION TO SOIL LIMITATIONS:
BASED ON THE EXISTING SOIL TYPES AND 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.

SPECIFIC GEOLOGIC AND SOIL CONDITIONS:
NO SPECIAL SOIL OR GEOLOGIC ISSUES ARE KNOWN.

SOILS INFORMATION

NAME	% SLOPE	DEPTH TO S. H. WATER	DEPTH TO BEDROCK	EROD.	GROUP	HYDRO SOIL LIMITATIONS
GeB2 Glenelg Channery Silt Loam	3–8	6.6+	6.6+	Moderate	B	Moderate

EROSION AND SEDIMENTATION CONTROL PLAN

DISTURBED AREA 71,500 SF± (1.64 AC)

LEGEND

- TREE PROTECTION BARRIER FENCING
- SILT FENCE
- LIMIT OF DISTURBANCE
- EROSION CONTROL BLANKET
- INLET PROTECTION

30 0 15 30 60 120

1 INCH = 30 FT.

CONSTRUCTION TIMING & SEQUENCE:

All earth disturbance activities shall proceed in accordance with the following sequence. Each stage shall be completed before any following stage is initiated. Clearing and grubbing shall be limited only to those areas described in each stage. Deviation from that sequence must be approved in writing from the local conservation district or by the department prior to implementation.

At least 7 days before starting any earth disturbance activities, including the clearing and grubbing, the owner and/or operator shall invite all contractors, the landowner, appropriate municipal officials, the E&S plan preparer, the PCSM plan preparer, the licensed professional responsible for oversight of critical stages of implementation of the PCSM plan, and a representative from the county conservation district for an on-site pre-construction meeting.

1. Construction begins. Anticipated date: December 2016
2. Install the stabilized construction entrance off Godfrey Road as shown on the plans. This entrance must be utilized by all construction vehicles entering/exiting the site.
3. Install tree protection fencing as indicated on plan. Tree protection fencing must be in place and approved prior to any disturbance. The limits of disturbance shall be staked out and clearly marked in the field. All disturbance shall be contained to the delineated limit of construction. Install orange construction fencing around the proposed PCSM system areas as shown.
4. Install silt fence as indicated on plan. Silt fence shall be installed up–slope of construction fencing. Note: additional sediment barriers shall be installed downgrade of any disturbance areas as needed throughout the entire project.
5. Prior to earth disturbance, notify the Township Engineer that construction is going to begin.
6. Begin to demolish and remove from site the portions of the existing walls, walks, and other designated impervious areas as shown on the plans. All construction debris shall be removed from the site and disposed of in an approved manner.
7. Clear and grub the areas as necessary within the limits of disturbance of existing vegetation. Strip topsoil and stockpile suitable material for future use. Unsuitable material shall be disposed of properly. Surround stockpile with silt fence. Temporarily seed all stockpiled topsoil.
8. Install the construction staging area.
9. Rough grade the site. Any graded or disturbed area must be temporarily seeded if no further earth moving is anticipated immediately. Excess material shall be moved to the fill area noted on the plans.
10. Install the new sanitary manhole and reconfigure the existing sanitary lines as shown on the plans.
11. Excavate for and begin to construct the foundations for the new building. Upon completion of foundation walls and first floor framing, backfill foundations and rough grade around building.
12. Continue with building construction. In conjunction with the building construction, begin construction of the amphitheater.
13. Stabilize and install temporary ground cover vegetation on graded areas that remain undisturbed during building construction. Any graded or disturbed areas must be temporarily seeded if no further earth moving is anticipated immediately. Upon completion or temporary cessation of the earth disturbance activity that will exceed 4 days, or any stage thereof, the project site shall be immediately stabilized with the appropriate temporary or permanent stabilization.
14. Inspect sediment barriers frequently, especially after heavy storms. Replace and repair sediment barriers as necessary.
15. Install underground utilities as necessary.
16. Install roof rainwater collection system, inlets, sump boxes, junction box, and the associated conveyance piping as shown on the plans. Install inlet protection on the inlets. All inlets shall be completely sealed off until the contributory area to the inlets are permanently stabilized.
17. **CRITICAL STAGE** (the site's engineer or designee shall be on site to inspect the installation of the PCSM facilities) – Upon final stabilization of the respective contributory areas, excavate for and install the PCSM System #1 and PCSM System #2. Excavate to the bottom of the permanent system, as indicated on the plans. Install geotextile fabric, pipe bedding and pipe system as indicated on the plans. Installation of the stone shall be checked by the design or site engineer prior to installation to ensure that it is clean washed stone. In the event that sediment enters or clogs the system appropriate measures shall be taken (i.e. cleaning the soil/sediment from the fabric, stone, bed, etc. And or replacement of the fabric and stone). If groundwater or bedrock is found during the excavation of the pipe system, the engineer shall be consulted to determine the necessary measures that should be taken. The bottom of the system shall be undisturbed or uncompacted subgrade. Connect PCSM System #1 to the level spreader #1, and connect PCSM System #2 to the level spreader #2. Unblock all inlets and connect inlets to the systems as shown on the plans.

a. All bed bottoms shall be level after grading.
b. Prior to infiltration bed grading and placement of geotextile, up–gradient areas shall be sufficiently stabilized to prevent the washing of sediment into the recharge areas. It is the contractor's responsibility to prevent the deposition of sediment or sediment–laden waters into the infiltration structures after final grading.
c. If bedrock is encountered at any time during excavation of the infiltration bed, excavation is to be discontinued in the affected area and the owner and engineer notified at once.
d. Place geotextile in accordance with manufacturer's standards and recommendations. Adjacent strips of geotextile shall overlap a minimum of two feet. Secure fabric at least four (4) feet outside of bed and take steps necessary to prevent any sediment from entering trench.
e. Aggregate shall be clean with a wash loss of no more than 0.5 percent. Installation of the stone should be checked by the design or site engineer prior to installation into the infiltration bmp to ensure that it is clean washed stone. Aggregate that does not meet this criterion will be removed at no extra cost to the owner and the beds restored to the owner's satisfaction.
f. Following placement of bed aggregate, the geotextile shall be folded overtop the bed, with appropriate fabric overlap, to protect from sediment washout along bed edges. Topsoil (or appropriate material specified by particular design) will be used to fill above the bed to the specified height.

18. Until the site is stabilized all erosion and sedimentation controls must be maintained properly. Maintenance must include inspections of all erosion and sedimentation controls 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.
19. Remove excavated materials not required for final construction from site and dispose of them in an approved manner.
20. Remove any accumulated surplus storage materials and staging area and rough grade areas of removals.
21. Spread stockpiled topsoil around and all disturbed areas. Seed all graded areas to re–establish vegetation. Stabilized slopes in excess of 4:1 with sod or netting and mulch
22. Remove construction fencing and spread stockpile topsoil over remaining disturbed areas. Seed all graded areas to re–establish vegetation. All slopes in excess of 4:1 shall be stabilized immediately. Remove inlet protection from inlets. Note: consultation with the county conservation district is required prior to removal of any temporary E&S controls.
23. Install landscape materials and hardscape materials.
24. Upon the re–establishment of vegetation on all denuded areas, remove all sediment barriers.
25. Stabilize and seed any areas disturbed by the removal of sediment barriers.
26. Construction finished. Anticipated date: December 2017.
27. Complete Notice of Termination and submit to the Delaware County Conservation District upon the completion of the entirety of the project.

EROSION & SEDIMENTATION CONTROL PLAN

FILE NO.: 15–372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER
PE020326E

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

REV.	DATE	COMMENTS

ONE–CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085–1220

SHEET 7 OF 11
DATE: AUGUST 31, 2016
SCALE: 1" = 30'

EROSION AND SEDIMENT CONTROL NOTES:

RECEIVING WATER: MILES RUN TO DARBY CREEK
CHAPTER 93 CLASSIFICATION: CWF, MF

01. ALL SLOPES 3:1 OR STEEPER WILL UTILIZE ECB (NORTH AMERICAN GREEN OR EQUAL).

02. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING AND RENETTING, MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.

WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION ON SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

A. THE LOCATION AND SEVERITY OF THE BMP'S FAILURE AND ANY POLLUTION EVENTS.
B. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.
C. THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.

AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.

03. BEFORE INITIATING ANY REVISION TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE MONTGOMERY COUNTY CONSERVATION DISTRICT. THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED. IMMEDIATELY UPON DISCOVERING UNFORSEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.

04. ALL PUMPING OF SEDIMENT LADEN WATER OR POTENTIALLY SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP, SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NONDISTURBED AREAS.

05. THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64 ,EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

06. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE MONTGOMERY COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATION.

07. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

08. NEWLY GRADED SLOPES TWENTY FIVE PERCENT (25%) OR GREATER SHALL BE IMMEDIATELY SODDED OR STABILIZED WITH EROSION CONTROL NETTING.

09. UPON COMPLETION OR TEMPORARY CESSATION OF ANY EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 4 DAYS, OR ANY PHASE THEREOF, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

10. SHOULD UNFORESEEN EROSIVE CONDITIONS DEVELOP DURING CONSTRUCTION, THE CONTRACTOR SHALL TAKE ACTION TO REMEDY SUCH CONDITIONS AND TO PREVENT DAMAGE TO ADJACENT PROPERTIES AS A RESULT OF INCREASED RUNOFF/AND OR SEDIMENT DISPLACEMENT. STOCKPILES OF WOODCHIPS, HAY BALES, CRUSHED STONE AND OTHER MULCHES SHALL BE HELD IN READINESS TO DEAL IMMEDIATELY WITH EMERGENCY PROBLEMS OF EROSION.

11. THE CONTRACTOR SHALL, BY SCHEDULING THE CONSTRUCTION, UTILIZE NEW PLANTINGS AND PROPERLY INSTALL EROSION CONTROL FENCING, HAY BALES AND OTHER EROSION CONTROL MEASURES TO MINIMIZE EROSION DAMAGE.

12. ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED MUST BE SEEDED AND MULCHED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE SEEDED AND MULCHED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED IMMEDIATELY.

13. A ROUTINE "END-OF-DAY-CHECK" SHALL BE MADE DURING CONSTRUCTION TO MAKE SURE THAT ALL CONTROL MEASURES ARE WORKING PROPERLY. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL DESIGN, IMPLEMENT, AND MAINTAIN CONTROL MEASURES WHICH PREVENT ACCELERATED EROSION AND SEDIMENTATION. THERE SHALL BE NO ADVERSE DISCHARGE OF THE SEDIMENT OR OTHER SOLID MATERIALS FROM THE SITE AS THE RESULT OF STORM WATER RUNOFF.

14. TEMPORARY EROSION CONTROL MEASURES MAY BE REMOVED ONLY AFTER THE CONSTRUCTION AREA AND CONTAINED SILT IS STABILIZED AND THE LAWN AREA ESTABLISHED.

15. ALL PERSONS ENTERING ACTIVE TANKS, MANHOLES, INLETS, ETC. MUST COMPLY WITH OSHA REQUIREMENTS FOR ENTRY INTO CONFINED SPACES.

16. WHERE DRAINAGE SWALES ARE WITHIN 20' OF A BASEMENT, WATERPROOFING SHALL BE APPLIED TO THE BASEMENT.

17. ON-SITE TREES TO BE SAVED SHALL BE PREPARED FOR CONSTRUCTION BY APPROPRIATE FERTILIZATION AND PROTECTED BY APPROPRIATE FENCING.

18. THE PERMITTEE MUST DEVELOP, AND HAVE APPROVED BY THE DISTRICT, A SEPARATE EROSION AND SEDIMENTATION CONTROL PLAN FOR EACH SPOIL, BORROW, OR OTHER WORK AREA NOT DETAILED IN THE PERMITTED PLAN, WHETHER LOCATED WITHIN OR OUTSIDE OF THE CONSTRUCTION LIMITS.

19. GRADING EQUIPMENT SHALL NOT BE ALLOWED TO CROSS PERMANENT OR INTERMITTENT STREAMS PRIOR TO OBTAINING THE APPROPRIATE PERMITS.

20. NO EXCAVATIONS OR FILLS THAT ENCROACH ON NATURAL WATERCOURSES, FLOOD HAZARD AREAS, CONSTRUCTED CHANNELS, OR WETLANDS SHALL OCCUR WITHOUT THE NECESSARY STATE AND/OR FEDERAL PERMITS.

21. STORMWATER MANAGEMENT RECHARGE FACILITIES SHALL BE FENCED OFF DURING CONSTRUCTION.

22. CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

23. TO PROTECT ADJACENT PROPERTIES, ALL AREAS REQUIRING INTERIM STABILIZATION MUST BE ADDRESSED IMMEDIATELY FOLLOWING COMPLETION OF DISTURBANCE.

24. FORDING OF LIVE OR INTERMITTENT STREAMS OR TRAVEL IN THEIR BEDS BY MECHANIZED EQUIPMENT IS NOT PERMITTED; BRIDGES OR CULVERTS SHALL BE USED WHEN CROSSING STREAMS IS NECESSARY.

25. ALL WOODY VEGETATION TO BE RETAINED WITHIN 25 FT OF A BUILDING SITE OR DISTURBED AREA SHALL BE PROTECTED FROM EQUIPMENT DAMAGE BY FENCING 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.

26. SHOULD ANY TREES NOT SCHEDULED OR PERMITTED TO BE REMOVED BE IRREPARABLE DAMAGED DURING CONSTRUCTION AND DIE WITHIN (18) MONTHS OF THE CONCLUSION OF CONSTRUCTION ACTIVITIES, THOSE TREES WILL BE REQUIRED TO BE REPLACED.

27. IF THE CONTRACTOR CAN NOT BALANCE THE CUT AND FILL SOIL VOLUMES THAN AN ADDITIONAL PLAN FOR EACH SPOIL AREA WILL BE SUBMITTED TO THE CHESTER COUNTY CONSERVATION DISTRICT FOR APPROVAL.

28. TEMPORARILY SEED ALL STOCKPILED TOPSOIL. IMMEDIATELY TEMPORARILY SEED ALL TEMPORARY E & S CONTROL AREAS.

29. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME, AND NAME OF THE PERSON CONDUCTING THE INSPECTION SHALL BE DOCUMENTED. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

30. EXTREME CARE SHOULD BE EXERCISED IN ALL DISTURBANCE ACTIVITIES TO PREVENT DEGRADATION TO THE WATERS OF THE COMMONWEALTH.

31. UPON COMPLETION OR TEMPORARY CESSATION OF EARTH DISTURBANCE ACTIVITIES, THE PROJECT SITE MUST BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION.

32. ALL SOIL EROSION AND SEDIMENT CONTROL PRACTICES TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.

33. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PRE-VENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW OR EQUIVALENT MATERIAL, AT A RATE OF 3 TONS PER ACRE.

34. PERMANENT VEGETATION TO BE SEEDED ON ALL EXPOSED AREAS IMMEDIATELY AFTER FINAL GRADING. MULCH TO BE USED AS NECESSARY FOR PROTECTION UNTIL SEEDING IS ESTABLISHED. MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

35. ALL WORK WILL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, THE COUNTY, AND THE TOWNSHIP.

36. THE DRIVEWAY/PARKING AREA SUBBASE COURSE WILL BE APPLIED IMMEDIATELY FOLLOWING ROUGH GRADING AND INSTALLATION OF IMPROVEMENTS IN ORDER TO PREVENT SUBGRADE EROSION, AND TO STABILIZE STREETS, ROADS, DRIVEWAYS AND PARKING AREAS. IN AREAS WHERE NO UTILITIES ARE PRESENT, THE SUBBASE SHALL BE INSTALLED WITHIN 15 DAYS OF THE PRELIMINARY GRADING.

37. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR SUITABLE EQUIVALENT, AT A RATE OF 3 TONS PER ACRE.

38. ANY STEEP SLOPES RECEIVING PIPELINE INSTALLATION WILL BE BACKFILLED AND STABILIZED DAILY, AS THE INSTALLATION PROCEEDS (I.E. SLOPES GREATER THAN 3:1).

39. A STABILIZED CONSTRUCTION ENTRANCE PAD OF 1.5" TO 2" SIZE CLEAN STONE WILL BE PLACED AT ALL CONSTRUCTION DRIVEWAYS IMMEDIATELY AFTER INITIAL SITE DISTURBANCE. DIMENSIONS: LENGTH – NOT LESS THAN 50 FT. EXCEPT ON SINGLE RESIDENCE LOT WHERE 30 FT. MINIMUM WOULD APPLY, WIDTH – 10 FT. MINIMUM , BUT NOT LESS THAN THE FULL WIDTH OF THE ENTRANCE OR EXIT DRIVES, DEPTH – NOT LESS THAN 6". FILTER CLOTH IS REQUIRED PRIOR TO STONE PLACEMENT EXCEPT ON SINGLE RESIDENCE LOTS.

40. ANY CHANGES TO THE EROSION AND SEDIMENT CONTROL PLAN WILL REQUIRE THE SUBMISSION OF REVISED EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT OFFICE FOR RE- REVIEW. THE REVISED PLANS MUST MEET ALL CURRENT STATE EROSION AND SEDIMENT POLLUTION CONTROL REQUIREMENTS, AS WELL AS ALL DISTRICT REQUIREMENTS.

41. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OF OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIC RATES. DISTURBED AREAS WHICH AREA NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1-YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH AREA AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN 1-YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.

42. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.

43. IN CONJUNCTION WITH EARTHMOVING ACTIVITY, INSTALL THE DESIGNED CONSERVATION MEASURES IN ACCORDANCE WITH SUBMITTED PLANS AND SPECIFICATIONS.
A) INSTALL SEDIMENT BARRIERS AS CLOSE TO CONTOURS AS POSSIBLE. BARRIERS WILL BE CHECKED PERIODICALLY. DAMAGED BARRIERS ARE TO BE REPLACED AND SEDIMENT WHICH IS COLLECTED BY THE BARRIER WILL BE REMOVED AND SPREAD AND STABILIZED WITH VEGETATION ELSEWHERE ON THE SITE.
B) SEDIMENT SHALL NOT BE ALLOWED TO ACCUMULATE HIGHER THAN ONE FOOT ABOVE EXISTING GRADE. SEE DETAILS FOR SEDIMENT BARRIER TYPE AND INSTALLATION PROCEDURES.
C) DURING CONSTRUCTION, ALL SEDIMENT TRAPPED AT BARRIERS SHALL BE CLEANED OUT AFTER EACH EROSION PRODUCING STORM.

44. ON-SITE GRADING DURING CONSTRUCTION SHALL BE LIMITED AND RESTRICTED TO ONLY THAT IMMEDIATE AREA REQUIRED FOR THE CONSTRUCTION PROCEDURE.

45. TOPSOIL TAKEN FROM CONSTRUCTION AREAS SHALL BE SEEDED WITH VEGETATIVE COVER AND STOCKPILED FOR RE-USE IN FINISH GRADING.

46. GRADED AREAS ARE TO BE TEMPORARILY SEEDED AND MULCHED FOLLOWING EARTHMOVING PROCEDURES.

47. INSPECT SEDIMENT CONTROLS FREQUENTLY, ESPECIALLY AFTER HEAVY STORMS. REPLACE AND REPAIR SEDIMENT CONTROLS AS NECESSARY.

48. AREAS WHICH ARE TO BE TOP-SOILED 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 4 INCHES OFF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING, I.E. YARDS.

49. SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORKDAY, OR AS NEEDED OR AS DIRECTED BY THE DCCD OR MUNICIPALITY AND DISPOSED AS A MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED OR SWEPT INTO ANY ROAD SIDE DITCH, STORM SEWER OR SURFACE WATER.

M:\PROJECTS\2015\15372\MAI\DRAWINGS\15372

GENERAL NOTES – MAINTENANCE DURING CONSTRUCTION:

1. AREAS THAT CONTAIN SOD SHALL BE CHECKED VERY CAREFULLY TO ENSURE THAT JOINTS BETWEEN THE SOD STRIPS ARE TIGHT AND SECURE. WHERE JOINT SEPARATION IS IN EVIDENCE, A CAREFUL INSPECTION OF EACH JOINT SHALL BE MADE TO DETERMINE WHETHER UNDERMINING OF THE STRIPS IS OCCURRING. IF IT IS, THE STRIPS SHALL BE ROLLED UP, THE SUBSURFACE SHALL BE FILLED AND GRADED AS REQUIRED, AND THE SOD STRIPS SHALL BE RE-LAID WITH TIGHT JOINTS AND PEGGING.

2. SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILLED AND GRADED AS NECESSARY AND THEN RESEEDED. A BURLAP OR STRAW COVER WILL BE APPLIED TO RETAIN THE SEED UNTIL IT HAS A CHANCE TO ROOT PROPERLY.

3. THE ABOVE PROCEDURE SHALL BE REPEATED AFTER EACH SIZABLE STORM UNTIL NO MORE SIGNS OF EROSION ARE EVIDENT. AT MONTHLY INTERVALS THEREAFTER, INSPECTIONS AND NECESSARY CLEANING WILL BE DONE.

4. AFTER SLOPES AND SWALES ARE ESTABLISHED, WEEKLY INSPECTIONS SHALL BE MADE TO DETERMINE THE DURABILITY OF THE STABILIZATION MEASURES. AN INSPECTION OF ALL FACILITIES WILL BE MADE AFTER EVERY STORM TO DETERMINE THEIR RESISTANCE TO DRIVING RAIN.

STABILIZATION NOTES:

1. THE PERMITTEE(S) SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROLS AND RELATED ITEMS INCLUDED WITHIN ON THESE PLANS UNTIL THE SITE IS PERMANENTLY STABILIZED.

2. STORMWATER RUNOFF FROM UNSTABILIZED AREAS DURING THE CONSTRUCTION PROCESS IS TO BE RESTRICTED FROM ENTERING THE INFILTRATION BED IN ACCORDANCE WITH MEASURES OUTLINED THROUGHOUT THE NOTES SHOWN ON THE PLANS.

UTILITY LINE TRENCH EXCAVATION NOTES:

A. LIMIT ADVANCED CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.

B. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.

C. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH.

D. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.

E. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING BEFORE PIPE PLACEMENT AND BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.

F. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.

CLEAN FILL REQUIREMENTS:

IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY TO PERFORM ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE APPLICANT.

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 CONSTRUCTION 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).

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".
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-001 MUST BE RETAINED BY THE PROPERTY OWNER RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: 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 A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF THE DEPARTMENT'S *"MANAGEMENT OF FILL"*.

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. THESE REGULATIONS ARE AVAILABLE ON LINE AT WWW.PACODE.COM.

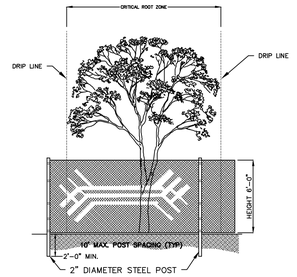
MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL:
A ROUTINE "END OF DAY CHECK" SHALL BE MADE DURING CONSTRUCTION TO MAKE SURE THAT ALL CONTROL MEASURES ARE WORKING PROPERLY. ALL PERSONS ENGAGED IN LAND DISTURBANCE ACTIVITIES SHALL PREVENT ACCELERATED EROSION AND SEDIMENTATION AND THERE SHALL BE NO ADVERSE DISCHARGE OF THE SEDIMENT OR OTHER SOLID MATERIALS FROM THE SITE AS A RESULT OF STORMWATER RUNOFF.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS 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.

1. STABILIZED CONSTRUCTION ENTRANCE: THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THICKNESS WILL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL WILL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON PUBLIC ROADWAYS WILL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE.
2. SILT FENCE: SILT FENCE SHALL BE INSTALLED PER THE DETAIL. SEDIMENT SHALL BE REMOVED FROM SILT FENCES WHEN IT REACHES 1/2 THE FENCE HEIGHT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER. SILT FENCING WHICH HAS BEEN UNDERMINED OR TOPPED WILL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.
3. ROCK FILTER OUTLETS: ROCK FILTER OUTLETS SHALL BE INSTALLED PER THE DETAIL. SEDIMENT SHALL BE REMOVED FROM BEHIND ROCK FILTER OUTLET AFTER EACH STORM EVENT. WHEN STONE BECOMES CLOGGED WITH SEDIMENT, THE ROCK FILTER OUTLET SHALL BE REPLACED WITH CLEAN STONE
4. INLET PROTECTION: INLET PROTECTION SHALL BE CONSTRUCTED PER THE DETAIL AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.
5. SWALES: ALL SWALES MUST BE TEMPORARY LINED WITH CURLEX TO ALLOW VEGETATION TO ESTABLISH. IF VEGETATION CAN NOT GROW THEN THAT AREA MUST BE SODDED.
6. SEDIMENT DISPOSAL: SILT REMOVED FROM TEMPORARY SEDIMENT CONTROL STRUCTURES SHALL BE DISPOSED OF ON-SITE IN LANDSCAPED AREAS LOCATED OUTSIDE OF FLOOD PLAINS, WETLANDS, STEEP SLOPES AND DRAINAGE SWALES.
7. DUST CONTROL: DUST AND OTHER PARTICLES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT. USE OF CALCIUM CHLORIDE OR OTHER SIMILAR APPROVED AGENTS SHALL BE LIMITED TO ONLY THOSE PARTICULAR SITUATIONS IN WHICH PERIODIC CLEANING AND/OR WETTING IS NOT FEASIBLE DUE TO CONDITIONS CAUSED BY WEATHER, TRAFFIC, ETC.
8. AIR POLLUTION: BURNING OF TREES, STUMPS, CUTTINGS, AND OTHER PERISHABLE MATERIALS WILL NOT BE PERMITTED UNLESS SPECIFICALLY ALLOWED BY THE MUNICIPALITY. THE PROVISIONS OF THE PENNSYLVANIA AIR POLLUTION CONTROL ACT, JANUARY 8, 1990, AS AMENDED TO DATE, WILL GOVERN AND AREA A PART OF THIS PLAN BY REFERENCE.

PERMANENT STABILIZATION NOTE:
AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. ROADWAYS AND PARKING AREAS SHOULD AT LEAST HAVE A CLEAN SUBBASE IN PLACE.

MONITORING, INSPECTION, AND REPORTING REQUIREMENTS:
VISUAL INSPECTIONS
THE PERMITTEE AND CO_PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGEMENT OF THE NOT BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT E&S BMPS AND PCSM BMPS ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTIVELY MINIMIZE POLLUTION TO THE WATERS OF THIS COMMONWEALTH. A WRITTEN REPORT OF EACH INSPECTION SHALL BE KEPT AND INCLUDE AT A MINIMUM:
(1) A SUMMARY OF SITE CONDITIONS, E&S BMP AND PCSM BMP, IMPLEMENTATION AND MAINTENANCE AND COMPLIANCE ACTIONS; AND
(2) THE DATE, TIME, NAME AND SIGNATURE OF THE PERSON CONDUCTING THE INSPECTION.
NONCOMPLIANCE REPORTING
WHERE E&S, PCSM OR PPC BMPS ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO_PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT, BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUB

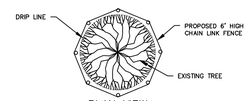


DO NOT:

A. ALLOW RUNOFF OF SPILLAGE DAMAGING MATERIALS INTO THE AREA BELOW ANY TREE CANOPY.
B. STORE MATERIALS, STOCKPILE SOIL, OR PARK OR DRIVE VEHICLES WITHIN THE TREE PROTECTION ZONE.
C. CUT, BREAK SKIN, OR BRUISE ROOTS, BRANCHES, OR TRUNKS WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
D. ALLOW FIRES UNDER AND ADJACENT TO TREES.
E. DISCHARGE EXHAUST INTO FOLIAGE.
F. SECURE CABLE, CHAIN, OR ROPE TO TREES OR SHRUBS.
G. TRENCH, DIG, OR OTHERWISE EXCAVATE WITHIN THE DRIPLINE OR PROTECTION ZONE OF THE TREE(S) WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
H. APPLY SOIL STERILANTS UNDER PAVEMENT NEAR EXISTING TREES.

TREE PROTECTION DETAIL

NTS



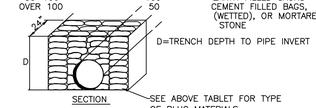
PLAN VIEW
NTS

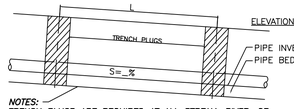
TREE PROTECTION SPECIFICATIONS

I. A 4" LAYER OF COARSE MULCH OR WOODCHIPS IS TO BE PLACED BENEATH THE DRIPLINE OF THE PROTECTED TREES. MULCH IS TO BE KEPT 12" FROM THE TRUNK.
II. A PROTECTIVE BARRIER OF 6' CHAIN LINK FENCING SHALL BE INSTALLED AROUND THE DRIPLINE OF PROTECTED TREE(S). THE FENCING CAN BE MOVED WITHIN THE DRIPLINE IF AUTHORIZED BY THE CONSULTING ARBORIST BUT NOT CLOSER THAN 2' INTO THE GROUND. FENCE POSTS SHALL BE 2.0" IN DIAMETER AND ARE TO BE DRIVEN 2' INTO THE GROUND. THE DISTANCE BETWEEN POSTS SHALL NOT BE MORE THAN 10'. THIS ENCLOSED AREA IS THE TREE PROTECTION ZONE (TPZ).
III. MOVABLE BARRIERS OF CHAIN LINK FENCING SECURED TO CEMENT BLOCKS CAN BE SUBSTITUTED FOR "FIXED" FENCING IF THE CONSULTING ARBORIST AGREE THAT THE FENCING WILL HAVE TO BE MOVED TO ACCOMMODATE CERTAIN PHASES OF CONSTRUCTION. THE BUILDER MAY NOT MOVE THE FENCE WITHOUT AUTHORIZATION FROM THE CONSULTING ARBORIST.
IV. WHERE THE CONSULTING ARBORIST HAS DETERMINED THAT TREE PROTECTION FENCING WILL INTERFERE WITH THE SAFETY OF WORK CREWS, TREE WRAP MAY BE USED AS AN ALTERNATIVE FORM OF TREE PROTECTION. WOODEN SLATS AT LEAST ONE INCH THICK ARE TO BE BOUND SECURELY, EDGE TO EDGE, AROUND THE TRUNK. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE OUTSIDE OF THE WOODEN SLATS. MAJOR SCAFFOLD LIMBS MAY REQUIRE PROTECTION AS DETERMINED BY THE CONSULTING ARBORIST. STRAW WADDLE MAY ALSO BE USED AS A TRUNK WRAP BY COILING THE WADDLE AROUND THE TRUNK UP TO A MINIMUM HEIGHT OF SIX FEET FROM GRADE. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE STRAW WADDLE.

REQUIRED SPACING (L) AND MATERIALS FOR TRENCH PLUGS

TRENCH SLOPE (%)	L (FEET)	PLUG MATERIAL
0–5	500	NONE
5–15	300	EARTH FILLED SACKS
15–25	200	EARTH FILLED SACKS
25–35	100	EARTH FILLED SACKS
35–100	100	EARTH FILLED SACKS
OVER 100	50	CEMENT FILLED BAGS, (WETTED), OR MORTARED STONE





NOTES:-
TRENCH PLUGS ARE REQUIRED AT ALL STREAM, RIVER, OR WATER-BODY CROSSINGS REGARDLESS OF TRENCH SLOPE. OTHERWISE NOT REQUIRED.
TOPSOIL MAY NOT BE USED TO FILL SACKS.

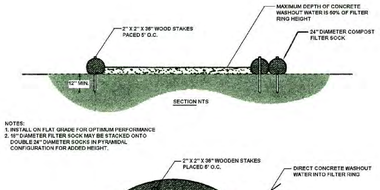
CONSTRUCTION OF TRENCH PLUGS

N.T.S.

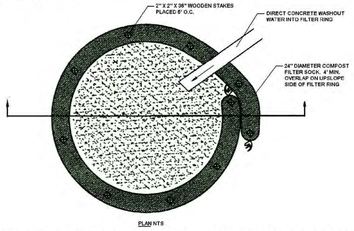
UTILITY LINE TRENCH EXCAVATIONS:

THE FOLLOWING SPECIFICATIONS AND DETAILS MUST BE FOLLOWED FOR ALL UTILITY TRENCHES WHICH HAVE THE POTENTIAL TO CONVEY SEDIMENT LADEN WATER TO SITE BOUNDARIES OR WATER WAYS WITHOUT FIRST PASSING THROUGH SEDIMENT REMOVAL FACILITIES.

1. CONSTRUCTION REQUIREMENTS
A. LIMIT ADVANCE CLEARING AND GRUBBING OPERATIONS TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY.
B. WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG CONSTRUCTION AND BACKFILLING WILL BE SELF CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATION AND STABILIZATION OPERATIONS.
C. ALL SOIL EXCAVATED FROM THE TRENCH WILL BE PLACED ON THE UPHILL SIDE OF THE TRENCH
D. LIMIT DAILY TRENCH EXCAVATION TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND BACKFILLING THAT CAN BE COMPLETED THE SAME DAY.
E. TRENCH PLUGS WILL BE SPACED IN ACCORDANCE WITH TABLE 4.11 AND BE CONSTRUCTED OF THE MATERIALS AND TO THE DETAILS SHOWN IN FIGURE 4.21.
1. AT ALL CROSSINGS OF WATERS OF THE COMMONWEALTH, TRENCH PLUGS WILL BE INSTALLED AT THE BANKS AFTER TRENCH EXCAVATION. THE PLUGS MAY BE TEMPORARILY REMOVED WHEN PLACING THE PIPE, BUT THEN REPLACED.
2. CONSTRUCTION OF THE CROSSING WILL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION M.
F. WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING, IN ACCORDANCE WITH ITEM 8.5 OF SECTION M,BEFORE PIPE PLACEMENT AND/OR BACKFILLING BEGINS. WATER REMOVED FROM THE TRENCH SHALL BE PUMPED THROUGH A FILTRATION DEVICE.
G. ON THE DAY FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS AND IMMEDIATELY STABILIZED.
H. SOILS EXCAVATED FROM EXISTING SURFACE LAYER SHOULD BE STOCKPILED SEPARATELY AND RETURNED AS FINAL SURFACE LAYER FOLLOWING TRENCH BACKFILLING.
2. EXCEPTIONS – IN CERTAIN CASES TRENCHES CANNOT BE BACKFILLED UNTIL THE PIPE IS HYDROSTATICALLY TESTED OR ANCHORS AND OTHER PERMANENT FEATURES ARE INSTALLED. IN THESE CASES, ALL OF THE REQUIREMENTS LISTED UNDER ITEM 2 WILL REMAIN IN EFFECT WITH THE FOLLOWING EXCEPTIONS:
2C. DAILY BACKFILLING OF THE TRENCH MAY BE DELAYED FOR SIX DAYS. ALL PRESSURE TESTING AND COMPLETE BACKFILLING OF THE OPEN TRENCH MUST BE COMPLETED BY THE SEVENTH WORKING DAY.
2F. IF DAILY BACKFILLING IS DELAYED, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS, APPROPRIATE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES/FACILITIES WILL BE INSTALLED AND THE AREA SEEDED AND MULCHED WITHIN THE NEXT TWO CALENDAR DAYS.



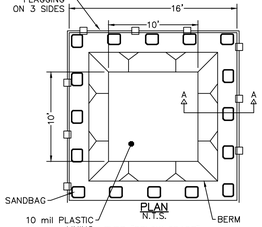
NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



A suitable impervious geomembrane shall be placed at the location of the washout prior to installing the socks.
Adapted from Filtrexx

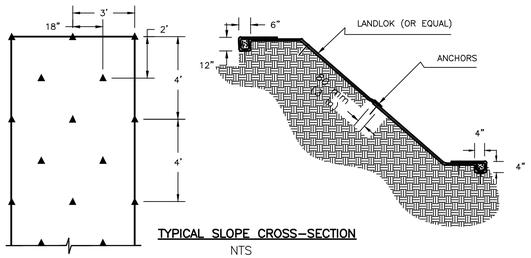
CONCRETE WASHOUT DETAIL

N.T.S.



10'X10' CONCRETE WASHOUT

N.T.S.

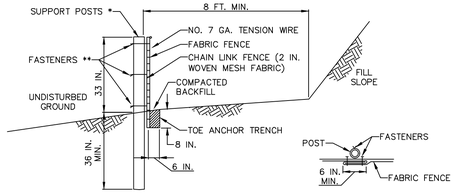


TYPICAL SLOPE CROSS–SECTION

NTS

NOTES:
1. INSTALL LANDLOK TURF REINFORCEMENT MATS (OR EQUAL) AND SOIL FILL (OPTIONAL). FOR THE SITE GRADING AREAS WHERE THE SLOPES ARE UP TO 3:1 USE LANDLOK S1 OR EQUAL. FOR THE TEMPORARY BASIN THAT HAS SLOPES UP TO 2:1, USE LANDLOK C2 OR EQUAL.
2. PREPARE SOIL BEFORE INSTALLING MATS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED, UNLESS USING BLANKET THAT IS PRESEEDED (THEN FOLLOW MANUFACTURERS SPECIFICATIONS).
3. BEGIN AT TOP OF SLOPE BY ANCHORING T.R.M. IN TRENCH AS INDICATED IN THE DETAIL, BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
4. ROLL THE T.R.M.'s EITHER DOWN VERTICALLY OR HORIZONTALLY ACROSS THE SLOPE.
5. THE EDGES OF PARALLEL T.R.M.'s MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
6. WHEN T.R.M.'s MUST BE SPLICED DOWN THE SLOPE, PLACE T.R.M. END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.
7. U-SHAPED WIRE STAPLES, METAL GEOTEXTILE PINS, TRIANGULAR WOODEN OR PLASTIC STAKES CAN BE USED TO ANCHOR T.R.M.'s TO FINISHED GRADE.

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE, INC. THEY ARE NOT TO BE USED WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY, WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY TO MOMENEE, INC. AND THE USER/ADAPTER/THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.



SECTION VIEW

JOINING FENCE SECTIONS

* POSTS SPACED AT 10 FT. MAX. USE 2–1/2 IN. DIA HEAVY DUTY GALVANIZED OR ALUMINUM POSTS.

** CHAIN LINK TO POST FASTENERS SPACED AT 14 IN. MAX. USE NO. 9 GA. ALUMINUM WIRE OR NO. 9 GALVANIZED STEEL WIRE. FABRIC TO SHAIN FASTENERS SPACED AT 24 IN. MAX. ON CENTER.

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 42 IN. MINIMUM.

POSTS SHALL BE INSTALLED USING A POSTHOLE DRILL.

CHAIN LINK SHALL BE GALVANIZED NO. 11.5 GA. STEEL WIRE WITH 2–1/4 IN. OPENING, NO. 11 GA. ALUMINUM COATED STEEL WIRE IN ACCORDANCE WITH ASTM–A–491, OR GALVANIZED NO. 9 GA. STEEL WIRE TOP AND BOTTOM WITH GALVANIZED NO. 11 GA. STEEL INTERMEDIATE WIRES. NO. 7 GAGE TENSION WIRE TO BE INSTALLED HORIZONTALLY THROUGH HOLES AT TOP AND BOTTOM OF CHAIN–LINK FENCE OR ATTACHED WITH HOG RINGS AT 5 FT MAX. CENTERS.

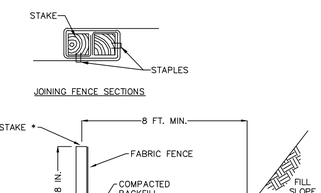
SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.

SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

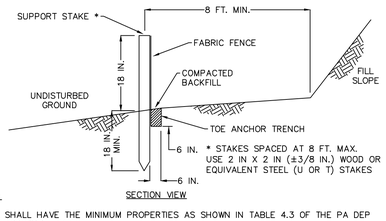
FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

STANDARD CONSTRUCTION DETAIL #4-10
SUPER SILT FENCE

NOT TO SCALE



JOINING FENCE SECTIONS



SECTION VIEW

NOTES:

FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PA DEP EROSION CONTROL MANUAL.

FABRIC WIDTH SHALL BE 30 IN. MINIMUM. STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.

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.

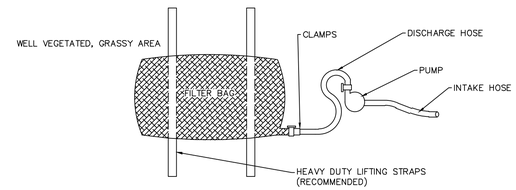
SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

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).

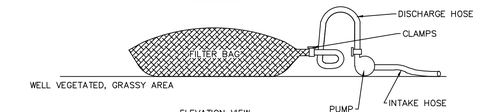
FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.

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

NOT TO SCALE



PLAN VIEW



ELEVATION VIEW

NOTES:

LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON–WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D–4884	60 LB/IN
GRAB TENSILE	ASTM D–4632	205 LB
PUNCTURE	ASTM D–4833	110 LB
MULLEN BURST	ASTM D–3786	350 PSI
UV RESISTANCE	ASTM D–4355	70%
AOS % RETAINED	ASTM D–4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL–VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%, FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON–ERODIBLE AND NON–POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

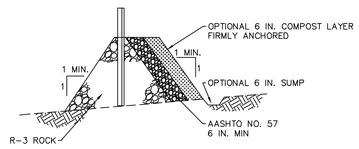
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

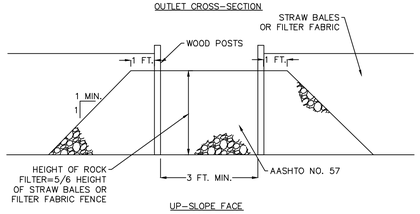
FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

STANDARD CONSTRUCTION DETAIL #3–16
PUMPED WATER FILTER BAG

NOT TO SCALE



OUTLET CROSS–SECTION



UP–SLOPE FACE

NOTES:

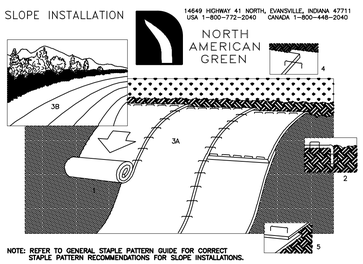
A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.

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

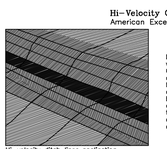
SLOPE INSTALLATION



NOTE: REFER TO GENERAL STAPLE PATTERN GUIDE FOR CORRECT STAPLE PATTERN RECOMMENDATIONS FOR SLOPE INSTALLATIONS.

1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL–O–SEED DO NOT SEED PREPARED AREA. CELL–O–SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN 6" DEEP X 6" WIDE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING.
3. ROLL THE BLANKETS (A.) DOWN OR (B.) HORIZONTALLY ACROSS THE SLOPE.
4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" OVERLAP.
5. WHEN BLANKETS MUST BE SPLICED DOWN THE SLOPE, PLACE BLANKETS END OVER END (SHINGLE STYLE) WITH APPROXIMATELY 4" OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" APART.

Hi–Velocity Curlex Blankets
American Excelsior Company



Hi–velocity ditch liner application.

Designed to control erosion in areas of high–velocity water runoff, the Excelsior Hi–Velocity Curlex Blanket is a machine–produced mat of curled wood excelsior of 80% six inch or longer fiber length, with consistent thickness and fiber evenly distributed over its entire area. Each side is covered with black, extra heavy–duty extruded plastic mesh netting designed to last for years and reinforce the root system after the excelsior mat has decomposed. They are smolder–resistant–no chemical additives.

INSTALLATION INSTRUCTIONS
This blanket is designed to withstand high–velocity water movements in ditches and on slopes. In ditches, unroll blanket in direction of water flow. When using two blankets side by side in a ditch, do not put the seems in the center of the ditch. Offset 6" to 1 foot. On slopes, start blanket 3 feet over crest of slope or dig anchor ditches if specified. Blankets may be installed horizontally or vertically, whichever is easier.

STAPLING INSTRUCTIONS FOR AMCO Hi–VELOCITY CURLEX BLANKETS
Use wire staples, .091" in diameter or greater, "U" shaped with legs 8" long or longer and 1" to 2" crown. Size and gauge of staples used will vary with soil types. Use four staples across at the start of each roll and continue to staple along the length of the roll at 2 ft. intervals. When blankets are placed along–side of each other, staple so as to catch the edge of each roll. In addition to stapling the edges of the blanket at the appropriate intervals (see drawing), place staples in the center of the blanket halfway between the outer staples.

Hi–Velocity Curlex Blankets are recommended for the following water velocities:	
SOIL TYPES	VELOCITY/FEET PER SECOND
Clay,clay loam, silty clay	11 FPS
Clay,silty clay, sandy clay loam	9.8 FPS
Fine sandy loam silty loam	8.6 FPS

These figures are based on ditch lining at over 2% grade up to 13% on slope protection, the determining factor would be the weight of water above and shearing effect of water velocity.

CHANNEL STABILIZATION
N.T.S.

COMMENTS | REV. | DATE

EROSION & SEDIMENTATION CONTROL DETAILS

FILE NO.: 15–372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP • DELAWARE COUNTY • PENNSYLVANIA

ONE–CALL:	20160541517	OWNER/APPLICANT ADADEMY OF NOTRE DAME 560 SPROUL ROAD VILLANOVA, PA 19085–1220
DRAWN BY:	BDM	
CHECKED BY:	KRM	

REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER PE020326E

SHEET 9 OF 11
DATE: AUGUST 31, 2016
SCALE: AS NOTED

PCSM REPORTING AND RECORD KEEPING:
THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

FINAL CERTIFICATION:
THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS:
"I (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 PA.C.S.A 4904 TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS:
UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE OF ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE.

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE ORDINARY COURSE OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER 102.7(b)(5) RELATING TO PERMIT TERMINATION.

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEPARATELY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

RECYCLING OR DISPOSAL OF MATERIALS:

THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.

PCSM WASTE IS LIMITED TO THE SEDIMENT THAT COLLECTS IN INLET SUMPS AND/OR SWM SYSTEMS. THESE STRUCTURES SHALL BE CLEANED OUT IN ACCORDANCE WITH THE PROVIDED OPERATION AND MAINTENANCE REQUIREMENTS OF THOSE STRUCTURES AND DISPOSED OF PROPERLY.

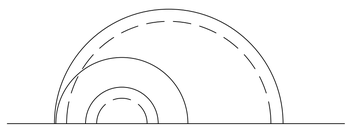
IN THE EVENT A POLLUTION INCIDENT OCCURS WHICH CAUSES OR THREATENS TO CAUSE SURFACE OR GROUNDWATER POLLUTION, THE OWNER SHALL:
(1) PROMPTLY NOTIFY THE DEPARTMENT BY TELEPHONE OF THE LOCATION AND NATURE OF THE DANGER,
(2) NOTIFY ALL KNOWN DOWNSTREAM USERS OF THE WATER,
(3) IMMEDIATELY TAKE ALL NECESSARY STEPS TO PREVENT INJURY TO PROPERTY AND DOWNSTREAM USERS, AND PROTECT WATERS FROM POLLUTION OR DANGER OF POLLUTION,
(4) REMOVE ANY CONTAMINATION FROM AFFECTED GROUND OR SURFACE WATER TO THE EXTENT REQUIRED BY THE DEPARTMENT.

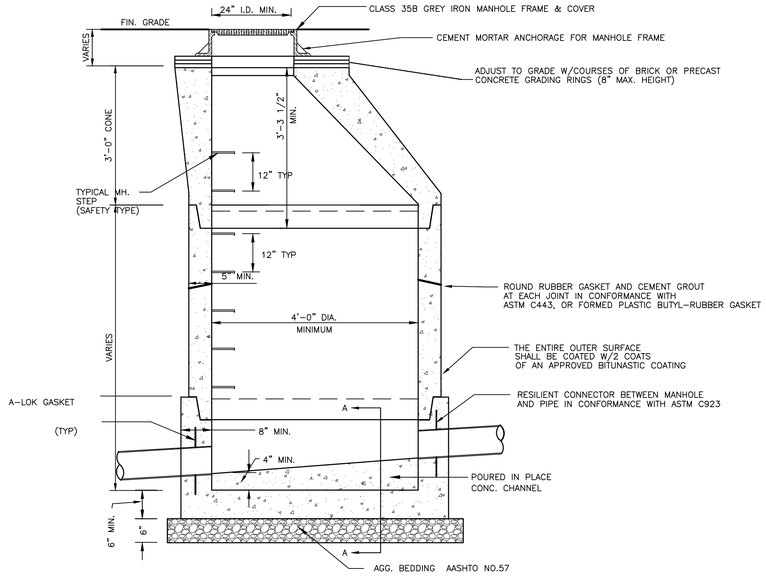
NOTES:
1) THE PERMITTEE SHALL PROVIDE ENGINEERING CONSTRUCTION OVERSIGHT FOR THE PROPOSED STORMWATER BMPS. ADDITIONAL SOIL TESTING MAY BE REQUIRED PRIOR TO THE INSTALLATION OF INFILTRATION BMPS TO ENSURE PROPER LOCATION AND FUNCTION. A LICENSED PROFESSIONAL ENGINEER KNOWLEDGEABLE IN THE DESIGN AND CONSTRUCTION OF STORMWATER BMPS, PREFERABLY THE DESIGN ENGINEER, SHALL CONDUCT THE OVERSIGHT.

2) UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER 102.22(a)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPs IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH 102.4 AND 102.8 (RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS; AND PCSM REQUIREMENTS), THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

THE NOTICE OF TERMINATION MUST INCLUDE:
(1) THE FACILITY NAME, ADDRESS AND LOCATION
(2) THE OPERATOR NAME AND ADDRESS
(3) THE PERMIT NUMBER
(4) THE REASON FOR PERMIT TERMINATION
(5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH 102.8(m)(2).

PRIOR TO ACCEPTING THE NOT, THE DEPARTMENT AND/OR CONSERVATION DISTRICT STAFF WILL PERFORM A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION


HALF PLAN OF TOP



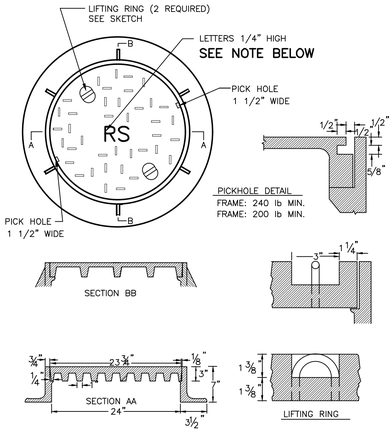
NOTE:
PRECAST MANHOLE SECTIONS & BASES SHALL BE USED IN LIEU OF BRICK, UNLESS SPECIFICALLY NOTED. OUTSIDE OF MANHOLE TO BE COATED WITH TWO COATS OF BITUMINOUS RESIN.

PRECAST CONCRETE MANHOLE
(SANITARY SEWER)
N.T.S.

SANITARY SEWER NOTES:
1. THE CONTRACTOR IS TO VERIFY THE EXISTING SANITARY LINES BEFORE CONSTRUCTION.

2. EXFILTRATION TESTS TO BE PERFORMED ON ALL 8" SANITARY SEWER LINES IN ACCORDANCE WITH PA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

3. CONSTRUCTION IN ACCORDANCE WITH TOWNSHIP STANDARDS AND SPECIFICATIONS.

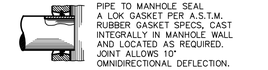


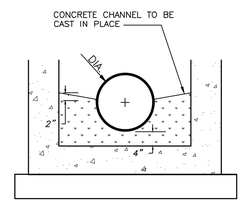
MANHOLE FRAME AND COVER
N.T.S.

LETTERING NOTE:
ALL NEW SANITARY MANHOLE LIDS TO BE LABELED "RS"

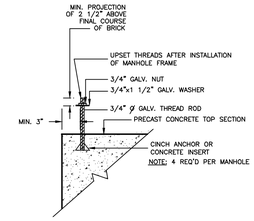
STANDARD MANHOLE: NEENAH FOUNDRY COMPANY, TYPE N FRAMED. MANHOLE FRAME AND COVER – CATALOG NUMBER R-1788-A1, SOLID FRAME, HEAVY DUTY. FURNISH WITH FOUR 7/8 INCH ANCHOR HOLES ON 27-15/16 INCH DIAMETER BOLT CIRCLE.

WATERTIGHT MANHOLE: NEENAH FOUNDRY COMPANY, CATALOG NUMBER R-1916-D, SOLID FRAME, HEAVY DUTY. FURNISH WITH FOUR 7/8 INCH ANCHOR HOLES ON 27-15/16 INCH DIAMETER BOLT CIRCLE. ALL MANHOLES NOT LOCATED IN PAVED AREAS ARE TO BE EQUIPTED WITH WATERTIGHT FRAMES AND COVERS

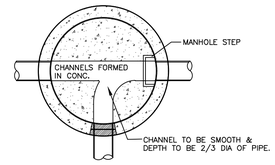


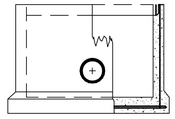


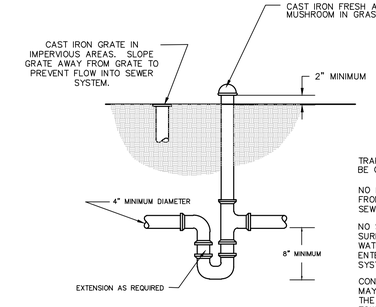
PARTIAL SECTION A-A



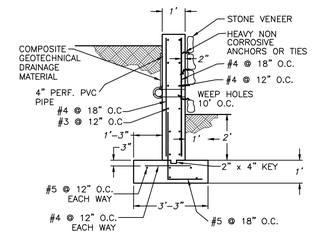
ANCHOR BOLT DETAIL FOR PRE-CAST MANHOLE
N.T.S.




MANHOLE DESIGN SPECIFICATIONS CONFORMS TO: PRECAST REINFORCED CONCRETE MANHOLE SECTIONS: A.S.T.M. DESIGNATION C478, LATEST REVISION. DESIGNED TO MEET RESILIENT CONNECTORS REQUIREMENTS OF A.S.T.M. C-923.

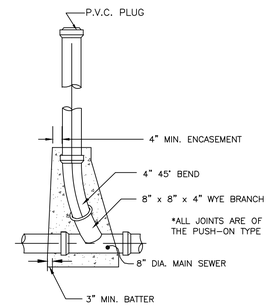


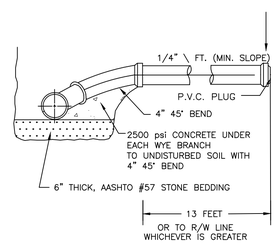
SANITARY SEWER LATERAL TRAP
N.T.S.



TYPICAL SITE RETAINING WALL OR EQUAL
N.T.S.

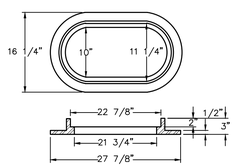
NOTES:
1. **RETAINING WALLS TO BE A MAXIMUM OF 4' REVEAL.**
2. **RAILINGS SHALL BE INSTALLED IF REQUIRED.**

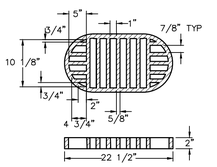


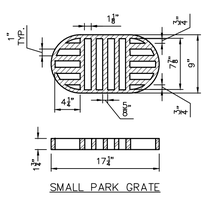


WYE BRANCH CONNECTION
N.T.S.

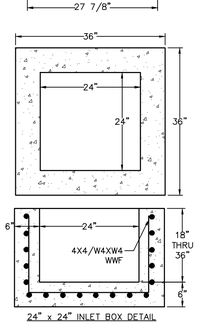
SANITARY LATERAL NOTES
- WYE CONNECTIONS AND LATERAL STUBS ARE TO BE INSTALLED AS PART OF THE SEWER MAIN CONSTRUCTION.
- LATERALS ARE TO BE EXTENDED A MINIMUM OF 10-FEET INTO THE AS MEASUED FROM THE R/W LINE OR ADJACENT LOT LINE.
- LATERALS ARE TO BE CAPPED FOR FUTURE CONNECTION BY LOT DEVELOPER AND ENDS OF LATERAL SHALL BE MARKED WITH A 2X4 STAKE.
- CLEANOUTS ARE TO BE PROVIDED AT ALL BENDS ON SANITARY LATERALS.
- THERE SHALL BE A MINIMUM DISTANCE OF 5-FEET BETWEEN LATERALS AND BETWEEN LATERALS AND MANHOLES.



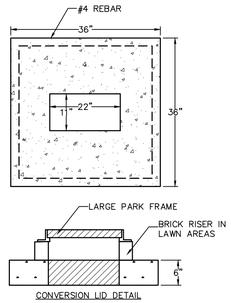




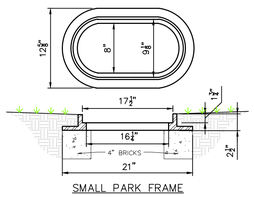
SMALL PARK GRATE



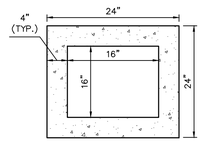
24" x 24" INLET BOX DETAIL



CONVERSION LID DETAIL



SMALL PARK FRAME



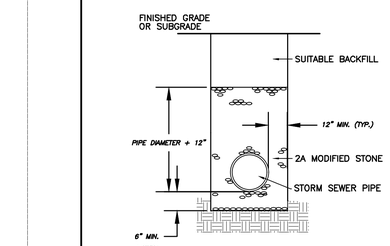
PRE-CAST CONCRETE BOX

NOTE: PRECAST CONCRETE 24' X 24" BOX AND CONVERSION LID SUPPLIED BY: CONTINENTAL CONCRETE PRODUCTS, INC. POTTSTOWN, PA, PHONE:(610)327-3700, FAX:(610)327-9488.

SPECIFICATIONS:
-GRAY IRON MEETS OR EXCEEDS ASTM A48 CLASS 30 B
-MINIMUM CONCRETE STRENGTH 3750 PSI @28 DAYS (PENNDOT CLASS AA)
-1 1/2" MINIMUM CONCRETE COVER (ALL REINFORCEMENT)
-STEEL REINFORCEMENT MEETS ASTM A615 (0.12 IN^2/FT EACH WAY)
-MATERIAL AND WORKSMANSHIP IN ACCORDANCE WITH PENNDOT PUB. 408
-LOCATION OF PIPE OPENINGS AS REQUIRED

INLET BOX W/ CONVERSION LID AND LARGE PARK FRAME & GRATE

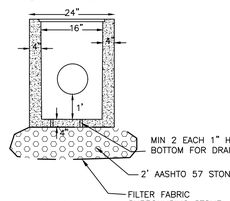
SMALL PARK GRATE DETAIL
N.T.S.



NOTES:
ALL BACKFILL MATERIAL, INCLUDING 2A MODIFIED, SHALL BE MECHANICALLY TAMPED IN 6" LIFTS.
USE AASHTO #8 STONE FOR PVC PIPE TRENCH AROUND PIPE

TYPICAL STORM SEWER TRENCH CONSTRUCTION
NOT TO SCALE

PROVIDE ALL INLETS WITH PERMANENT LEAF PROTECTION IN THE FORM OF 1/4" PVC OR STAINLESS STEEL MESH OR EQUAL APPROVED BY THE TOWNSHIP.

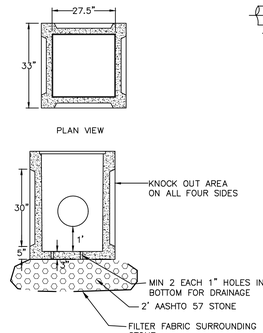


SECTION VIEW

NOTE: PROVIDE MIN. 1' SUMP IN ALL INLETS

SMALL PARK GRATE BOX
(NON-TRAFFIC BEARING)

Manufactured by
MODERN CONCRETE SEPTIC TANK CO.
or other NPCA certified plant



SECTION VIEW

NOTE: PROVIDE MIN. 1' SUMP IN ALL INLETS

2' x 2' SUMP BOX
(NON-TRAFFIC BEARING)

SUMP BOX

Manufactured by
MODERN CONCRETE SEPTIC TANK CO.
or other NPCA certified plant

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS AND COPIES THEREOF ARE AND SHALL REMAIN THE PROPERTY OF MOMENEE; THEY ARE TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR TRANSFERRED TO ANY OTHER PERSON, FIRM OR ENTITY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. THE THIRD PARTY SHALL FURTHER INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

M:\PROJECTS\2015\15372\MM\DRAWINGS\15372

REV.	DATE	COMMENTS

PCSM DETAILS

FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

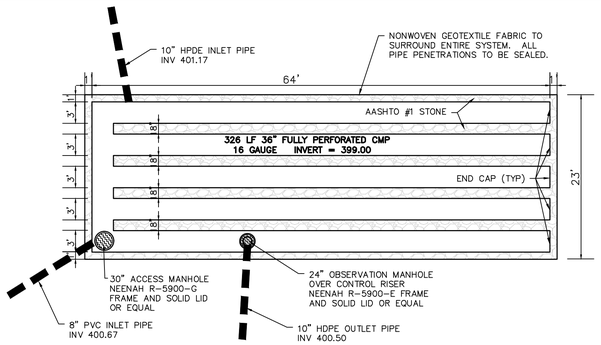
RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

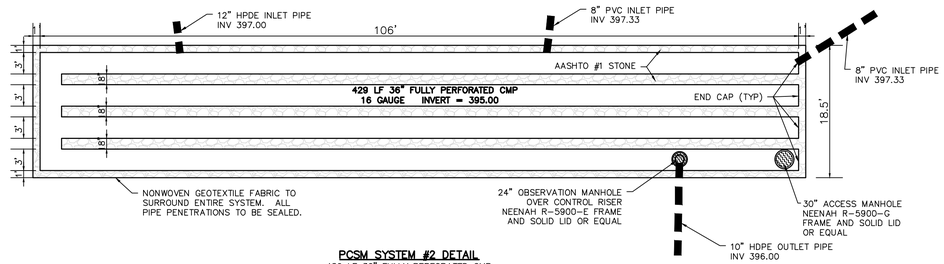
OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER PE020326E

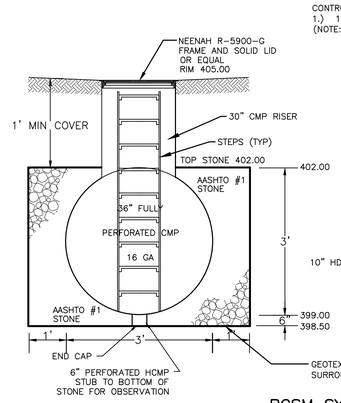
SHEET 10 OF 11
DATE: AUGUST 31, 2016
SCALE: AS NOTED

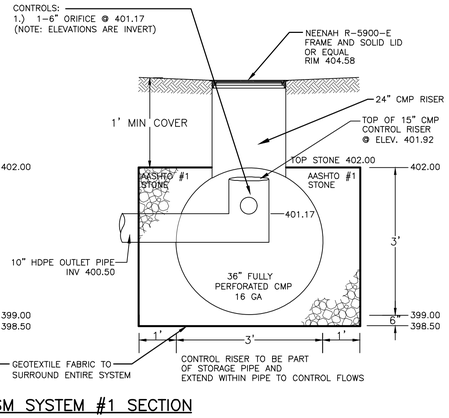


PCSM SYSTEM #1 DETAIL
326 LF 36" FULLY PERFORATED CMP
1.0' OF STONE ON EITHER SIDE OF SYSTEM
0.5' OF STONE BENEATH SYSTEM
N.T.S.

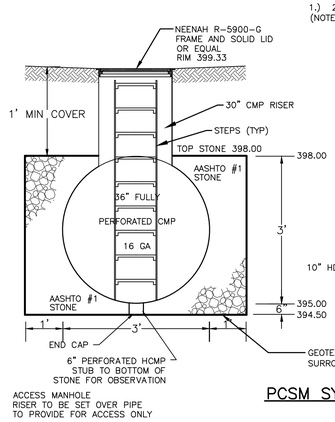


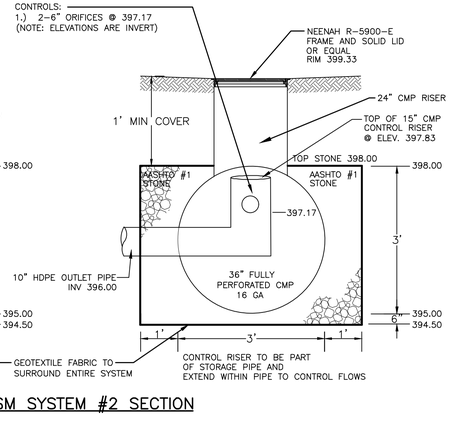
PCSM SYSTEM #2 DETAIL
429 LF 36" FULLY PERFORATED CMP
1.0' OF STONE ON EITHER SIDE OF SYSTEM
0.5' OF STONE BENEATH SYSTEM
N.T.S.



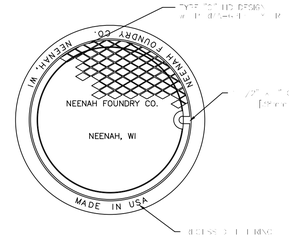


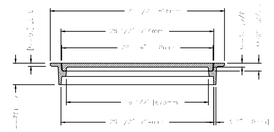
PCSM SYSTEM #1 SECTION



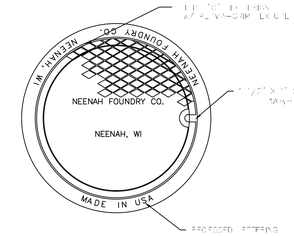


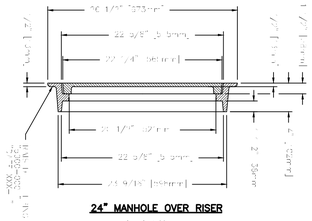
PCSM SYSTEM #2 SECTION





30" ACCESS MANHOLE

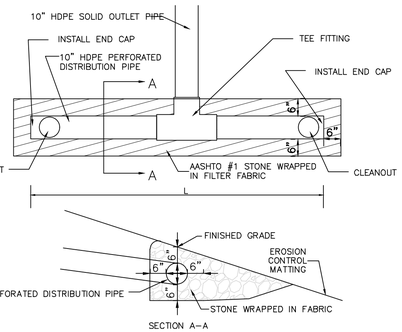




24" MANHOLE OVER RISER

NEENAH FOUNDRY CO.

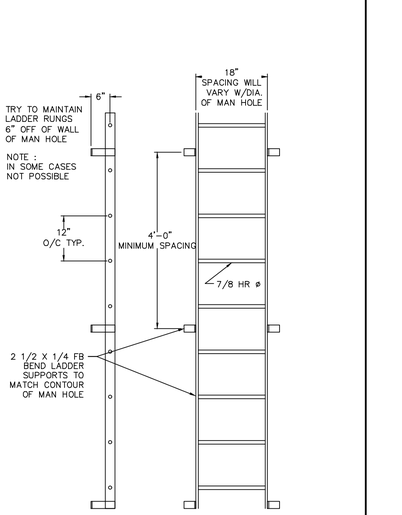
STORMWATER MANHOLE DETAILS
N.T.S.



LEVEL SPREADER DETAIL
N.T.S.

LEVEL SPREADER TABLE

LEVEL SPREADER #	LENGTH "L"	DISTRIBUTION PIPE
SPREADER 1	20'	10" HDPE
SPREADER 2	30'	10" HDPE



STORMWATER RISER ACCESS LADDER
N.T.S.

PIPE PERFORATIONS
REQUIRED 3.31 SQ. IN/SQ. FT

FOR 10"dia. DISTRIBUTION PIPE
C10" = 2*PI*r = 2(PI).4167 = 2.62 FT

FOR 1 LF OF PIPE
A10" = 2.62 SQ. FT
AREA ON 36" HOLES = 3.31*2.62 = 8.67 SQ. IN

FOR 3/4"dia. HOLES
A3/4" = 0.442 SQ. IN
NO. HOLES NEEDED =8.67/0.442 = 20 HOLES

USE 5-3/4" dia. HOLES SPACED EQUALLY AROUND THE CIRCUMFERENCE @ 3"o.c. PER LENTGH OF PIPE STARTING @ 1.5" FROM EITHER END OF PIPE.

CONSTRUCTION NOTES:
1. GEOTEXTILE FABRIC SHALL BE CLEAN NON-WOVEN GEOTEXTILE (PERMEABLE FILTER FABRIC) CLASS 1 AND SHALL BE IN ACCORDANCE WITH PADOT SPECIFICATION FROM 408. THE TYPE AND/OR THICKNESS SHALL BE DUPONT TYPAR #3401, AMOCO PROPEX #4545 OR APPROVED EQUAL OR AS OTHERWISE INDICATED ON THE PLAN.
2. ALL STONE USED FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHALL BE UNIFORMLY GRADED, CLEAN, AND WASHED CRUSHED STONE AGGREGATE MEETING PENNDOT/AASHTO #1 SPECIFICATIONS.
3. ALL PERSONS ENTERING ACTIVE TANKS, MANHOLES, INLETS, ETC. MUST COMPLY WITH OSHA REQUIREMENTS FOR ENTRY INTO CONFINED SPACES.
4. RAIN WATER CONDUCTORS ARE TO COLLECT ALL ROOF RUNOFF AND CONVEY IT TO THE APPROPRIATE STORMWATER MANAGEMENT FACILITY.
5. CLEANOUTS ARE REQUIRED AT ALL CHANGES IN DIRECTION OF THE ROOF DRAINS AND SANITARY SEWER LATERALS.
6. ALL SEEPAGE BEDS SHALL BE INSTALLED WITH A MINIMUM SEPARATION DISTANCE OF 10 FEET FROM ALL BASEMENT WALLS.
7. ALL CMP AND HCMP SHALL BE ALUMINUM OR ALUMINIZED STEEL.
8. ALL HDPE PIPE SHALL BE SMOOTH INTERIOR FLOW.
9. ALL PVC PIPE SHALL BE SDR 35.
10. THE RISER CONNECTIONS IN THE STORMWATER MANAGEMENT SYSTEM SHALL BE WATERTIGHT. REFER TO DETAILS.
11. WHERE DRAINAGE SWALES ARE WITHIN 20' OF A BASEMENT, WATERPROOFING SHALL BE APPLIED TO THE BASEMENT.
12. PERFORATIONS FOR 36" CMP SHALL SATISFY AASHTO DESIGNATION M36/M 36M-90 FOR CLASS 2 PERFORATIONS. THE PERFORATIONS SHALL BE CIRCULAR HOLES WITH NOMINAL DIAMETERS OF 5/16 TO 3/8 INCH. THE PERFORATIONS SHALL BE UNIFORMLY SPACED AROUND THE FULL PERIPHERY OF THE PIPE. THE PERFORATIONS SHALL PROVIDE AN OPENING AREA OF NOT LESS THAN 3.3 SQ. IN. PER SQ. FT. OF PIPE SURFACE BASED ON NOMINAL DIAMETER AND LENGTH OF PIPE. 30 PERFORATIONS, 3/8 INCH DIAMETER, PER SQUARE FOOT OR 566 PERFORATIONS PER LINEAR FOOT SATISFIES THIS REQUIREMENT.

CONSTRUCTION SPECIFICATIONS FOR STORMWATER MANAGEMENT SYSTEMS
1. ALTER AND REFINE THE GRADES AS NECESSARY TO BRING SUBGRADE TO REQUIRED GRADES AND SECTIONS AS SHOWN IN THE DRAWINGS.
2. THE TYPE OF EQUIPMENT USED IN SUBGRADE PREPARATION CONSTRUCTION SHALL NOT CAUSE UNDUE SUBGRADE COMPACTION. TRAFFIC OVER SUBGRADE SHALL BE KEPT AT A MINIMUM.
3. INSTALL POLYPROPYLENE NONWOVEN GEOTEXTILE FABRIC WHICH MEETS PADOT CLASS 1 SPECIFICATIONS (I.E., DUPONT TYPAR #3401, AMOCO PROPEX #4545, OR APPROVED EQUAL) ON BOTTOM OF BED AREAS AND TACK UP SIDES OF EXCAVATION. WHERE EDGES OF ROLLS OVERLAP, THEY SHALL DO SO BY AT LEAST EIGHTEEN INCHES. ADEQUATE FABRIC SHALL BE LEFT ON THE ROLLS (NOT CUT FROM SIDE INSTALLATION) TO FACILITATE OVERTOPPING THE SYSTEM AT COMPLETION OF INSTALLATION.
4. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHALL BE UNIFORMLY GRADED AND CLEAN, WASHED, AGGREGATE. THE STONE SHALL MEET PENNDOT/AASHTO #1 SPECIFICATIONS. STONE TO BE CHECKED BY THE DESIGN OR SITE ENGINEER PRIOR TO INSTALLATION.
5. STONE BASE COURSE SHALL BE LAID OVER A DRY SUBGRADE TO A DEPTH SHOWN IN DRAWINGS. DO NOT ROLL OR COMPACT THE STONE BASE COURSE. KEEP THE BASE COURSE CLEAN FROM DEBRIS, CLAY AND ERODING SOIL. INSTALL TANKS AND PIPE AS SHOWN AND BACKFILL WITH STONE.
6. COVER SYSTEM WITH REMAINING FABRIC, ALLOWING OPENINGS FOR ACCESS COVERS.
7. SYSTEM TO BE TOTALLY ENCLOSED IN THE NON-WOVEN GEOTEXTILE FABRIC.
8. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (i.e. CLEANING THE SOIL/SEDIMENT FROM FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
9. THE BOTTOM OF ALL INFILTRATION BMP'S SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
10. INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESES SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
12. EXCAVATION FOR THE INFILTRATION FACILITY SHALL BE PERFORMED WITH EQUIPMENT THAT WILL NOT COMPACT THE BOTTOM OF THE SEEPAGE BED OR LIKE FACILITY.
13. THE BOTTOM OF THE BED AND/OR TRENCH SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF AGGREGATE.

FILL NOTES:
1. IF THE SITE WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE PERMITTEE.

2. 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).

3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN THE DEPARTMENT'S POLICY "MANAGEMENT OF FILL".

4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

5. ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: 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".

6. 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. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

INFILTRATION BMP NOTES:
1. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL SEDIMENT HAS ENTERED ANY OF THE PCSM INFILTRATION SYSTEMS #1-2, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, BED, ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.

2. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.

3. THE BOTTOM OF ALL INFILTRATION BMPs SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.

4. INFLOW AND OUTFLOW POINTS INTO THE INDIVIDUAL ON-LOT SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES AND DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.

5. PRIOR TO THE PLACEMENT OF STONE IN THE PCSM INFILTRATION SYSTEMS 1-2, THE CONTRACTOR SHALL MAKE A TEST PIT 2 FEET BELOW THE BED BOTTOM TO ENSURE THAT BEDROCK AND/OR GROUNDWATER ARE NOT PRESENT IN THIS ZONE. IN THE EVENT THAT FROUNDWATER AND/OR BEDROCK ARE WITHIN 2 FEET OF BED BOTTOM, THE BED SHALL BE RELOCATED AND REDESIGNED BEFORE CONSTRUCTION MAY CONTINUE.

6. AFTER THE PCSM INFILTRATION SYSTEMS 1-2 ARE COMPLETELY INSTALLED, ALL HEAVY CONSTRUCTION EQUIPMENT SHALL BE RESTRICTED FROM THE INFILTRATION BEDS TO ELIMINATE IMPACTS WHICH MAY COMPROMISE IT. IN THE EVENT ANY IMPACTS COMPROMISE THE FUNCTIONALITY OF THE BMP INFILTRATION SYSTEMS, IT MUST BE IMMEDIATELY REPAIRED OR REPLACED TO DESIGN SPECIFICATIONS.

7. ALL BMP INFILTRATION SYSTEMS SHALL BE LOCATED A MINIMUM OF 10' FROM A BASEMENT WALL.

8. THE PROJECT ENGINEER SHALL BE NOTIFIED AT LEAST 24 HOURS PRIOR TO THE INITIATION OF ANY E&S OR PCSM CRITICAL STAGE OF CONSTRUCTION AS NOTED ON THE EROSION & SEDIMENTATION CONTROL PLAN AND POST CONSTRUCTION STORMWATER MANAGEMENT PLAN. CRITICAL STAGES INCLUDE THOSE LISTED ON THIS SHEET OF THESE PLANS AND MORE GENERALLY THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPS, STRUCTURALLY ENGINEERED BMPS, OR OTHER BMPS "AS DEEMED APPROPRIATE BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT." THE DESIGN ENGINEER SHALL BE RESPONSIBLE FOR PERFORMING ON-SITE INSPECTIONS FOR ALL CRITICAL STAGES IN ORDER TO ENSURE GENERAL PCSM PLAN COMPLIANCE TO FACILITATE FINAL CERTIFICATION THAT THE SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN.

STORMWATER MANAGEMENT FACILITY MAINTENANCE PLAN

THE STORMWATER MANAGEMENT SYSTEMS ON THIS LOT CONSISTS OF TWO SUBSURFACE DETENTION/RECHARGE BASINS. THE BASINS ARE COMPRISED OF FULLY PERFORATED CORRUGATED METAL PIPE WITHIN A STONE BED SURROUNDED BY FILTER FABRIC. AN INTERNAL CONTROL RISER ALLOWS CONTROLLED DISCHARGE OF FLOWS FROM THE SYSTEMS. WATER RUNOFF IS DIRECTED TO THE INFILTRATION BEDS VIA A ROOF RAINWATER COLLECTION SYSTEM, SERIES OF INLETS, AND PIPING WHICH CAPTURE AND COLLECT RUNOFF FROM THE NEW ROOF AREAS, AMPHITHEATER, ENTRY PLAZA, WALKS, AND SOME OTHER AREAS ON THE PROPERTY. THE INLETS ARE PROVIDED WITH A ONE FOOT SUMP BELOW THE INLET AND OUTLET PIPES SO THAT DEBRIS CAN BE COLLECTED PRIOR TO FLOWING INTO THE SUBSURFACE INFILTRATION BEDS.

THE SYSTEMS ARE DESIGNED TO PROMOTE GROUNDWATER RECHARGE. A CONTROL STRUCTURE WITHIN THE SYSTEMS DISCHARGE TO PROPOSED LEVEL SPREADERS WHERE THE RUNOFF MAY BE DISSIPATED TO GRADE IN AN UN-CONCENTRATED MANNER. AN ACCESS MANHOLE WITH A LADDER IS PROVIDED AT THE CONTROL STRUCTURE TO FACILITATE ACCESS AND MAINTENANCE OF THE SYSTEM.

THE RESPONSIBILITY FOR THE CONTINUED OPERATION AND MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITIES ON THIS LOT IS THAT OF THE PROPERTY OWNER.

MAINTENANCE OF THE FACILITIES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

1. THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT IMPEDE THE FLOW OF WATER DRAINING TO THE STORMWATER MANAGEMENT BASIN.

2. ALL ROOF DOWNSPOUTS, INLETS, CURB OPENINGS AND OTHER WATER WAYS SHALL BE KEPT OPEN AND OPERATION TO PASS THE FLOW OF WATER TO THE BASIN AS INTENDED.

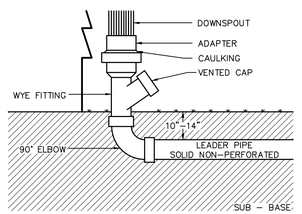
3. GRASS AND LANDSCAPING IN THE VICINITY OF ALL INLETS SHALL BE KEPT TRIM AND FREE FROM DEBRIS ACCUMULATION, AND DOWNSPOUTS AND INLETS SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER TO AND WITHIN THEM.

4. INLET SUMPS SHALL BE CLEANED OF ACCUMULATED DEBRIS BEFORE ANY DEBRIS CAN BE DISCHARGED INTO THE SYSTEMS. INLET STRUCTURES SHALL BE INSPECTED AT LEAST MONTHLY TO INSURE THAT THEY ARE CLEAN AND REMAIN OPERATIONAL.

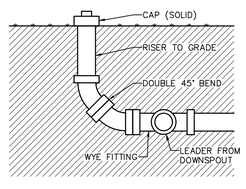
5. SUBSURFACE PIPES SHALL BE INSPECTED ON AN ANNUAL BASIS TO INSURE THAT THEY ARE CLEAN AND OPERATIONAL. ANY ACCUMULATED DEBRIS AND SILT SHALL BE REMOVED IN A TIMELY MANER. THE SUBSURFACE PIPES SHALL BE KEPT FREE OF OBSTRUCTIONS THAT COULD BLOCK THE FREE FLOW OF WATER WITHIN THEM

6. PROMPT REMEDIAL MEASURES ARE TO BE TAKEN IN THE EVENT OF ANY BLOCKAGE OR MALFUNCTION OF THE SYSTEM.

THE OWNER, OCCUPANT, TENANT OR OTHER USER OF THE PROPERTY SHALL NOT TAKE ANY MEASURES TO DISRUPT OR IN ANY WAY IMPAIR THE EFFECTIVENESS OF THE BASIN OR ITS CONTROLS. THIS INCLUDES ALTERATION OF GRADES IN ANY MANNER THAT WOULD DIVERT RUNOFF AWAY FROM INLET COLLECTION POINTS.



DOWNSPOUT DETAIL
N.T.S.



TERMINAL CLEANOUT (TYPICAL)
N.T.S.

COPYRIGHT: MOMENEE, INC. CONSULTING ENGINEERS, EXPRESSLY RESERVES ITS COMMON LAW COPYRIGHT AND ALL OTHER PROPRIETARY RIGHTS IN THESE PLANS, ALL DRAWINGS, SPECIFICATIONS, NOTES AND SHEETS. THESE PLANS REMAIN THE PROPERTY OF MOMENEE, INC. THEY TO BE USED ONLY WITH RESPECT TO THIS PROJECT AND ARE NEITHER TO BE USED ON ANY OTHER PROJECT, NOR ARE THEY TO BE ASSIGNED TO ANY THIRD PARTY WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF MOMENEE. ANY RE-USE WITHOUT WRITTEN PERMISSION, VERIFICATION, CONSENT OR ADAPTATION BY MOMENEE, INC. FOR THE SPECIFIC PURPOSE INTENDED, WILL BE AT THE THIRD PARTY'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO MOMENEE, INC. AND THE THIRD PARTY SHALL INDEMNIFY AND HOLD HARMLESS MOMENEE, INC. FROM ALL CLAIMS, DAMAGES, LOSSES, AND EXPENSES ARISING THERETO OR RESULTING THEREFROM.

COMMENTS | REV. | DATE

PCSM DETAILS

FILE NO.: 15-372

MOMENEE, INC.
a Karins Company
ENGINEERING | PLANNING | SURVEYING

PRELIMINARY LAND DEVELOPMENT PLAN

ACADEMY OF NOTRE DAME - STEM BUILDING

RADNOR TOWNSHIP * DELAWARE COUNTY * PENNSYLVANIA

REGISTERED PROFESSIONAL
KEVIN R. MOMENEE
ENGINEER
PE020326E

ONE-CALL:	20160541517
DRAWN BY:	BDM
CHECKED BY:	KRM

OWNER/APPLICANT
ADADEMY OF NOTRE DAME
560 SPROUL ROAD
VILLANOVA, PA 19085-1220

SHEET 11 OF 11
DATE: AUGUST 31, 2016
SCALE: AS NOTED

M:\PROJECTS\2015\15372\Mxl\DRAWINGS\15372

Gannett Fleming

Excellence Delivered ***As Promised***

Date: November 8, 2016

To: Radnor Township Board of Commissioners

From: Roger Phillips, PE

cc: Robert Zienkowski – Township Manager
Stephen Norcini, P.E. – Director of Public Works
Kevin W. Kochanski, RLA, CZO – Director of Community Development
John Rice, Esq – Grim, Biehn, and Thatcher
Amy Kaminski, PE – Gilmore and Assoc.
Steve Gabriel - Rettew

RE: Radwyn Apartments – Preliminary Land Development Plan
Radwyn Apartments, L.P. – Applicant

Date Accepted: August 1, 2016
90 Day Review: October 30, 2016 extended to January 1, 2017

Gannett Fleming, Inc. has completed a review of the Preliminary Land Development Plans for compliance with the Radnor Township Code. These Plans was reviewed for conformance with Zoning, Subdivision and Land Development, and other applicable codes of the Township of Radnor.

The applicant is proposing to construct two (2) separate buildings internally on the property. The first building is a 2,400 square foot storage building and the second building is a 3,000 square foot pool house will replace the existing pool house located across from the pool. This project is located in the PA district of the Township.

Preliminary Land Development Plans
Plans Prepared By: NePo Associates, Inc.
Dated: 06/27/16, last revised 11/02/2016

I. Subdivision and Land Development

1. §255-20.B(1)(h) – A location map showing the relation of the site to adjoining properties and streets, within 500 feet (scale: one inch equals 600 feet) must be provided. The location map provided on the cover sheet indicates a written scale of 1"=200', but shows a scale of 1"=800'. The response letter from the Engineer indicates the location map is at a scale of 1" = 600'. The scale of the location map must be verified and revised.

2. §255-20.B(1)(n) – Existing principal buildings and their respective uses, and driveways on the adjacent peripheral strip; sewer lines, storm drains, culverts, bridges, utility easements, quarries, railroads and other significant man-made features within 500 feet of and within the site (this includes properties across streets). The applicant has a requested a waiver to this requirement in a November 7, 2016 letter.

3. §255-43.1.B.(2) – For all nonresidential or institutional subdivisions and/or land developments involving more than 5,000 square feet of floor area, the amount of land to be dedicated for park and recreation area shall be 2,500 square feet per 6,400 square feet of floor area (existing or proposed), or portion thereof, unless the developer agrees to a fee in lieu of $3,307 per 6,400 square feet of floor area (existing or proposed). The developer has agreed to pay the recreation fee in lieu of dedicating land.

II. Stormwater Management

1. §245-22.(A)(1)(a) – Infiltration BMP requirements – The applicant has provided infiltration testing results. The proposed stormwater BMP , Basin #2, appears to be located at a depth from grade of approximately 5.5 feet; however, the maximum depth that infiltration testing was completed at was 4 feet. We note that the infiltration testing report appears to indicate that rock was encountered at 6 feet. Please revise the stormwater design to meet the requirements of the ordinance or a wavier must be requested.

2. §245-22.(A)(1)(b) – Infiltration BMP requirements – The applicant has provided infiltration testing results but it is not clearly shown on the plan where the infiltration testing occurred. The plans must be revised to indicate where the testing occurred.

3. §245-22.(A)(1)(c) – Infiltration BMP requirements – No supporting calculations have been submitted that show that the required volume is able to be infiltrated within 96 hours. The report must be revised to include this information or a waiver requested.

4. §245-23(D)(1) – Water quality requirements – Supporting documentation/calculations do not appear to have been included in the stormwater report at this time. The stormwater report must be revised to include this information to demonstrate compliance with the ordinance or a waiver requested.

5. We note that the applicant is providing additional stormwater management at the northwestern section of the property above what is required by ordinance.

6. Additional information regarding the site topography is required in the area of the proposed riprap apron/outfall from Basin #2. Please show additional contours detailing how the runoff from this outfall will be directed. The applicant must demonstrate that the outfall does not result in a concentrated point of discharge. Stormwater BMPs that provide opportunities for unconcentrated discharges are recommended (i.e. level spreader).

printed on recycled paper

7. Further detail must be provided on the outlet control structure provided for Basin #2. The detail on Sheet SP-6 Additionally, include information in the stormwater report showing that the detail shown on the plan matches the system that was modeled.

8. The 2-year pre-development and post-development volumes shown on the "Volumes Calculations" summary page does not seem to correspond with the supporting HydroCAD model. Please explain this inconsistency or update the information as required to meet the ordinance.

9. Stormwater management calculations and supporting documentation are required as part of the Final Land Development submission. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

The applicant appeared before the Planning Commission on August 1, 2016. The Planning Commission recommended approval of the preliminary plans conditioned on the applicant complying with all staff comments.

If you have any questions or require any additional information, please contact me.

Very truly yours,
GANNETT FLEMING, INC.

Roger A. Phillips, P.E.
Senior Project Manager

printed on recycled paper

NePo Associates, Inc.
ENGINEERS, SURVEYORS AND ENVIRONMENTAL SCIENTISTS

November 7, 2016

004-12

Mr. Roger A. Phillips, P.E.
Gannett Fleming, Inc.
1010 Adams Avenue
Audubon, PA 19403-2402

RE: Radwyn Apartments
Radnor Township, Montgomery County, PA

Dear Roger,

As you are aware, Radwyn Apartments is proposing to construct two (2) small buildings internally on their property located at 275 S Bryn Mawr Avenue, Bryn Mawr, PA. The first is a storage building adjacent to an existing parking lot on the eastern side of the property. The second building will replace the existing, antiquated pool house currently situated adjacent to the pool.

We recently submitted revised Land Development plans outlining improvements for the buildings. Both buildings combined, total no more than 5,500 square feet of impervious coverage. There is no zoning relief required, nor additional parking or public infrastructure improvements; however, we did request a waiver from Section 255-14, Preliminary Plan requirements and combine our Preliminary and Final Plan submission.

As we work through the approval process, we realized we would also like to request a waiver from Section 255-20.B(1)(n) regarding existing conditions within 500 feet of our property. Since we are proposing two small buildings interior to our property, impact to exterior infrastructure would be very minimal, if any, to those facilities.

Thanks for your time and look forward to answering any questions at your next public meeting. Until then, if you have any questions or comments, please do not hesitate to call.

Sincerely yours,

458 East King Road • Malvern, PA 19355 • 610-429-0605 • FAX 610-296-3146

NePo Associates, Inc.

Dan Popplewell, P.E.

DPP: mcr

cc: Mr. Larry Shontz

NePo Associates, Inc.
ENGINEERS, SURVEYORS AND ENVIRONMENTAL SCIENTISTS

November 3, 2016

004-12

Mr. Roger Phillips, PE
Gannett Fleming
P.O. Box 80794
Valley Forge, PA 19484-0794

Re: Radwyn Apartments
Radnor Township, Delaware County, PA

Dear Roger:

We previously forwarded you a set of revised drawings for the above referenced project. The plans which were revised on July 26, 2016 are enclosed. The following is a summary of revisions to the plans. Also enclosed is a Stormwater Management Calculations Report.

I. SUBDIVISION AND LAND DEVELOPMENT

1. We have revised our location map to a scale of one inch (1") = 600 ft (See cover sheet).
2. We will request a waiver from Section 255-20.B(1) (n).
3. We are indicating replacement trees for all trees to be removed in conformance with Radnor Township code. We received approval from Radnor Township Shade Tree Commission on October 26, 2016. (See sheet SP- 5)
4. The developer has agreed to pay the recreation fee in lieu of providing those facilities. No action required of NePo Associates, Inc. (NePo).

II. STORMWATER MANAGEMENT

1. Attached is a Storm Water Management report indicating compliance with volume requirements and infiltration testing. (See attached Storm Water Management)
2. See comment No. II-1 above.
3. See comment No. II-1 above.
4. See comment No. II-1above.
5. A Drainage Area Plan is included with the calculations.
6. No action required by NePo.

III. GENERAL

1. After further investigation, we are no longer proposing relocation of sanitation sewer facilities. Comment is no longer applicable.
2. See comment No. III-1 above.
3. We have revised the proposed storage building to provide the minimum ten feet horizontal clearance from the existing sanitation sewer. (See Sheet SP- 2)
4. We are providing a tree protection fencing detail in accordance with Radnor Township standards.(See SP – 6)

Could you kindly review and provide comments, if any. Thank you for your time and consideration and as always, if you have any questions or comments don't hesitate to call us.

Sincerely yours,
NePo Associates, Inc.

Dan Popplewell, P.E.

DPP: mcr

Enclosures

NePo Associates, Inc.
ENGINEERS, SURVEYORS AND ENVIRONMENTAL SCIENTISTS

September 9, 2016

004-12

Mr. Jim Higgins, Chairman
Radnor Township Board of Commissioners
301 Iven Avenue
Wayne, PA 19087

RE: Radwyn Apartments
Radnor Township, Delaware County, PA

Dear Chairman Higgins,

I understand, pursuant to Section 508 of *Pennsylvania Municipalities Planning Code* a decision on our above referenced land development application is due at your October 3, 2016 regularly scheduled meeting. As agent for the owner, the Kaiserman Company, I hereby grant the Township a ninety (90) day extension of time to render a decision on our application on January 1, 2017 regularly scheduled meeting.

Thank you in advance. If you have any questions or comments do not hesitate to call.

Very truly yours,
NePo Associates, Inc.

Dan Popplewell, P.E.

DP: mcr

cc: Mr. Larry Shontz

458 East King Road • Malvern, PA 19355 • 610-429-0605 • FAX 610-296-3146

DELAWARE COUNTY PLANNING COMMISSION

COURT HOUSE/GOVERNMENT CENTER
201 W. Front St. Media, PA 19063

Office Location: Toal Building, 2nd & Orange Sts., Media, PA 19063
Phone: (610) 891-5200 FAX: (610) 891-5203
E-mail: planning_department@co.delaware.pa.us

COUNCIL
MARIO J. CIVERA, JR.
CHAIRMAN
COLLEEN P. MORRONE
VICE CHAIRMAN
JOHN P. McBLAIN
DAVID J. WHITE
MICHAEL F. CULP

PLANNING COMMISION
WILLIAM C. PAYNE
CHAIRMAN
THOMAS J. JUDGE
VICE CHAIRMAN
KENNETH J. ZITARELLI
SECRETARY
LINDA F. HILL
DIRECTOR

August 18, 2016

Robert A. Zienkowski
Radnor Township
301 Iven Avenue
Wayne, PA 19087

RE: Name of Dev't: Radwyn Apartments L.P.
DCPD File No.: 34-7182-16
Developer: Radwyn Apartments L.P.
Location: South side of Bryn Mawr Avenue, approximately 250' east of the intersection with Castlefinn Lane
Recv'd in DCPD: July 11, 2016

Dear Mr. Zienkowski:

In accordance with the provisions of Section 502 of the Pennsylvania Municipalities Planning Code, the above described proposal has been sent to the Delaware County Planning Commission for review. At a meeting held on August 18, 2016, the Commission took action as shown in the recommendation of the attached review.

Please refer to the DCPD file number shown above in any future communications related to this application.

Very truly yours,

Linda F. Hill
Director

cc: Radwyn Apartments L.P.
NePo Associates, Inc.

DCPD

DELAWARE COUNTY PLANNING DEPARTMENT

Court House/ Government Center , 201 W. Front St., Media, PA 19063
Office Location: Toal Building, 2nd & Orange Sts., Media, PA 19063
Phone: (610) 891-5200 FAX: (610) 891-5203
E-mail: planning_department@co.delaware.pa.us

Date: August 18, 2016
File No.: 34-7182-16

PLAN TITLE:	Radwyn Apartments L.P.
DATE OF PLAN:	June 30, 2016
OWNER OR AGENT:	Radwyn Apartments L.P.
LOCATION:	South side of Bryn Mawr Avenue, approximately 250' east of the intersection with Castlefinn Lane
MUNICIPALITY:	Radnor Township
TYPE OF REVIEW:	Final land development
ZONING DISTRICT:	PA Planned Apartment
SUBDIVISION ORDINANCE:	Local
PROPOSAL:	Develop a 37.83 acre apartment complex with 5,400 sq. ft. of additions
UTILITIES:	Public
RECOMMENDATIONS:	Approval
STAFF REVIEW BY:	Michael A. Leventry

REMARKS:

CURRENT PROPOSAL

The applicant proposes to demolish one building, and construct two new buildings and a new stormwater basin. The building to be demolished is an existing pool house, which is to be replaced by a new pool house as part of this proposal. The second structure is to be a utility and storage building for seasonal items.

REMARKS (continued):

SITE CHARACTERISTICS

The site is an existing apartment complex with multiple buildings and associated parking. The area surrounding the complex is suburban residential development.

APPLICABLE ZONING

The proposed development is located within the PA Planned Apartment district which is subject to applicable regulations set forth in the Township's zoning code.

NONCONFORMITIES

A number of the site's existing buildings do not appear to comply with the front yard setback regulation, as established within the Township zoning code. Where Section 280-39(D) requires a 150' front setback, the complex's existing buildings are located 149' from the front property line. However, this proposal does not exacerbate the nonconformities.

COMPLIANCE

With exception to the existing non-conforming structures the proposal appears to comply with the PA Planned Apartment district provisions.

REMARKS (continued):

ENVIRONMENTAL

The developer should contact the Pennsylvania Department of Environmental Protection regarding the need for sewage facilities planning approval.

The Township should confirm receipt of any necessary Pennsylvania Department of Environmental Protection planning approval prior to final plan approval.

STORMWATER MANAGEMENT

The Township Engineer must verify the adequacy of all proposed stormwater management facilities.

HISTORICAL AND ARCHEOLOGICAL SIGNIFICANCE

The proposed development is on a site that has a mixture of low, medium, and high potential for underground, archeological resources. The site appears to be a one story "el"-shaped structure, and does not appear to be historically significant. As the sites of the additions have been previously disturbed during construction of the complex, no historic resources will be effected.

RECORDING

In accordance with Section 513(a) of the Pennsylvania Municipalities Planning Code (MPC), final plans must be recorded within ninety (90) days of municipal approval.

Gannett Fleming

Excellence Delivered ***As Promised***

Date: July 25, 2016

To: Radnor Township Planning Commission

From: Roger Phillips, PE

cc: Stephen Norcini, P.E. – Director of Public Works
Kevin W. Kochanski, RLA, CZO – Director of Community Development
Peter Nelson, Esq. – Grim, Biehn, and Thatcher
Amy B. Kaminski, P.E. – Gilmore & Associates, Inc.
Suzan Jones – Radnor Township Engineering Department
William Miller – Radnor Township Codes Official
Ray Daly – Radnor Township Codes Official
Steve Gabriel - Rettew

RE: Radwyn Apartments – Preliminary Land Development Plan
Radwyn Apartments, L.P. – Applicant

Date Accepted: August 1, 2016
90 Day Review: October 30, 2016

Gannett Fleming, Inc. has completed a review of the Preliminary Land Development Plans for compliance with the Radnor Township Code. These Plans was reviewed for conformance with Zoning, Subdivision and Land Development, and other applicable codes of the Township of Radnor.

The applicant is proposing to construct two (2) separate buildings internally on the property. The first building is a 2,400 square foot storage building and the second building is a 3,000 square foot pool house will replace the existing pool house located across from the pool. This project is located in the PA district of the Township.

Preliminary Land Development Plans
Plans Prepared By: NePo Associates, Inc.
Dated: 06/27/16, No Revisions

I. Subdivision and Land Development

1. §255-20.B(1)(h) – A location map showing the relation of the site to adjoining properties and streets, within 500 feet (scale: one inch equals 600 feet) must be provided. The location map provided is shown as one inch equals 1,000 feet and is illegible.

2. §255-20.B(1)(n) – Existing principal buildings and their respective uses, and driveways on the adjacent peripheral strip; sewer lines, storm drains, culverts, bridges, utility easements, quarries, railroads and other significant man-made features within 500 feet of and within the site (this includes properties across streets). This information must be shown on the plans or a waiver requested.

3. §255-38 – The applicant has shown on the plan that and 8" maple tree and a 16" cherry tree will be removed. The landscape plan does not indicate the trees will be replaced. Trees must be replaced in conformance with the tree replacement formula located in §263- Trees of the Township of Radnor Code.

4. §255-43.1.B.(2) – For all nonresidential or institutional subdivisions and/or land developments involving more than 5,000 square feet of floor area, the amount of land to be dedicated for park and recreation area shall be 2,500 square feet per 6,400 square feet of floor area (existing or proposed), or portion thereof, unless the developer agrees to a fee in lieu of $3,307 per 6,400 square feet of floor area (existing or proposed).

II. Stormwater Management

1. §245-22 and §245-23 – Volume management requirements must be met and calculations submitted demonstrating that the requirements are being met as part of the Final Plan submission. Please provide documentation of the certified field tested infiltration rate shown in the report. Please show the locations of the infiltration tests on the plans. Final approval of the stormwater management plan will be required as part of the Grading Permit process (see comment #6, this section).

2. §245-25 – At this time no stormwater peak rate control requirement calculations have been submitted. Calculations demonstrating that the requirements are being met must be submitted as part of the Final Plan submission. Per the Radnor Township Stormwater Districts map, the site is located within stormwater districts A and B-2. Please show district boundaries on plan. In accordance with §245-25.A.4, the peak discharge rate from the subarea must meet the stormwater management criteria where the stormwater is being discharged. Final approval of the stormwater management plan will be required as part of the Grading Permit process (see comment #6, this section).

3. §245-27.J – Underground stormwater management systems must be designed to store the two- through one-hundred-year storms within a pipe or other open system that will permit the inspection and maintenance of the system. The entire storm must be placed in the pipe (i.e., the stone bedding around the pipe is not to be included in the volume calculations). We note that the applicant is proposing to address stormwater management onsite utilizing rain gardens and a subsurface bed. It appears that the applicant is proposing to use stone void as part of the volume provided. This is not permitted. The applicant must provide an alternative way to handle stormwater management onsite.

printed on recycled paper

4. Disposition of stormwater management system on Sheets 3-5 is unclear. Please clarify if it is existing or proposed and provide details.

5. Note 15 on Sheet SP-3 stated drainage from Buildings C and K shall go into Basin A. From the plans provided it appears that runoff from Building D and not Building K drains to Basin A. Please provide drainage area plans to clarify.

6. Final approval of the stormwater management plan will be required as part of the Grading Permit process. Any revisions to the size or location of the individual structures or other features will be addressed at that time.

III. General

1. The applicant is proposing to relocate a portion of the existing sanitary sewer adjacent to the proposed pool house and recreation center. More details must be provided including plan and profiles of the proposed sewer.

2. The proposed pool house and the sanitary sewer must maintain a minimum of 10 feet of horizontal distance.

3. The proposed storage shed and the existing sanitary sewer must maintain a minimum of 10 feet of horizontal distance.

4. It appears the applicant has provided a tree protection detail that is inconsistent with Radnor Township's standard detail. Please use the Radnor Township standard tree protection detail attached.

Should the Planning Commission consider recommending approval of this project, we suggest that the recommendation be conditioned on requiring the applicant to satisfactorily address the above comments.

If you have any questions or require any additional information, please contact me.

Very truly yours,
GANNETT FLEMING, INC.

Roger A. Phillips, P.E.
Senior Project Manager

printed on recycled paper

GILMORE & ASSOCIATES, INC.
ENGINEERING & CONSULTING SERVICES

MEMORANDUM

Date: July 25, 2016

To: Steve Norcini, P.E.
Radnor Township Public Works Director

From: Amy Kaminski, P.E., PTOE
Transportation Services Manager

cc: Kevin Kochanski, ASLA, R.L.A., Director of Community Development
Roger Phillips, P.E., Senior Project Manager, Gannett Fleming, Inc.
Damon Drummond, P.E., PTOE, Gilmore & Associates, Inc.

Reference: Radnor Township – 275 S. Bryn Mawr Ave/Radwyn Apartments
Preliminary Land Development Review 1
Radnor Township, Delaware County, PA
G&A 16-07023

Gilmore & Associates, Inc. (G&A) has completed a transportation review of the above referenced Preliminary Land Development Plan for the Radwyn Apartments modifications at 275 S. Bryn Mawr Avenue. The applicant proposes to construct two (2) buildings, a 2,400 square foot storage building and a 3,000 square foot pool house/recreational center which will replace the existing pool house. We offer the following comments for Radnor Township consideration:

A. DOCUMENTS REVIEWED

1. Preliminary Land Development Plans for the Radwyn Apartments, prepared for Radwyn Apartments, LP prepared by NePo Associates, Inc., consisting of 6 sheets, dated June 27, 2016.

2. Subdivision and Land Development Application Form.

3. Delaware County Planning Commission Application for ACT 247 Review.

B. GENERAL COMMENTS

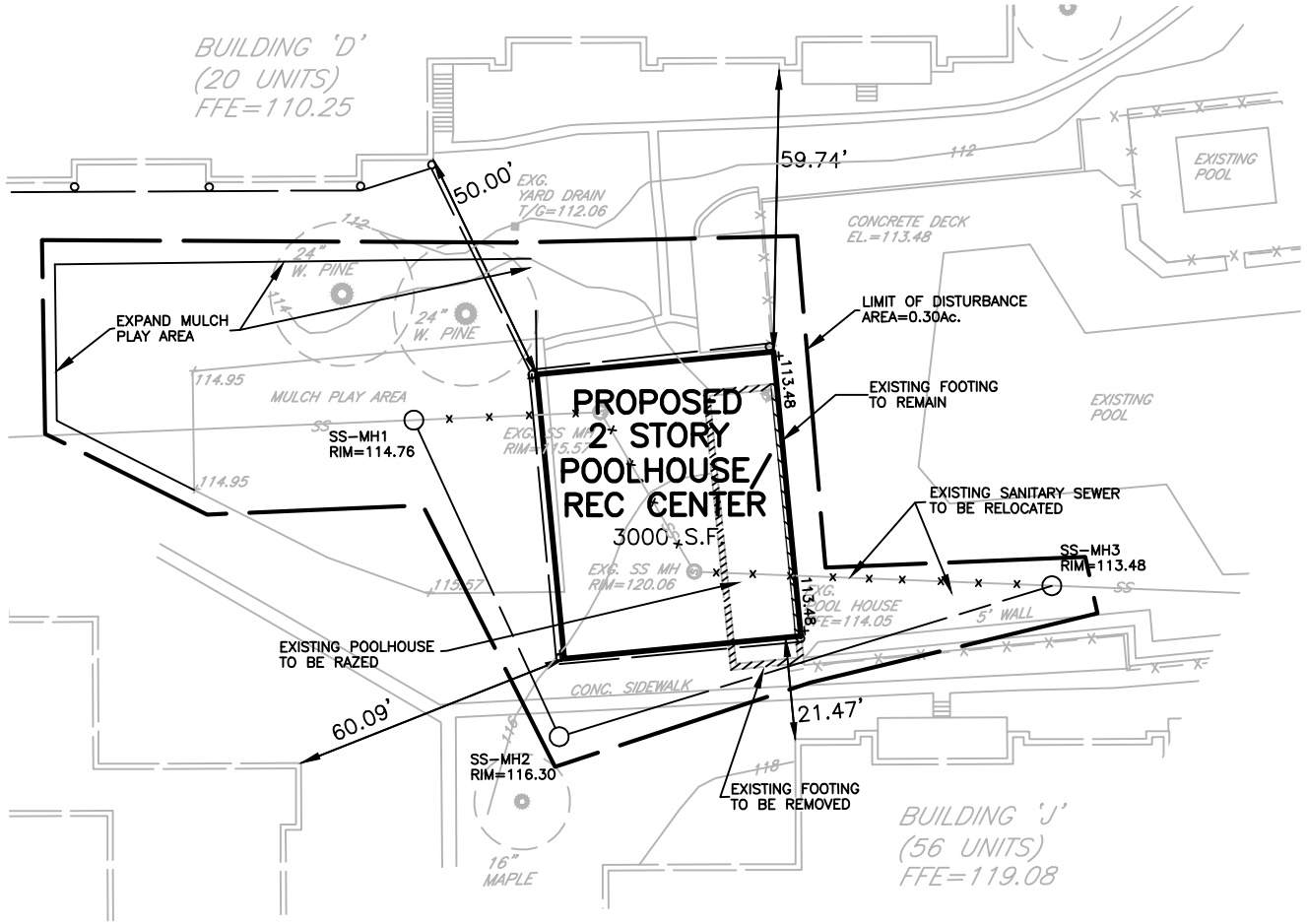
1. § 255-29.A.14 Dimension the proposed curb radii at the two new (relocated) parking stalls near the stormwater basin and at the driveway to the proposed storage building. Verify the proposed curb radii are 5 feet or greater in accordance with this section.

65 E. Butler Avenue | Suite 100 | New Britain, PA 18901
Phone: 215-345-4330 | Fax: 215-345-8606

www.gilmore-assoc.com

2. §255-37.B. – Revise the plans to include a detail for the proposed sidewalk. Label the widths of all proposed sidewalks and verify the widths meet this section of the ordinance.
3. §255-37.F – Provide a detectible warning surface for the (2) ADA compliant curb ramps for the pedestrian crossing north of the of the proposed Storage Building service entrance.
4. The location of the proposed Pool House/Recreation Center as shown eliminates the existing pedestrian path connectivity from the existing mulch play area to the existing pool. Verify an external pedestrian connectively is unnecessary or provide the pedestrian connectivity for both the existing mulch play area and the existing pool area. In addition, provide connectivity from the pool house to the concrete sidewalk located south of the proposed Pool House/Recreational Center.
5. Revise the plans to reference Radnor Township in lieu of “Radwyn Township.”

If you have any questions, please contact our office at 215-345-4330.



RADWYN APARTMENTS

Radwyn Township, Delaware County, Pennsylvania

PROPOSED POOL HOUSE

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

PE -39244-E

Date:	7/25/16
Scale:	1"=40'
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SK1
Issued:	

SHEET

SP-5

OF 1

RADNOR TOWNSHIP
301 IVEN AVE
WAYNE PA 19087
P) 610 688-5600
F) 610 971-0450
WWW.RADNOR.COM

SUBDIVISION ~~ LAND DEVELOPMENT

Location of Property 275 S Bryn Mawr Ave, Bryn Mawr, PA 19010

Zoning District PA Application No. _____ (Twp. Use)

Fee _____ Ward No. _____ Is property in HARB District _____

Applicant: (Choose one) Owner X Equitable Owner _____

Name Radwyn Apartments, L.P.

Address 201 South 18th Street, Ste 300, Philadelphia, PA 19103

Telephone (215) 546-2665 x112 Fax (215) 546-6828 Cell _____

Email lshontz@kaiserman.com

Designer: (Choose one) Engineer X Surveyor _____

Name NePo Associates, Inc.

Address 458 East King Road, Malvern, PA 19355

Telephone (610) 429-0605 Fax (610) 296-3146

Email administration@nepoinc.com

Area of property 37.83 acres Area of disturbance 0.80 acres

Number of proposed buildings 2 Proposed use of property Apartments

Number of proposed lots n/a

Plan Status: Sketch Plan ____ Preliminary ____ Final X Revised ____
Are there any requirements of Chapter 255 (SALDO) that are not in compliance with?

Are there any requirements of Chapter 255 (SALDO) not being adhered to?
Explain the reason for noncompliance.

No

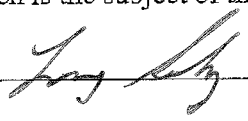
Are there any infringements of Chapter 280 (Zoning), and if so what and why?

No

Individual/Corporation/Partnership Name

Radwyn Apartments, L.P.

I do hereby certify that I am the owner, equitable owner or authorized representative of the property which is the subject of this application.

Signature 

Print Name Larry Shontz

By filing this application, you are hereby granting permission to Township officials to visit the site for review purposes.

NOTE: All requirements of Chapter 255 (Subdivision of Lane) of the Code of the Township of Radnor must be complied with whether or not indicated in this application.

DELAWARE COUNTY PLANNING COMMISSION

APPLICATION FOR ACT 247 REVIEW

Incomplete applications will be returned and will not be considered "received" until all required information is provided.

Please type or print legibly

DEVELOPER/APPLICANT

Name Radwyn Apartments, L.P. E-mail lshontz@kaiserman.com

Address 201 South 18th Street, Ste 300 Philadelphia, PA 19103 Phone (215) 546-2665

Name of Development Radwyn Apartments

Municipality Radnor Township

ARCHITECT, ENGINEER, OR SURVEYOR

Name of Firm NePo Associates, Inc. Phone (610) 429-0605

Address 458 East King Road, Malvern, PA 19355

Contact Dan Popplewell, P.E. E-mail administration@nepoinc.com

Type of Review	Plan Status	Utilities: Existing	Utilities: Proposed	Environmental Characteristics
☐ Zoning Change	☐ Sketch	☑ Public Sewerage	☐ Public Sewerage	
☑ Land Development	☐ Preliminary	☐ Private Sewerage	☐ Private Sewerage	☐ Wetlands
☐ Subdivision	☐ Final	☑ Public Water	☐ Public Water	☐ Floodplain
☐ PRD	☐ Tentative	☐ Private Water	☐ Private Water	☐ Steep Slopes

Zoning District PA; Planned Apartment District

Tax Map # 36 / 41 / 108

Tax Folio # 36 / 05 / 02956 / 00

STATEMENT OF INTENT
WRITING "SEE ATTACHED PLAN" IS NOT ACCEPTABLE.

Existing and/or Proposed Use of Site/Buildings:

Radwyn Apartments is proposing to construct two (2) small, separate buildings internally on the property. The first building is a 2,400 square foot (sf) storage building which will solve the need for storage of seasonal equipment. The second building will replace the existing, antiquated pool house located adjacent to the pool. The upgrades to the pool house will include workout facilities, larger changing rooms and bathrooms as well as social spaces for the residents of the community.

Total Site Area 37.83 Acres

Size of All Existing Buildings 216,066.00 Square Feet

Size of All Proposed Buildings 5,400.00 Square Feet

Size of Buildings to be Demolished 910 Square Feet

Radwyn Apartments, L.P.
Print Developer's Name

Developer's Signature

MUNICIPAL SECTION
ALL APPLICATIONS AND THEIR CONTENT ARE A MUNICIPAL RESPONSIBILITY.

Local Planning Commission Regular Meeting_____

Local Governing Body Regular Meeting_____

Municipal request for DCPD staff comments prior to DCPC meeting, to meet municipal meeting date:

Actual Date Needed _____

IMPORTANT: If previously submitted, show assigned DCPD File # _____

_____ _____
Print Name and Title of Designated Municipal Official Phone Number

_____ _____
Official's Signature Date

FOR DCPD USE ONLY

Review Fee: Check #_____ Amount $_____ Date Received_____

Applications with <u>original</u> signatures must be submitted to DCPD.

Prepared by and Return to:

Academy Professional Settlement Services,
212 W. Gay St.
West Chester, PA 19380
610-719-8100

File No. 14-00535

UPI # 36-05-02961-00

RD BK05557-1568 DT-DEED
2014052266 10/10/2014 08:42:04 AM:1
RCD FEE: $96.50 POL SUB TAX: $24,150.00 ST TAX: $16,100.00
DELAWARE COUNTY
36-RADNOR $24,150.00 THOMAS J. JUDGE SR. ROD

This Indenture, made the 8th day of October, 2014,

Between

GORDON MCILVAIN

(hereinafter called the Grantor), of the one part, and

RADWYN APARTMENTS, L.P.

(hereinafter called the Grantee), of the other part,

Witnesseth, that the said Grantor for and in consideration of the sum of **One Million Six Hundred Ten Thousand And 00/100 Dollars ($1,610,000.00)** lawful money of the United States of America, unto him well and truly paid by the said Grantee, at or before the sealing and delivery hereof, the receipt whereof is hereby acknowledged, has granted, bargained and sold, released and confirmed, and by these presents does grant, bargain and sell, release and confirm unto the said Grantee

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, hereditaments and appurtenances, Situate in the Township of Radnor, County of Delaware and Commonwealth of Pennsylvania, bounded and described according to a Survey and Plan thereof made by M. R. and J. B. Yerkes, Civil Engineers, dated March 03, 1948 and revised June 20, 1949, as follows, to wit:

BEGINNING at a point marking the intersection of the middle lines of Landover Road and Coopertown Road and also the middle of a private driveway leading Southwestwardly through property of the Estate of Walter C. Janney; thence along the middle of said private drive, the two following courses and distances: (1) on a line curving to the left with a radius of Two hundred thirty two and twelve one-hundredths feet, the arc distance of One hundred twelve and sixty two one-hundredths feet, the chord of said curved line has a bearing of North eighty three degrees, twenty four minutes West, One hundred eleven and fifty one one-hundredths feet to a point; (2) still on a line curving to the left with a radius of Four hundred forty three and sixty one-hundredths feet, the arc distance of Ninety nine and forty four one-hundredths feet, the chord of said curved line has a bearing of South seventy seven degrees, thirty eight minutes West, Ninety nine and twenty four one-hundredths feet to a point; thence leaving said private drive by other land of Estate of Walter C. Janney, North thirty three degrees, thirty eight minutes West, Five hundred forty seven and fifty five one-hundredths feet to a stone;

thence by land of Mrs. Edward S. Willing, North fifty eight degrees, five minutes East, Four hundred eight and thirty one hundredths feet to a stone; thence by land of Mrs. William G. Thomas Estate, South thirty three degrees, fifty two minutes East, Six hundred forty eight and forty six one-hundredths feet to a point in the middle of Landover Road; thence along the middle of same, South fifty seven degrees, thirty seven minutes West, Two hundred thirty three and twenty six one-hundredths feet to the place of beginning.

FOLIO NO. 36-05-02961-00

BEING the same premises which Gordon McIlvain and Marcia J. McIlvain, husband and wife, by Deed dated 12/11/2007 and recorded 01/07/2008 in the Office of the Recorder of Deeds in and for the County of Delaware in Record Book 4275, Page 1133, granted and conveyed unto Gordon McIlvain.

Together with all and singular the buildings and improvements, ways, streets, alleys, driveways, passages, waters, water-courses, rights, liberties, privileges, hereditaments and appurtenances, whatsoever unto the hereby granted premises belonging, or in anywise appertaining, and the reversions and remainders, rents, issues, and profits thereof; and all the estate, right, title, interest, property, claim and demand whatsoever of him, the said grantor, as well at law as in equity, of, in and to the same.

And the said Grantor, for herself and her heirs, executors and administrators, does, by these presents, covenant, grant and agree, to and with the said Grantee, her heirs and assigns, that he, the said Grantor, and her heirs, all and singular the hereditaments and premises herein described and granted, or mentioned and intended so to be, with the appurtenances, unto the said Grantee, her heirs and assigns, against him, the said Grantor, and her heirs, will warrant and defend against the lawful claims of all persons claiming by, through or under the said Grantor but not otherwise.

In Witness Whereof, the party of the first part has hereunto set her hand and seal. Dated the day and year first above written.

Sealed and Delivered
IN THE PRESENCE OF US:

_____

_____{SEAL}
Gordon Mcilvain

Commonwealth of Pennsylvania }
County of Chester } ss

On this, the 8th day of October, 2014, before me, the undersigned Notary Public, personally appeared **Gordon Mcilvain**, known to me (or satisfactorily proven) to be the person whose name is subscribed to the within instrument, and acknowledged that she executed the same for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

Notary Public
My commission expires 7-23-17

The precise residence and the complete post office address of the above-named Grantee is:

250 Landover Road
Bryn Mawr, PA 19010

On behalf of the Grantee

COMMONWEALTH OF PENNSYLVANIA
NOTARIAL SEAL
JAMES S. TUPITZA, Notary Public
Borough of West Chester, Chester County
My Commission Expires July 23, 2017

Deed

UPI # 36-05-02961-00

Gordon Mcilvain

TO

Radwyn Apartments, L.P. or its assignee

Academy Professional Settlement Services,
212 W. Gay St.
West Chester, PA 19380
Telephone: 610-719-8100 Fax: 610-344-7199

COMMONWEALTH LAND TITLE INSURANCE COMPANY

B-01361 4 PA
COMMONWEALTH LAND TITLE INS. CO.
THIS INSTRUMENT NOT INSURED.

DEED

THIS INDENTURE made the 18th day of June, 2002 between KENNETH S. KAISERMAN, ADMINISTRATOR D.B.N.C.T.A. OF THE ESTATE OF REBA E. FLICK, a/k/a REBA FLICK, DECEASED and KENNETH S. KAISERMAN AND RONALD L. KAISERMAN, SURVIVING EXECUTORS OF THE ESTATE OF KEVY K. KAISERMAN, DECEASED (hereinafter collectively called "Grantors"), party of the first part, and RADWYN APARTMENTS, L.P., a Pennsylvania limited partnership, (hereinafter called the Grantee), of the other part.

WITNESSETH, that the said Grantors, for and in consideration of the sum of ONE DOLLAR ($1.00) lawful money of the United States of America, unto the Grantors well and truly paid by the said Grantee, at or before the sealing and delivery, hereof, the receipt whereof is hereby acknowledged, have granted, bargained and sold, aliened, enfeoffed, released and confirmed, and by these presents grant, bargain and sell, alien, enfeoff, release and confirm unto the said Grantee, its Successors and Assigns **ALL THAT CERTAIN REAL PROPERTY AND THE IMPROVEMENTS LOCATED THEREON** as more particularly described on Exhibit "A" attached hereto and made a part hereof.

TOGETHER with all and singular the Buildings, Improvements, Ways, Streets, Alleys, passages, Waters, Water-courses, Rights, Liberties, Privileges, Hereditaments and Appurtenances, whatsoever thereunto belonging, or in any wise appertaining, and the Reversions and Remainders, Rents, Issues and Profits thereof; and all the Estate, Right, Title, Interest, Property, Claim and Demand whatsoever of the said Reba E. Flick, a/k/a Reba Flick and/or the said Kevy K. Kaiserman, at and immediately before the time of their respective deaths, in law as in equity, or otherwise howsoever, of, in, and to the same and every part thereof.

TO HAVE AND TO HOLD the said lot or piece or ground herein described together with the Buildings, Improvements thereon erected, Hereditaments and Premises hereby granted, or mentioned and intended so to be, with the Appurtenances, unto the said Grantee, its

RU BK02461 PG777
2002064272

Description: Delaware,PA Document - Book.Page 2461.777 Page: 1 of 9
Order: br Comment:

ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, situate in Radnor Township, Delaware County, Pennsylvania, described in accordance with a Survey thereof made by Yerkes Associates, Inc., dated 3-8-1991 and last revised 2/27/1996 as follows, to wit:-

BEGINNING at a PK nail in the center line of Bryn Mawr Avenue (33 feet wide), said point being measured 326.71 feet in a Southwesterly direction from the intersection of the center line of Moore Avenue; thence from said point of beginning, crossing the Southeasterly line of Bryn Mawr Avenue and a marble stone South 33 degrees 35 minutes 00 seconds East along the Southwesterly line of lands now or formerly of James W. and Mary Ellen Thompson 275.79 feet to a field stone; thence along the Southwesterly line of various owners South 33 degrees 40 minutes 00 seconds East 631.95 feet crossing the Northwesterly line of Llandover Road (33 feet wide) to a spike in the center line of Llandover Road; thence along the center line of Llandover Road South 57 degrees 42 minutes 00 seconds West 1,573.67 feet to a spike; thence crossing the Northwesterly line of Llandover Road and a marble monument and along the Northeasterly line of lands now or formerly of Gordon and Marcia J. McIlvain, North 33 degrees 49 minutes 00 seconds West 648.46 feet to an iron pin; thence along the Southeasterly line of lands now or formerly of Joseph Soffer and a certain Common Open Space as shown on said plan North 58 degrees 14 minutes 00 seconds East 181.79 feet to an iron pin; thence North 56 degrees 44 minutes 00 seconds East 100.00 feet to an iron pin; thence along the Northeasterly line of said Common Open Space, lands now or formerly of Robert O. and Marcia R. Alvarez and a certain other Common Open Space North 32 degrees 01 minute 30 seconds West crossing over a marble monument and the Southeasterly line of Bryn Mawr Avenue 660.28 feet to a PK nail in the center line of Bryn Mawr Avenue; thence in the center line of Bryn Mawr Avenue the following two courses and distances: (1) North 72 degrees 22 minutes 00 seconds East 959.66 feet to a PK nail; (2) thence North 81 degrees 19 minutes 35 seconds East 194.31 feet to the first mentioned point and place of beginning.

BEING No. 275 Bryn Mawr Avenue.

BEING Folio No. 36-05-02956-00.

BEING the same premises which Llandover Gardens, Inc. a Pa. Corp. by deed dated 5-27-1963 and recorded in Delaware County in Deed Book 2152, Page 72 conveyed unto the said Reba E. Flick, in fee.

AND the said Reba E. Flick is also known as Reba Flick.

AND the said Reba E. Flick, in various rights of way in Deed Books 2220, Page 4, 2223 Page 67 and 2209 Page 309 acknowledged that she was the agent and title holder for Kevy K. Kaiserman.

AND the said Reba E. Flick, a/k/a Reba Flick died on 9-27-1987 leaving a Will probated and registered in Philadelphia County being Will #3429 of 1987 and Letters of Administration D.B.N.C.T.A. for the Estate of Reba Flick, also known as Reba E. Flick were duly granted on 11-19-1990 to Kenneth S. Kaiserman.

AND the said Kevy K. Kaiserman died on January 13, 1982 leaving a Will probated and registered at Montgomery County as Will No. 46-82-268, wherein he appointed Hortense M. Kaiserman, Kenneth S. Kaiserman, Ronald L. Kaiserman and Philip F. Newman Executors to whom Letters Testamentary were granted on February 2, 1982.

AND the said Philip F. Newman died on July 15, 1987.

AND the said Hortense M. Kaiserman died on August 21, 2000 whereby Kenneth S. Kaiserman and Ronald L. Kaiserman are the surviving Executors of the Estate of Kevy K. Kaiserman

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF REVENUE
BUREAU OF INDIVIDUAL TAXES
DEPT. 280603
HARRISBURG, PA 17128-0603

REALTY TRANSFER TAX STATEMENT OF VALUE

See Reverse for Instructions

RECORDER'S USE ONLY

State Tax Paid	238865.89
Book Number	2461
Page Number	777
Date Recorded	6/20/02

Complete each section and file in duplicate with Recorder of Deeds when (1) the full value/consideration is not set forth in the deed, (2) when the deed is without consideration, or by gift, or (3) a tax exemption is claimed. A Statement of Value is not required if the transfer is wholly exempt from tax based on (1) family relationship or (2) public utility easement. If more space is needed, attach additional sheet(s).

A CORRESPONDENT - All inquiries may be directed to the following person:

Name: Robert E. Gilberg, Esq.
Telephone Number: Area Code (215) 546-2665 ext. 111
Street Address: Suite 300, 201 S. 18th Street
City: Phila
State: PA
Zip Code: 19103

B TRANSFER DATA

Date of Acceptance of Document:

Grantor(s)/Lessor(s): Estate of the late Robert E. Klein, a/k/a Robert E. Klein, Jr., deceased, by Robert E. Klein, III and Donald L. Kalikman, Executors; and Robert E. Klein, III, Donald L. Kalikman and Mary K. Kalikman, Trustees of the Trusts of Mary K. Kalikman

Street Address: 275 Bryn Mawr Avenue
City: Bryn Mawr
State: PA
Zip Code: 19010

Grantee(s)/Lessee(s): Radwyn Apartments, L.P.

Street Address: 275 Bryn Mawr Avenue
City: Bryn Mawr
State: PA
Zip Code: 19010

C PROPERTY LOCATION

Street Address: 275 Bryn Mawr Avenue
City, Township, Borough: Radnor
County: Delaware
School District: Radnor
Tax Parcel Number: 36-05-02956-00

D VALUATION DATA

1. Actual Cash Consideration	2. Other Consideration	3. Total Consideration
$1.00	+ 0	= $1.00
4. County Assessed Value	**5. Common Level Ratio Factor**	**6. Fair Market Value**
$23,186,980	× 1.03	= $23,882,589.40

E EXEMPTION DATA

7a. Amount of Exemption Claimed	7b. Percentage of Interest Conveyed
0	100%

7. Check Appropriate Box Below for Exemption Claimed

- ☐ Will or intestate succession _____ (Name of Decedent) (Estate File Number)
- ☐ Transfer to Industrial Development Agency.
- ☐ Transfer to a trust. (Attach complete copy of trust agreement identifying all beneficiaries.)
- ☐ Transfer between principal and agent. (Attach complete copy of agency/straw party agreement.)
- ☐ Transfers to the Commonwealth, the United States and instrumentalities by gift, dedication, condemnation or in lieu of condemnation. (If condemnation or in lieu of condemnation, attach copy of resolution.)
- ☐ Transfer from mortgagor to a holder of a mortgage in default. Mortgage Book Number _____, Page Number _____.
- ☐ Corrective or confirmatory deed. (Attach complete copy of the prior deed being corrected or confirmed.)
- ☐ Statutory corporate consolidation, merger or division. (Attach copy of articles.)
- ☐ Other (Please explain exemption claimed, if other than listed above.) _____

Under penalties of law, I declare that I have examined this Statement, including accompanying information, and to the best of my knowledge and belief, it is true, correct and complete.

Signature of Correspondent or Responsible Party: Robert E. Gilberg, Esq.
Date: 6/18/02

Successors and Assigns, to and for the only proper use and behoof of the said Grantee, its Successors and Assigns, forever.

UNDER AND SUBJECT TO CERTAIN CONDITIONS AND RESTRICTIONS OR RECORD.

AND THE SAID Grantors, as Administrator D.B.N.C.T.A. and as the Surviving Executors as aforesaid, do covenant, grant and agree, to and with the said Grantee, its Successors and Assigns, by these presents, that they, the said Grantors, have not done, committed or knowingly or willingly suffered to be done or committed, any act, matter or thing whatsoever whereby the premises hereby granted, or any part thereof, is, are, shall, or may be impeached, charges or encumbered, in title, charge, estate or otherwise howsoever

IN WITNESS WHEREOF, the party of the first part, the Grantors, has executed this Deed as of the day and year first above written.

SEALED AND DELIVERED
IN THE PRESENCE OF

WITNESS Robert E. Hellberg

KENNETH S. KAISERMAN, Administrator D.B.N.C.T.A. of the Estate of Reba E. Flick, a/k/a Reba Flick, Deceased

WITNESS Robert E. Hellberg

KENNETH S. KAISERMAN, Surviving Executor of the Estate of Kevy K. Kaiserman, Deceased

WITNESS Robert E. Hellberg

RONALD L. KAISERMAN, Surviving Executor of the Estate of Kevy K. Kaiserman, Deceased

RADWYN APARTMENTS, L.P., a Pennsylvania limited partnership, joins in this Deed for the purpose of conveying any and all right, title and interest it may currently have in and to the subject property.

RADWYN APARTMENTS, L.P., a Pennsylvania limited partnership, by its sole general partner Radwyn Apartments, Inc.

By: _____
Pres

Attest: _____
Asst Secy

COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF PHILADELPHIA :

On this, the 18th day of June, 2002, before me, the subscriber, a Notary Public in and for the Commonwealth of Pennsylvania, personally appeared Kenneth S. Kaiserman, Administrator D.B.N.C.T.A. of the Estate of Reba E. Flick, a/k/a Reba Flick, Deceased, known to me (or satisfactorily proven) to be the person described in the foregoing instrument, who acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Josephine DiGiulio
Notary Public

My Commission Expires:

NOTARIAL SEAL
JOSEPHINE DIGIULIO, Notary Public
City of Philadelphia, Phila. County
My Commission Expires Feb. 11, 2003

COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF PHILADELPHIA :

On this, the 18th day of June, 2002, before me, the subscriber, a Notary Public in and for the Commonwealth of Pennsylvania, personally appeared Kenneth S. Kaiserman, Surviving Executor of the Estate of Kevy K. Kaiserman, Deceased, known to me (or satisfactorily proven) to be the person described in the foregoing instrument, who acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Josephine DiGiulio
Notary Public

My Commission Expires

NOTARIAL SEAL
JOSEPHINE DIGIULIO, Notary Public
City of Philadelphia, Phila. County
My Commission Expires Feb. 11, 2003

COMMONWEALTH OF PENNSYLVANIA :

: SS.

COUNTY OF PHILADELPHIA :

On this, the 18th day of June, 2002, before me, the subscriber, a Notary Public in and for the Commonwealth of Pennsylvania, personally appeared Ronald L. Kaiserman, Surviving Executor of the Estate of Kevy K. Kaiserman, Deceased, known to me (or satisfactorily proven) to be the person described in the foregoing instrument, who acknowledged that he executed the same in the capacity therein stated and for the purposes therein contained.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

Josephine DiGiulio
Notary Public

My Commission Expires:____

COMMONWEALTH OF PENNSYLVANIA :

NOTARIAL SEAL
JOSEPHINE DiLULLO, Notary Public
City of Philadelphia, Phila. County
My Commission Expires Feb. 11, 2003

: SS.

COUNTY OF PHILADELPHIA :

On this, the 18th day of June, 2002, before me, the subscriber, a Notary Public in and for the Commonwealth of Pennsylvania, personally appeared Kenneth S. Kaiserman who acknowledged himself to be the President of Radwyn Apartments, Inc., the General Partner of Radwyn Apartments, L.P., a Pennsylvania limited partnership and he, being authorized to do so, executed the foregoing Deed for the purposes therein contained on behalf of the said Radwyn Apartments, L.P., by signing the name of its General Partner, the said Radwyn Apartments, Inc., as such President.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal

Josephine DiGiulio
Notary Public

My Commission Expires

NOTARIAL SEAL
JOSEPHINE DiLULLO, Notary Public
City of Philadelphia, Phila. County
My Commission Expires Feb. 11, 2003

DEED

GRANTOR(S): KENNETH S. KAISERMAN, ADMINISTRATOR D.B.N.C.T.A. of the ESTATE OF REBA E. FLICK, a/k/a REBA FLICK, DECEASED and KENNETH S. KAISERMAN AND RONALD L. KAISERMAN, SURVIVING EXECUTORS OF THE ESTATE OF KEVY K. KAISERMAN, DECEASED

TO

GRANTEE(S): RADWYN APARTMENTS, L.P., a Pennsylvania limited partnership

FOLIO NO.: 36-05-02956-00

PREMISES: 275 Bryn Mawr Avenue, Radnor Township, Delaware County

Mail Tax Bills To:
Mr. Kenneth S. Kaiserman
Suite 300
201 S. 18th Street
Philadelphia, PA 19103

After Recording Return To:
Commonwealth Land Title Insurance Company
2 Logan Square - Suite 500
Philadelphia, PA 19103
ATTN.: Delivery Department

I hereby certify that the address of the Grantee is 275 Bryn Mawr Avenue
Bryn Mawr, PA 19010

Robert C. Gilbert
On behalf of the Grantee

RETURN TO:
COMMONWEALTH LAND TITLE INS. CO.
2[illegible] SUITE 300
PHILADELPHIA, PA 19103
ATTN: RECORDING DEPARTMENT

Description: Delaware,PA Document - Book.Page 2461.777 Page: 9 of 9
Order: br Comment:

First American
Title Insurance Company

Name and Address of Title Insurance Company: **First American Title Insurance Company, 1 First American Way, Santa Ana, CA 92707**

SCHEDULE A

File No. **APSS15-00637** Policy No. **5011442-0180257e**

Date of Policy: **December 18, 2015**

1. Name of Insured:

   Radwyn Apartments, L.P.

2. The estate or interest in the Land that is covered by this policy is:

   FEE SIMPLE

3. Title is vested in:

   PREMISES A
   Radwyn Apartments, L.P. by virtue of a deed from Kenneth S. Kaiserman, Administrator D.B.N.C.T.A. of the Estate of Reba E. Flick, a/k/a Reba Flick, deceased and Kenneth S. Kaiserman and Ronald L. Kaiserman, surviving executors of the Estate of Kevy K. Kaiserman, deceased, dated June 18, 2002, and recorded June 20, 2002 in the Office of the Recorder of Deeds for the City of Bryn Mawr, County of Delaware, in Volume 2461, at Page 777.

   PREMISES B
   Radwyn Apartments, L.P. by virtue of Deed from Gordon McIlvain, dated October 8, 2014, and recorded October 10, 2014, in the Office of the Recorder of Deeds for the County of Delaware, in Volume 5557, at Page 1568.

4. The Land referred to in this policy is described as follows:
   For informational purposes only:
   PREMISES A
   275 South Bryn Mawr Avenue, Bryn Mawr, PA 19010
   Radnor Township
   City of Bryn Mawr, County of Delaware

   PREMISES B
   250 Landover Road, Bryn Mawr, PA 19010
   Radnor Township
   Bryn Mawr, County of Delaware, PA

   SEE CONTINUATION OF SCHEDULE A FOR LEGAL DESCRIPTION

OWNER'S POLICY
SCHEDULE A
(continued)

LEGAL DESCRIPTION

ALL PREMISES A
ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, Situate in Radnor Township, Delaware County, Pennsylvania, described in accordance with a Survey thereof made by Yerkes Associates, Inc., dated 3-8-1991 and last revised 2/27/1996 as follows, to wit:-

BEGINNING at a PK nail in the center line of Bryn Mawr Avenue (33 feet wide), said point being measured 326.71 feet in a Southwesterly direction from the intersection of the center line of Moore Avenue; thence from said point of beginning, crossing the Southeasterly line of Bryn Mawr Avenue and a marble stone South 33 degrees 35 minutes 00 seconds East along the Southwesterly line of lands now or formerly of James W. and Mary Ellen Thompson 275.79 feet to a field stone; thence along the Southwesterly line of various owners South 33 degrees 40 minutes 00 seconds East 631.95 feet crossing the Northwesterly line of Llandover Road (33 feet wide) to a spike in the center line of Llandover Road; thence along the center line of Llandover Road South 57 degrees 42 minutes 00 seconds West 1,578.67 feet to a spike; thence crossing the Northwesterly line of Llandover Road and a marble monument and along the Northeasterly line of lands now or formerly of Gordon and Marcia J. McIlvain, North 33 degrees 49 minutes 00 seconds West, 648.46 feet to an iron pin; thence along the Southeasterly line of lands now or formerly of Joseph Soffer and a certain Common Open Space as shown on said plan North 58 degrees 14 minutes 00 seconds East 181.79 feet to an iron pin; thence North 56 degrees 44 minutes 00 seconds East 100.00 feet to an iron pin; thence along the Northeasterly line of said Common Open Space, lands now or formerly of Robert O. and Marcia R. Alvarez and a certain other Common Open Space North 32 degrees 01 minute 30 seconds West crossing over a marble monument and the Southeasterly line of Bryn Mawr Avenue 660.28 feet to a PK nail in the center line of Bryn Mawr Avenue; thence in the center line of Bryn Mawr Avenue the following two courses and distances: (1) North 72 degrees 22 minutes 00 seconds East 959.66 feet to a PK nail; (2) thence North 81 degrees 19 minutes 35 seconds East 394.31 feet to the first mentioned point and place of beginning.

FOLIO NO. 36-05-02956-00

PREMISES B
ALL THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, hereditaments and appurtenances, Situate in the Township of Radnor, County of Delaware and Commonwealth of Pennsylvania, bounded and described according to a Survey and Plan thereof made by M. R. and J. B. Yerkes, Civil Engineers, dated March 03, 1948 and revised June 20, 1949, as follows, to wit:

BEGINNING at a point marking the intersection of the middle lines of Landover Road and Coopertown Road and also the middle of a private driveway leading Southwestwardly through property of the Estate of Walter C. Janney; thence along the middle of said private drive, the two following courses and distances: (1) on a line curving to the left with a radius of Two hundred thirty two and twelve one-hundredths feet, the arc distance of One hundred twelve and sixty two one-hundredths feet, the chord of said curved line has a bearing of North eighty three degrees,

OWNER'S POLICY
SCHEDULE A
(continued)

twenty four minutes West, One hundred eleven and fifty one one-hundredths feet to a point; (2) still on a line curving to the left with a radius of Four hundred forty three and sixty one-hundredths feet, the arc distance of Ninety nine and forty four one-hundredths feet, the chord of said curved line has a bearing of South seventy seven degrees, thirty eight minutes West, Ninety nine and twenty four one-hundredths feet to a point; thence leaving said private drive by other land of Estate of Walter C. Janney, North thirty three degrees, thirty eight minutes West, Five hundred forty seven and fifty five one-hundredths feet to a stone; thence by land of Mrs. Edward S. Willing, North fifty eight degrees, five minutes East, Four hundred eight and thirty one hundredths feet to a stone; thence by land of Mrs. William G. Thomas Estate, South thirty three degrees, fifty two minutes East, Six hundred forty eight and forty six one-hundredths feet to a point in the middle of Landover Road; thence along the middle of same, South fifty seven degrees, thirty seven minutes West, Two hundred thirty three and twenty six one-hundredths feet to the place of beginning.

FOLIO NO. 36-05-02961-00

THAT CERTAIN lot or piece of ground with the buildings and improvements thereon erected, Situate in Radnor Township, Delaware County, Pennsylvania, described in accordance with a Survey thereof made by Yerkes Associates, Inc., dated 3-8-1991 and last revised 2/27/1996 as follows, to wit:-

BEGINNING at a PK nail in the center line of Bryn Mawr Avenue (33 feet wide), said point being measured 326.71 feet in a Southwesterly direction from the intersection of the center line of Moore Avenue; thence from said point of beginning, crossing the Southeasterly line of Bryn Mawr Avenue and a marble stone South 33 degrees 35 minutes 00 seconds East along the Southwesterly line of lands now or formerly of James W. and Mary Ellen Thompson 275.79 feet to a field stone; thence along the Southwesterly line of various owners South 33 degrees 40 minutes 00 seconds East 631.95 feet crossing the Northwesterly line of Llandover Road (33 feet wide) to a spike in the center line of Llandover Road; thence along the center line of Llandover Road South 57 degrees 42 minutes 00 seconds West 1,578.67 feet to a spike; thence crossing the Northwesterly line of Llandover Road and a marble monument and along the Northeasterly line of lands now or formerly of Gordon and Marcia J. McIlvain, North 33 degrees 49 minutes 00 seconds West, 648.46 feet to an iron pin; thence along the Southeasterly line of lands now or formerly of Joseph Soffer and a certain Common Open Space as shown on said plan North 58 degrees 14 minutes 00 seconds East 181.79 feet to an iron pin; thence North 56 degrees 44 minutes 00 seconds East 100.00 feet to an iron pin; thence along the Northeasterly line of said Common Open Space, lands now or formerly of Robert O. and Marcia R. Alvarez and a certain other Common Open Space North 32 degrees 01 minute 30 seconds West crossing over a marble monument and the Southeasterly line of Bryn Mawr Avenue 660.28 feet to a PK nail in the center line of Bryn Mawr Avenue; thence in the center line of Bryn Mawr Avenue the following two courses and distances: (1) North 72 degrees 22 minutes 00 seconds East 959.66 feet to a PK nail; (2) thence North 81 degrees 19 minutes 35 seconds East 394.31 feet to the first mentioned point and place of beginning.

FOLIO NO. 36-05-02956-00

OWNER'S POLICY
SCHEDULE A
(continued)

BEING the same premises which Kenneth S. Kaiserman, Administrator D.B.N.C.T.A. of the Estate of Reba E. Flick, a/k/a Reba Flick, deceased and Kenneth S. Kaiserman and Ronald L. Kaiserman, surviving executors of the Estate of Kevy K. Kaiserman, deceased, by Deed dated 06/18/2002 and recorded 06/20/2002 in the Office of the Recorder of Deeds in and for the County of Delaware in Record Book 2461 Page 777, granted and conveyed unto Radwyn Apartments, L.P., a Pennsylvania limited partnership.

First American
Title Insurance Company

File No. **APSS15-00637** Policy No. **5011442-0180257e**

SCHEDULE B
EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage and the Company will not pay costs, attorneys' fees or expenses that arise by reason of:

1. Any variation in location of lines or dimensions or other matters which an accurate survey would disclose.
2. Easements, or claims of easements, not shown by the Public Records.
3. Rights or claims of parties in possession or under the terms of any unrecorded lease or agreement of sale.
4. Possible additional tax assessments for new construction and/or major improvements.
5. Any lien or right to a lien, for services, labor or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.
6. Accuracy of area content not insured.
7. Rights granted to Philadelphia Electric Company as set forth in Deed Book 2223 Page 216.
8. Rights granted to The Bell Telephone Company of Pennsylvania as set forth in Deed Book 2228 Page 1037.
9. Rights granted to Philadelphia Suburban Water Company as set forth in Deed Book 2209 Page 309; Deed Book 2220 Page 4 and Deed Book 2223 Page 67.
10. Mortgage from Radwyn Apartments, L.P. to PNC Bank, National Association, a national banking association and/or PNC Multifamily Mortgage, LLC, A Delaware Limited Liability Company in the original principal amount of $32,000,000.00 dated December 18, 2015 to be forthwith recorded in the Office of the Recorder of Deeds of Bryn Mawr, Delaware County, Pennsylvania.

FINAL PLANS

RADWYN APARTMENTS

Radnor Township, Delaware County, Pennsylvania

SITE LOCATION MAP: 1"=200'

SHEET INDEX

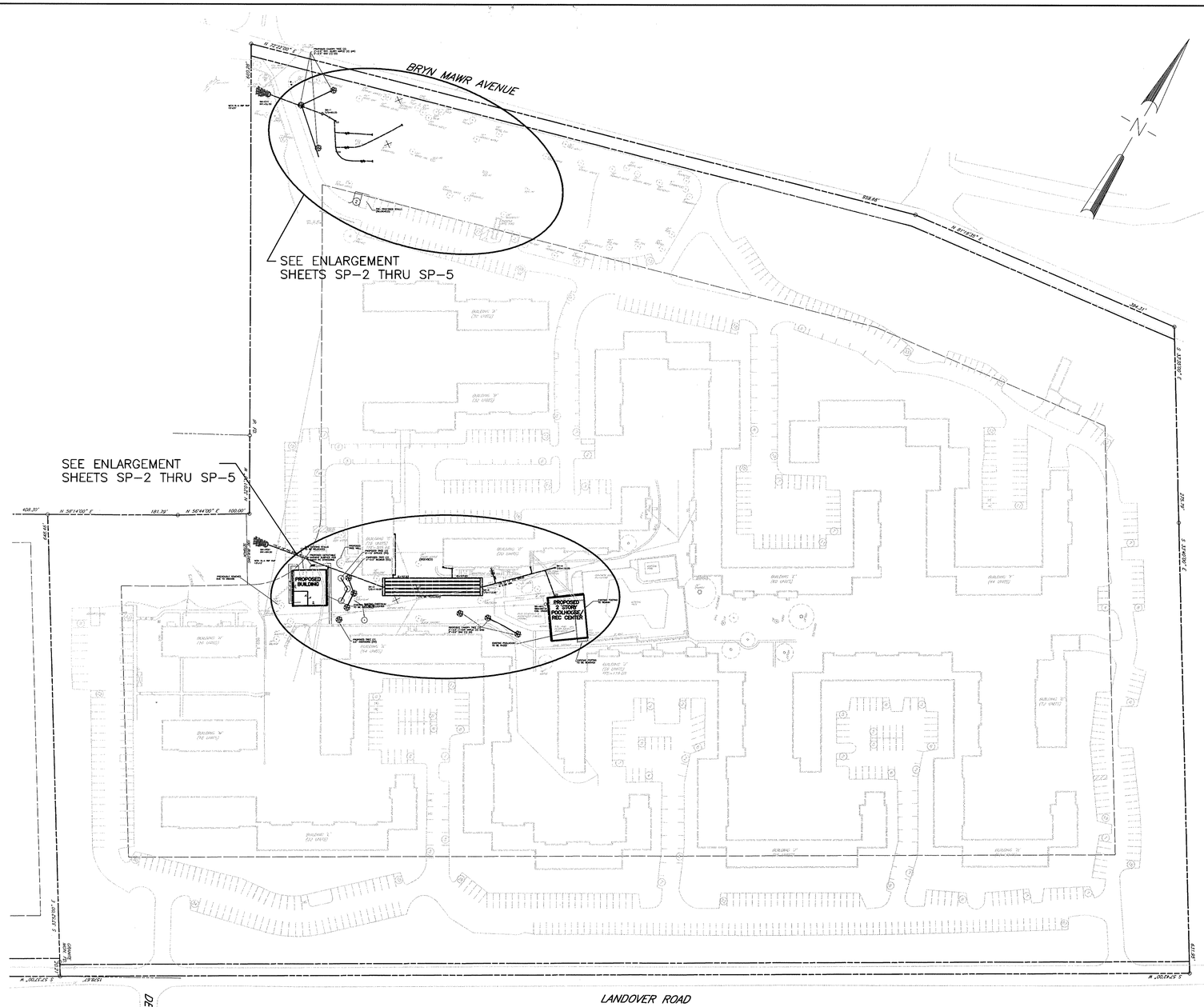
SHEET	TITLE
SP-1	OVERALL SITE PLAN
SP-2	SITE LAYOUT PLANS
SP-3	SITE GRADING AND UTILITY PLANS
SP-4	CONSERVATION PLANS
SP-5	LANDSCAPE PLANS
SP-6	SITE DETAILS

OWNER/APPLICANT

RADWYN APARTMENTS, LP
275 S. BRYN MAWR AVENUE
BRYN MAWR, PA. 19010

CIVIL ENGINEER AND SURVEYOR

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 EAST KING ROAD
MALVERN, PA 19355
(610) 429-0605 FAX: (610) 429-1085



AREA and BULK REQUIREMENTS

PA: Planned Apartment District

Description	Required	Existing	Proposed
Lot Area	5 ac. min.	37.83 ac.	37.83 ac.
Lot Width	300 ft min.	1359 ft	1359 ft
Building Coverage	20% max.	13.11%	13.44%
Building Setback Line			
Front Yard	150 ft min.	149.8 ft	149.8 ft
Rear Yard	100 ft min.	–	–
Side Yard	100 ft min.	142.4 ft	142.4 ft
Open Space/Landscape	50% min.	59.7%	59.1%
Height of Structure	38 ft max.	36 ft	36 ft

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN

GENERAL NOTES

1. OUTBOUND PROPERTY MONUMENTATION INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. IN OCTOBER 2015. THE MOST RECENT DEED TO THE RADWYN APARTMENTS, L.P. IS RECORDED IN DELAWARE COUNTY RECORDER OF DEEDS IN DEED BOOK 2461, PAGE 0777. PROPERTY TAX PARCEL IS FOLIO # 36-0502956-00. CLOSURE ERROR IS 0.11 FT. IN 20,000 FT. TOTAL PROPERTY CONSISTS OF 37.83 ACS. PLAN BEARINGS BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH. PLAN PREPARED BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH.

   PLANIMETRIC INFORMATION TAKEN FROM PLANS PREPARED BY YERKES ASSOCIATES, INC. TITLED "RADWYN APARTMENTS ALTA/ACSM LAND TITLE SURVEY" DATED MARCH 6, 1991.

2. WATERS OF THE COMMONWEALTH AND WETLANDS LIMITS SHOWN WERE DELINEATED BY DELVAL SOIL & ENVIRONMENTAL CONSULTANTS, INC. IN A FIELD INVESTIGATION DURING FEBRUARY 2016. NO WETLANDS
3. WERE FOUND ON THE PROPERTY.

   NO 100 YEAR FLOODPLAIN EXISTS ON THE PROPERTY AS SHOWN FROM FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42045C0039F DATED NOVEMBER 18, 2009.

4. PROJECT LISTED WITH PENNSYLVANIA ACT 287, SERIAL NUMBER 20152383085.

5. THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
   - WINDSTREAM
   - AQUA PA
   - COMCAST CABLE COMMUNICATIONS
   - COMCAST CABLE
   - PECO
   - RADNOR TOWNSHIP
   - VERIZON PENNSYLVANIA

6. THERE ARE NO EXISTING OR PROPOSED DEED RESTRICTION ON THIS PROPERTY.

7. ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF DELAWARE COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANT OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 811 OR 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.

8. ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).

9. PUBLIC WATER SERVICE IS PROVIDED TO THE SITE BY AQUA PA. NO NEW WATER SERVICES ARE PROPOSED BY THIS APPLICATION.

10. PUBLIC SANITARY SEWER SERVICE IS PROVIDED TO THE SITE BY RADNOR TOWNSHIP. NO NEW SEWER CONNECTIONS ARE PROPOSED BY THIS APPLICATION.

11. THE APPLICANT WILL BEGIN CONSTRUCTION WITHIN TWELVE (12) MONTHS OF APPROVAL.

12. THIS APPLICATION IS DEVELOPED UNDER RADNOR TOWNSHIP PLANNED APARTMENT (PA) ZONING DISTRICT.

13. IN THE EVENT THE OWNER FAILS TO PROPERLY MAINTAIN STORM WATER FACILITIES, AFTER NOTICE TO THE OWNER OF ITS INTENT TO DO SO (WHICH NOTICE SHALL NOT BE REQUIRED IN EMERGENCY SITUATIONS), THE TOWNSHIP MAY, BUT SHALL NOT BE OBLIGATED TO, PERFORM SAID MAINTENANCE OR REPAIR AND CHARGE THE COST THEREOF, INCLUDING ANY FEES RELATING THERETO, TO THE OWNER.

14. THE STORMWATER MANAGEMENT FACILITIES WILL BE OWNED AND MAINTAINED BY THE OWNER. IT IS THE OBLIGATION OF THE OWNER OF THE PROPERTY TO MAINTAIN AND REPAIR THEREON. THIS OBLIGATION TO MAINTAIN AND REPAIR INCLUDES BOTH THE SURFACE AREA AND STRUCTURAL INTEGRITY OF THE STORMWATER MANAGEMENT FACILITIES ON THE PROPERTY. THE TOWNSHIP SHALL HAVE THE RIGHT BUT NOT THE DUTY TO ENTER UPON THE PROPERTY TO PERFORM THE NECESSARY INSPECTION. IN THE EVENT THE PROPERTY OWNER FAILS TO PERFORM THE NECESSARY MAINTENANCE AND REPAIR, THE TOWNSHIP, AFTER REASONABLE PRIOR NOTICE, WHICH SHALL BE AT LEAST THIRTY (30) DAYS, SHALL HAVE THE RIGHT TO PROCEED, AS PROVIDED BY LAW, AGAINST SAID PROPERTY OWNER, FOR REIMBURSEMENT OF THE MAINTENANCE AND REPAIR COSTS.

15. SWIMMING POOL AREA ON PROPERTY SHALL BE COMPLETELY ENCLOSED BY A FENCE OR WALL SO AS TO PREVENT UNCONTROLLED ACCESS BY CHILDREN FROM THE STREET OR ADJACENT PROPERTIES. SAID BARRIER SHALL NOT BE LESS THAN FOUR (4) FEET IN HEIGHT, WILL BE CONSTRUCTED WITH NO OPENINGS, HOLES, OR GAPS, EXCEPT GATES, LARGER THAN FOUR (4) INCHES IN ANY DIMENSION, AND SHALL BE MAINTAINED IN GOOD CONDITION.

16. ALL GATES AND DOORS OPENING THROUGH SUCH ENCLOSURE SHALL BE EQUIPPED WITH A SELF-CLOSING AND SELF-LATCHING DEVICE FOR KEEPING SUCH GATE OR DOOR SECURELY CLOSED AND LATCHED AT ALL TIMES WHEN NOT IN USE.

COMMONWEALTH OF PENNSYLVANIA:

COUNTY OF DELAWARE:

ON THIS, THE _____ DAY OF _____ 20 ___ BEFORE ME, THE UNDERSIGNED PERSONALLY APPEARED _____ WHO BEING DULY SWORN ACCORDING TO LAW, DEPOSES AND SAYS THAT HE IS THE OWNER OF THE PROPERTY TO BE DEVELOPED AS SHOWN ON THE PLAN AND THE DEVELOPMENT AS SHOWN ON THESE FINAL PLANS IS MADE WITH HIS FREE CONSENT AND THAT IT IS DESIRED TO RECORD THE SAME.

_____
OWNER (SIGN)

_____
OWNER (PRINT)

_____
NOTARY PUBLIC

SURVEY STATEMENT:

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED FROM AN ACTUAL FIELD SURVEY PERFORMED BY ME IN ACCORDANCE WITH THE "MINIMUM STANDARDS OF PRACTICE FOR PROFESSIONAL LAND SURVEYORS IN THE COMMONWEALTH OF PENNSYLVANIA" AS ADOPTED BY THE PENNSYLVANIA SOCIETY OF LAND SURVEYORS AND ALL THE EXISTING MONUMENTS, PIPES, STONES, ETC. ARE AS SHOWN.

_____
LESLIE P. GIERSCH
PLS # 049227-E

THESE PLANS ARE PREPARED IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF THE COMMONWEALTH OF PENNSYLVANIA, DELAWARE COUNTY AND THE TOWNSHIP OF RADNOR. ALSO, I, DAN POPPLEWELL, ON THIS DATE _____, HEREBY CERTIFY THAT THE DRAINAGE PLAN MEETS ALL DESIGN STANDARDS AND CRITERIA OF THE RADNOR TOWNSHIP STORMWATER MANAGEMENT ORDINANCE.

_____
DANIEL POPPLEWELL, P.E.
PE-039244-E

APPROVED BY RESOLUTION OF THE BOARD OF SUPERVISORS OF RADNOR TOWNSHIP THIS _____ DAY OF _____, 20 ___.

_____
(CHAIRMAN)

_____
(MEMBER)

_____
(MANAGER)

APPROVED BY THE RADNOR TOWNSHIP ENGINEER, THIS _____ DAY OF _____ 20 ___.

_____
TOWNSHIP ENGINEER

APPROVED BY THE RADNOR TOWNSHIP PLANNING COMMISSION, THIS _____ DAY OF _____, 20 ___.

_____
CHAIRMAN

_____
MEMBER

RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS OF DELAWARE COUNTY, MEDIA, PA IN PLAN BOOK_____, PAGE _____ ON THE _____ DAY OF _____ 20 ___.

_____
DEPUTY RECORDER OF DEEDS

RADWYN APARTMENTS

Radnor Township, Delaware County, Pennsylvania

OWNER/APPLICANT

RADWYN APARTMENTS, LP
275 S. BRYN MAWR AVENUE
BRYN MAWR, PA. 19010

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DANIEL P. POPPLEWELL ENGINEER
PE -39244-E

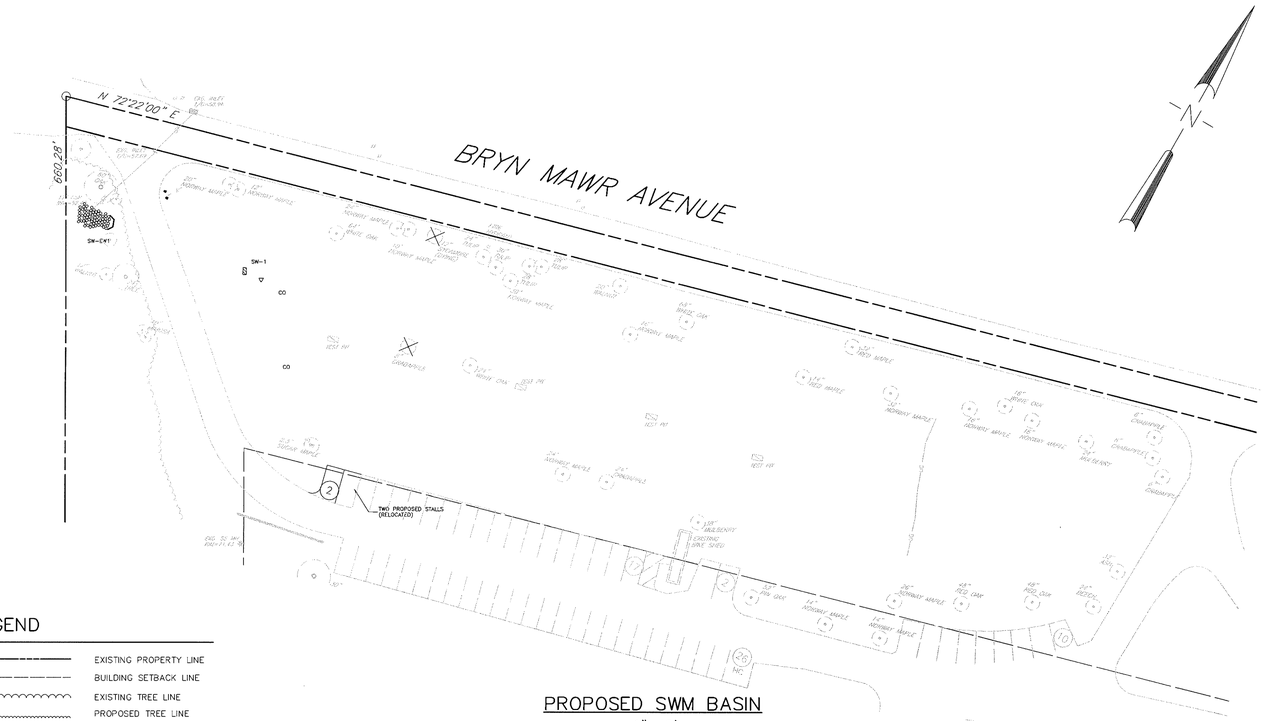
OVERALL SITE PLAN

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

Date:	6/27/16
Scale:	1"=80'
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SP1
Issued:	

SHEET
SP-1
OF 6

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN

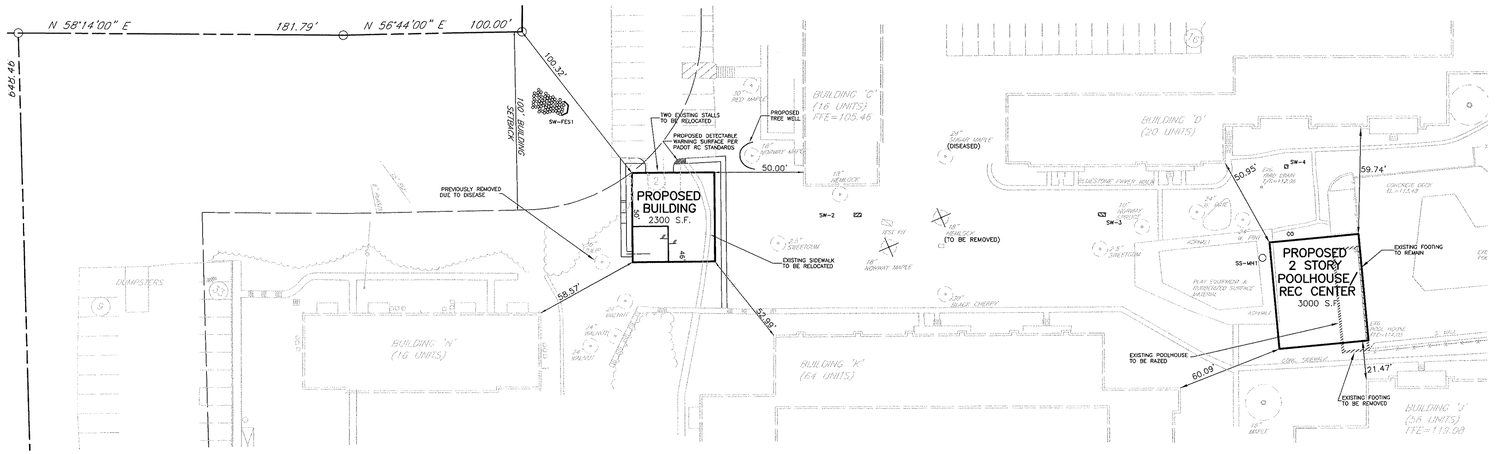


LEGEND

- EXISTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING WATER COURSE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED

PROPOSED SWM BASIN

1"=40'



PROPOSED STORAGE BUILDING and POOLHOUSE

1"=40'

GENERAL NOTES

1. OUTBOUND PROPERTY MONUMENTATION INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. IN OCTOBER 2015. THE MOST RECENT DEED TO THE RADWYN APARTMENTS, L.P. IS RECORDED IN DELAWARE COUNTY RECORDER OF DEEDS IN DEED BOOK 2461, PAGE 0777. PROPERTY TAX PARCEL IS FOLIO # 36-0502956-00. CLOSURE ERROR IS 0.11 FT. IN 20,000 FT. TOTAL PROPERTY CONSISTS OF 37.83 ACS. PLAN BEARINGS BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH. PLAN PREPARED BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH.
2. PLANIMETRIC INFORMATION TAKEN FROM PLANS PREPARED BY YERKES ASSOCIATES, INC. TITLED "RADWYN APARTMENTS ALTA/ACSM LAND TITLE SURVEY" DATED MARCH 6, 1991.
3. WATERS OF THE COMMONWEALTH AND WETLANDS LIMITS SHOWN WERE DELINEATED BY DELVAL SOIL & ENVIRONMENTAL CONSULTANTS, INC. IN A FIELD INVESTIGATION DURING FEBRUARY 2016. NO WETLANDS WERE FOUND ON THE PROPERTY.
4. NO 100 YEAR FLOODPLAIN EXISTS ON THE PROPERTY AS SHOWN FROM FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42045C0039F DATED NOVEMBER 18, 2009.
5. PROJECT LISTED WITH PENNSYLVANIA ACT 287, SERIAL NUMBER 20152383085.

   THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
   - WINDSTREAM
   - AQUA PA
   - COMCAST CABLE COMMUNICATIONS
   - COMCAST CABLE
   - PECO
   - RADNOR TOWNSHIP
   - VERIZON PENNSYLVANIA
6. THERE ARE NO EXISTING OR PROPOSED DEED RESTRICTION ON THIS PROPERTY.
7. ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF DELAWARE COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANT OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 811 OR 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.
8. ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).
9. PUBLIC WATER SERVICE IS PROVIDED TO THE SITE BY AQUA PA. NO NEW WATER SERVICES ARE PROPOSED BY THIS APPLICATION.
10. PUBLIC SANITARY SEWER SERVICE IS PROVIDED TO THE SITE BY RADNOR TOWNSHIP. NO NEW SEWER CONNECTIONS ARE PROPOSED BY THIS APPLICATION.
11. THE APPLICANT WILL BEGIN CONSTRUCTION WITHIN TWELVE (12) MONTHS OF APPROVAL.
12. THIS APPLICATION IS DEVELOPED UNDER RADNOR TOWNSHIP PLANNED APARTMENT (PA) ZONING DISTRICT.
13. IN THE EVENT THE OWNER FAILS TO PROPERLY MAINTAIN STORM WATER FACILITIES, AFTER NOTICE TO THE OWNER OF ITS INTENT TO DO SO (WHICH NOTICE SHALL NOT BE REQUIRED IN EMERGENCY SITUATIONS), THE TOWNSHIP MAY, BUT SHALL NOT BE OBLIGATED TO, PERFORM SAID MAINTENANCE OR REPAIR AND CHARGE THE COST THEREOF, INCLUDING ANY FEES RELATING THERETO, TO THE OWNER.
14. THE STORMWATER MANAGEMENT FACILITIES WILL BE OWNED AND MAINTAINED BY THE OWNER. IT IS THE OBLIGATION OF THE OWNER OF THE PROPERTY TO MAINTAIN AND REPAIR THEREON. THIS OBLIGATION TO MAINTAIN AND REPAIR INCLUDES BOTH THE SURFACE AREA AND STRUCTURAL INTEGRITY OF THE STORMWATER MANAGEMENT FACILITIES ON THE PROPERTY. THE TOWNSHIP SHALL HAVE THE RIGHT BUT NOT THE DUTY TO ENTER UPON THE PROPERTY TO PERFORM THE NECESSARY INSPECTION. IN THE EVENT THE PROPERTY OWNER FAILS TO PERFORM THE NECESSARY MAINTENANCE AND REPAIR, THE TOWNSHIP, AFTER REASONABLE PRIOR NOTICE, WHICH SHALL BE AT LEAST THIRTY (30) DAYS, SHALL HAVE THE RIGHT TO PROCEED, AS PROVIDED BY LAW, AGAINST SAID PROPERTY OWNER, FOR REIMBURSEMENT OF THE MAINTENANCE AND REPAIR COSTS.
15. SWIMMING POOL AREA ON PROPERTY SHALL BE COMPLETELY ENCLOSED BY A FENCE OR WALL SO AS TO PREVENT UNCONTROLLED ACCESS BY CHILDREN FROM THE STREET OR ADJACENT PROPERTIES. SAID BARRIER SHALL NOT BE LESS THAN FOUR (4) FEET IN HEIGHT, WILL BE CONSTRUCTED WITH NO OPENINGS, HOLES, OR GAPS, EXCEPT GATES, LARGER THAN FOUR (4) INCHES IN ANY DIMENSION, AND SHALL BE MAINTAINED IN GOOD CONDITION.
16. ALL GATES AND DOORS OPENING THROUGH SUCH ENCLOSURE SHALL BE EQUIPPED WITH A SELF-CLOSING AND SELF-LATCHING DEVICE FOR KEEPING SUCH GATE OR DOOR SECURELY CLOSED AND LATCHED AT ALL TIMES WHEN NOT IN USE.

RADWYN APARTMENTS

Radnor Township, Delaware County, Pennsylvania

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DANIEL P. POPPLEWELL ENGINEER
PE-39244-E

SITE LAYOUT PLANS

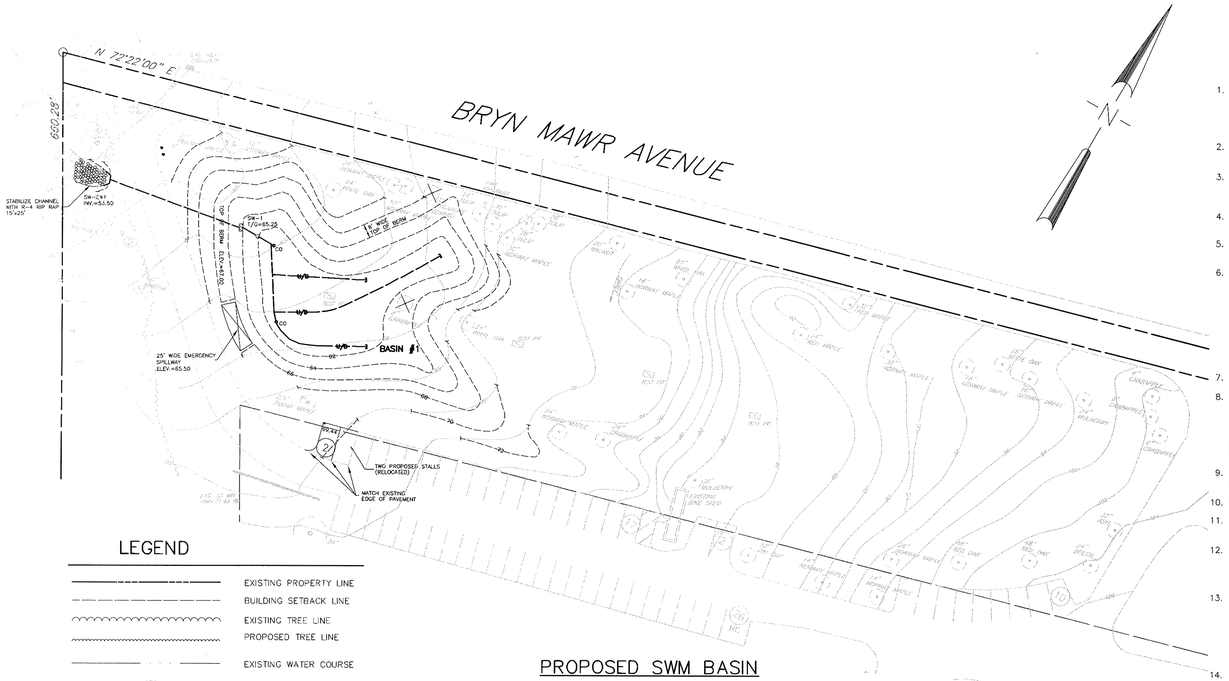
NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

Date:	6/27/16
Scale:	AS NOTED
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SP2
Issued:	

SHEET

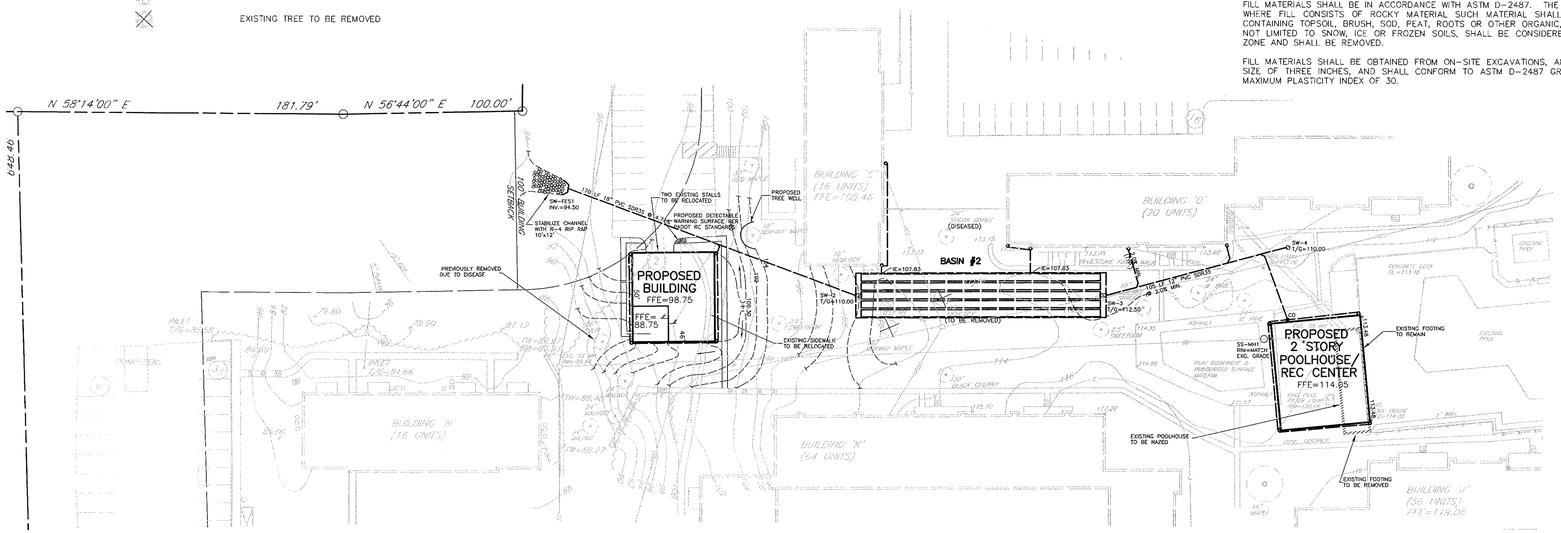
SP-2

OF 6



LEGEND

- EXISTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING WATER COURSE
- 270 EXISTING SURFACE CONTOUR
- 270 PROPOSED SURFACE CONTOUR
- 55 EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- W EXISTING WATER SERVICE
- PROPOSED WATER SERVICE
- LIMIT OF DISTURBANCE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED



PROPOSED STORAGE BUILDING and POOL HOUSE
1"=40'

GENERAL NOTES

1. OUTBOUND PROPERTY MONUMENTATION INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. IN OCTOBER 2015. THE MOST RECENT DEED TO THE RADWYN APARTMENTS, L.P. IS RECORDED IN DELAWARE COUNTY RECORDER OF DEEDS IN DEED BOOK 2461, PAGE 0777. PROPERTY TAX PARCEL IS FOLIO # 36-00029O6-00. CLOSURE ERROR IS 0.11 FT. IN 20,000 FT. TOTAL PROPERTY CONSISTS OF 37.83 ACS. PLAN BEARINGS BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH. PLAN PREPARED BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH.
2. PLANIMETRIC INFORMATION TAKEN FROM PLANS PREPARED BY YERKES ASSOCIATES, INC. TITLED 'RADWYN APARTMENTS ALTA/ACSM LAND TITLE SURVEY' DATED MARCH 6, 1991.
3. PLANIMETRIC AND TOPOGRAPHIC INFORMATION, CHECKED AND UPDATED IN A FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. DURING MAY 2016. AN EXISTING SANITARY SEWER MANHOLE LOCATED NORTHEAST OF BUILDING 'N' WITH AN ASSUMED ELEVATION OF 89.94.
4. WATERS OF THE COMMONWEALTH AND WETLANDS LIMITS SHOWN WERE DELINEATED BY DELVAL SOIL & ENVIRONMENTAL CONSULTANTS, INC. IN A FIELD INVESTIGATION DURING FEBRUARY 2016. NO WETLANDS WERE FOUND ON THE PROPERTY.
5. NO 100 YEAR FLOODPLAIN EXISTS ON THE PROPERTY AS SHOWN FROM FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42045C0039F DATED NOVEMBER 18, 2009.
6. PROJECT LISTED WITH PENNSYLVANIA ACT 287, SERIAL NUMBER 20152383085.

   THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
   - WINDSTREAM
   - AQUA PA
   - COMCAST CABLE COMMUNICATIONS
   - COMCAST CABLE
   - PECO
   - RADNOR TOWNSHIP
   - VERIZON PENNSYLVANIA
7. THERE ARE NO EXISTING OR PROPOSED DEED RESTRICTION ON THIS PROPERTY.
8. ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF DELAWARE COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANT OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 811 OR 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.
9. ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).
10. PUBLIC WATER SERVICE IS PROVIDED TO THE SITE BY AQUA PA. NO NEW WATER SERVICES ARE PROPOSED BY THIS APPLICATION.
11. PUBLIC SANITARY SEWER SERVICE IS PROVIDED TO THE SITE BY RADNOR TOWNSHIP. NO NEW SEWER CONNECTIONS ARE PROPOSED BY THIS APPLICATION.
12. IN THE EVENT THE OWNER FAILS TO PROPERLY MAINTAIN STORM WATER FACILITIES, AFTER NOTICE TO THE OWNER OF ITS INTENT TO DO SO (WHICH NOTICE SHALL NOT BE REQUIRED IN EMERGENCY SITUATIONS), THE TOWNSHIP MAY, BUT SHALL NOT BE OBLIGATED TO, PERFORM SAID MAINTENANCE OR REPAIR AND CHARGE THE COST THEREOF, INCLUDING ANY FEES RELATING THERETO, TO THE OWNER.
13. THE STORMWATER MANAGEMENT FACILITIES WILL BE OWNED AND MAINTAINED BY THE OWNER. IT IS THE OBLIGATION OF THE OWNER OF THE PROPERTY TO MAINTAIN AND REPAIR THEREON. THIS OBLIGATION TO MAINTAIN AND REPAIR INCLUDES BOTH THE SURFACE AREA AND STRUCTURAL INTEGRITY OF THE STORMWATER MANAGEMENT FACILITIES ON THE PROPERTY. THE TOWNSHIP SHALL HAVE THE RIGHT BUT NOT THE DUTY TO ENTER UPON THE PROPERTY TO PERFORM THE NECESSARY INSPECTION. IN THE EVENT THE PROPERTY OWNER FAILS TO PERFORM THE NECESSARY MAINTENANCE AND REPAIR, THE TOWNSHIP, AFTER REASONABLE PRIOR NOTICE, WHICH SHALL BE AT LEAST THIRTY (30) DAYS, SHALL HAVE THE RIGHT TO PROCEED, AS PROVIDED BY LAW, AGAINST SAID PROPERTY OWNER, FOR REIMBURSEMENT OF THE MAINTENANCE AND REPAIR COSTS.
14. ROOF DRAINAGE FROM EXISTING UNITS SHALL BE DISCHARGED DIRECTLY INTO ON LOT BASINS THROUGH UNDERGROUND PIPING WHERE SHOWN ON THESE DRAWINGS. NO RUNOFF SHALL BE PERMITTED TO BE DISCHARGED UNMANAGED.
15. ROOF DRAINAGE FROM BUILDINGS 'C' AND 'K' SHALL BE DISCHARGED DIRECTLY INTO BASIN 'A' THROUGH UNDERGROUND PIPING AS SHOWN ON DRAWINGS.
16. INSOFAR AS PRACTICAL AND TO THE FULLEST EXTENT POSSIBLE, ALL UTILITIES SHALL BE INSTALLED UNDERGROUND, IN ACCORDANCE WITH THE RADNOR TOWNSHIP CODE OF ORDINANCES.
17. A GRADING PERMIT SHALL BE OBTAINED FRM THE TOWNSHIP BEFORE ANY GRADING OR CLEARING HAS COMMENCED OR A BUILDING PERMIT HAS BEEN ISSUED.
18. PRIOR TO START OF INSTALLATION, CONTRACTORS ARE TO ACCURATELY FIELD MEASURE THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITY LINES AT PROPOSED CONNECTIONS. CONTRACTORS ARE TO IMMEDIATELY NOTIFY NEPO ASSOCIATES, INC. (610-429-0605) OF ANY DEVIATIONS FROM PLAN INFORMATION.

EARTHWORK CRITERIA:

FILL SOILS:

FILL MATERIALS SHALL BE IN ACCORDANCE WITH ASTM D-2487. THE MAXIMUM PARTICLE SIZE FOR THE FILL IS THREE (3) IN. WHERE FILL CONSISTS OF ROCKY MATERIAL SUCH MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FILL. FILL CONTAINING TOPSOIL, BRUSH, SOD, PEAT, ROOTS OR OTHER ORGANIC, PERISHABLE OR DELETERIOUS MATTER, INCLUDING, BUT NOT LIMITED TO SNOW, ICE OR FROZEN SOILS, SHALL BE CONSIDERED UNSUITABLE MATERIAL FOR USE IN THE REINFORCED ZONE AND SHALL BE REMOVED.

FILL MATERIALS SHALL BE OBTAINED FROM ON-SITE EXCAVATIONS, AND SHALL BE WELL GRADED WITH A MAXIMUM PARTICLE SIZE OF THREE INCHES, AND SHALL CONFORM TO ASTM D-2487 GROUP SYMBOL ML, CL, SM, OR SC. FILL SHALL HAVE A MAXIMUM PLASTICITY INDEX OF 30.

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN

FILL PLACEMENT:

PRIOR TO FILL PLACEMENT, THE CONTRACTOR SHALL CLEAR AND GRUB THE FILL ZONE AREA, REMOVING TOPSOIL, STUMPS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS.

PLACE AND COMPACT FILL MATERIAL IN EQUAL CONTINUOUS LAYERS NOT EXCEEDING THICKNESS OUTLINED BELOW AND COMPACT TO 95% MAXIMUM DRY DENSITY, STANDARD PROCTOR, IN ACCORDANCE TO ASTM D698. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY. FILL SHALL BE COMPACTED USING SHEEP'S FOOT ROLLER.

ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF CULVERT AND OTHER STRUCTURES.

FILL MATERIAL SHOULD BE PLACED AT THE FOLLOWING THICKNESS AND COMPACTED AS SPECIFIED:

FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT (8) INCHES IN COMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT.

FOR ZONES COMPACTED WITH HAND-OPERATED EQUIPMENT, FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING FOUR (4) INCHES IN COMPACTED THICKNESS. SELECT FILL SHALL BE COMPACTED WITH THREE PASSES OF A VIBRATORY PLATE COMPACTOR.

WHERE EXISTING SLOPES ARE 4H:1V OR STEEPER, THE EXISTING SLOPE SHALL BE BENCHED TO PROVIDE HORIZONTAL FILL SUBGRADES. BENCH HEIGHTS SHOULD NOT EXCEED FOUR (4) FEET.

TESTING METHODS AND FREQUENCY, AND VERIFICATION OF MATERIAL SPECIFICATIONS AND COMPACTION SHALL BE THE RESPONSIBILITY OF THE OWNER.

19. ALL STORM DRAINAGE PIPES AND FITTINGS, EXCEPT DRAINAGE STRUCTURES ASSOCIATES WITH THE STORM WATER MANAGEMENT BASINS, TO BE 2 – 2/3" X 1/2", 14 GAUGE CORRUGATED METAL PIPE OR AN APPROVED EQUAL BY THE TOWNSHIP ENGINEER. ALL JOINTS TO BE MADE WITH PREFABRICATED COUPLINGS AND GASKETS.
20. ALL STORM DRAINAGE PIPES AND FITTINGS SHALL BE REINFORCED CONCRETE WITH BELL AND SPIGOTED GASKETED JOINTS OR APPROVED EQUAL BY THE TOWNSHIP ENGINEER.
21. ALL EXTERIOR CONCRETE SHALL BE MONOLITHIC, LOW SLUMP (MAXIMUM SLUMP OF 4 INCHES), A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, A LOW WATER-CEMENT RATIO of .45 OR LESS, AIR ENTRAINED OF 5% TO 8% TOTAL AIR CONTENT AND A MINIMUM CEMENTITIOUS MATERIALS CONTENT OF 564 POUNDS PER CUBIC YARD OF CONCRETE. CERTIFICATION FOR THE CONCRETE MIX SHALL BE FURNISHED IF REQUIRED BY THE ENGINEER.

   A) CYLINDERS SHALL BE PREPARED AT A MINIMUM OF ONE SET PER DAY OF ACTIVE CONCRETE PLACEMENT FOR CONCRETE TO BE DEDICATED TO THE TOWNSHIP.

   B) PROPER FINISHING PRACTICES SHALL BE UNTILIZED. NO FINISHING OPERATION SHALL BE PERFORMED WHILE THERE IS EXCESS MOISTURE OR BLEED WATER ON THE CONCRETE SURFACE. THE FINAL FINISHING TO BE A LIGHT BROOM FINISH.

   C) ALL CONSTRUCTED CONCRETE SHALL BE CURED FOR A MINIMUM OF SEVEN (7) DAYS AFTER PLACEMENT. CURING SHALL BE DONE IN ONE (1) OR MORE OF THE FOLLOWING METHODS:

   (1) MOISTEN THE CONCRETE AND COVER IT WITH WATERPROOF PAPER OR POLYURETHANE FILM WEIGHTED DOWN AROUND THE EDGES TO PREVENT EVAPORATION.
   (2) THE CONCRETE SHALL BE KEPT CONTINUOUSLY WET WITH A SPRINKLE.
   (3) THE CONCRETE SHALL BE COVERED WITH BURLAP KEPT MOIST BY OCCASIONALLY SPRAYING WITH WATER.
   (4) LIQUID MEMBRANE-FORMING CURING COMPOUND, MEETING THE SPECIFICATIONS OF ASTM C309, TYPE 1, CLASSES A AND B, AND APPROVED BY THE TOWNSHIP ENGINEER PRIOR TO APPLICATION, SHALL BE SPRAYED ONTO THE CONCRETE SURFACE PRIOR TO TEMPERATURES BELOW FORTY (40) DEGREES FAHRENHEIT.

   D) THE CONCRETE SHALL AIR DRY FOR AT LEAST THIRTY (30) DAYS PRIOR TO APPLICATION OF DEICER CHEMICALS. IF TIME DOES NOT PERMIT, SEAL THE CONCRETE SURFACE WITH AN APPROVED BREATHABLE TREATMENT.

   E) IF CONCRETE IS PLACED WHEN THE AIR TEMPERATURE IS OR IS EXPECTED TO BE LESS THAN FORTY (40) DEGREES FAHRENHEIT, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   (1) USE HEATED CONCRETE SO THAT THE TEMPERATURE DOES NOT FALL BELOW FIFTY (50) DEGREES FAHRENHEIT DURING PLACING, FINISHING AND CURING.
   (2) KEEP THE CONCRETE WARM WHEN FREEZING IS POSSIBLE, USE INSULATING BLANKETS OR A THICK LAYER OF DRY STRAW. TO KEEP THE STRAW DRY AND IN PLACE, COVER IT WITH CANVAS, WATERPROOF PAPER, OR PLASTIC SHEETING.
   (3) PROTECT SLAB EDGES AND CORNERS WITH EXTRA CARE, THEY ARE MOST VULNERABLE TO FREEZING.

   F) IF CONCRETE IS PLACED WHEN THE AIR TEMPERATURE IS OR IS EXPECTED TO BE ABOVE EIGHTY-FIVE (85) DEGREES FAHRENHEIT, THE FOLLOWING PROCEDURES SHALL BE FOLLOWED:

   (1) USE CONCRETE CHILLED DURING BATCHING AND MIXING.
   (2) DAMPEN THE SUBGRADE AND FORMS.
   (3) HAVE SUFFICIENT MANPOWER AND EQUIPMENT ON HAND TO FINISH THE CONCRETE QUICKLY.
   (4) COVER THE CONCRETE WITH WET BURLAP OR PLASTIC SHEETING, AND EXPOSE ONLY A SMALL AREA AT A TIME JUST AHEAD OF FINISHERS, OR USE CONTINUOUS WET CURING METHODS.
   (5) START CURING AS SOON AS POSSIBLE.
   (6) PLACE AND FINISH THE CONCRETE IN THE COOLER EARLY MORNING WHEN POSSIBLE.
22. ALL MANHOLES AND INLETS SHALL BE PRECAST CONCRETE AND CONFORM TO LATEST PADOT FORM 408 AND RC STANDARDS.
23. ALL STORM DRAINS WITH A SLOPE LESS THAN ONE PERCENT (1.0%) ARE TO BE CONSTRUCTED USING A LASER BEAM DEVICE TO ASSURE PROPER LINE AND GRADE.
24. ROOF DRAINAGE PIPE SHALL BE PVC WITH INTEGRALLY BELL AND SPIGOT PUSH ON JOINTS. ALL PIPE AND FITTINGS SHALLL CONFORM TO ASTM D-3034 SDR35.
25. MUNICIPAL REGULATIONS, POLICIES AND STANDARDS MUST BE MET AND SUPERSEDE ALL CONTRACT DOCUMENTS UNLESS OTHERWISE NOTED.
26. LOCATION OF EXISTING WATER FACILITIES SHOWN ARE APPROXIMATE, ANY UTILITIES NOT SHOWN, OR NOT LOCATED AS SHOWS, SHALL NOT BE THE CAUSE OF THE CONTRACTOR TO DENY RESPONSIBILITY FOR PROTECTION AND/OR REPAIR DURING CONSTRUCTION. EXACT LOCATION SHALL BE VERIFIED IN THE FIELD.
27. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES AND RESTORE ALL PROPERTY TO ORIGINAL CONDITIONS.
28. UNDERLYING GEOLOGIC FORMATION FOR THE ENTIRE SITE IS WISSAHICKON SCHIST.
29. INSOFAR AS PRACTICAL AND TO THE FULLEST EXTENT POSSIBLE, ALL UTILITIES SHALL BE INSTALLED UNDERGROUND.

RADWYN APARTMENTS
Radnor Township, Delaware County, Pennsylvania

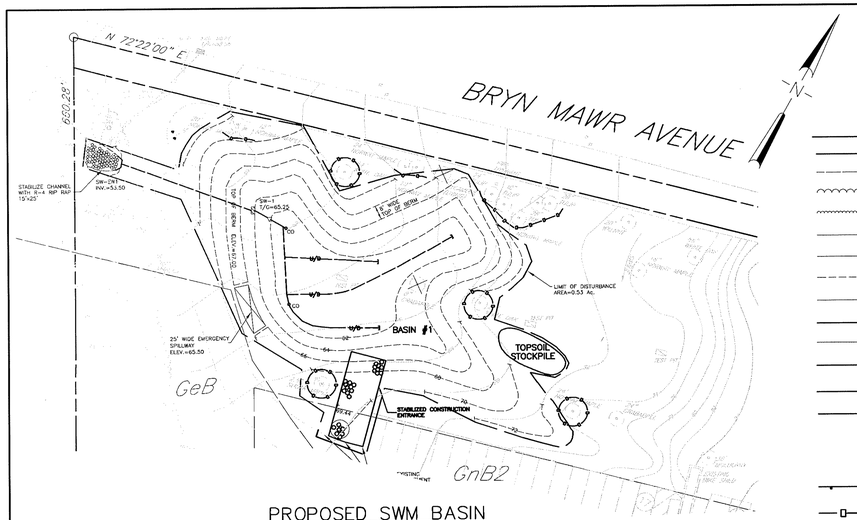
COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL DANIEL P. POPPLEWELL ENGINEER
PE - 39244-E

SITE GRADING & UTILITY PLANS

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

Date:	6/27/16
Scale:	AS NOTED
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SP3
Issued:	

SHEET
SP-3
OF 6



PROPOSED SWM BASIN

1"=40'

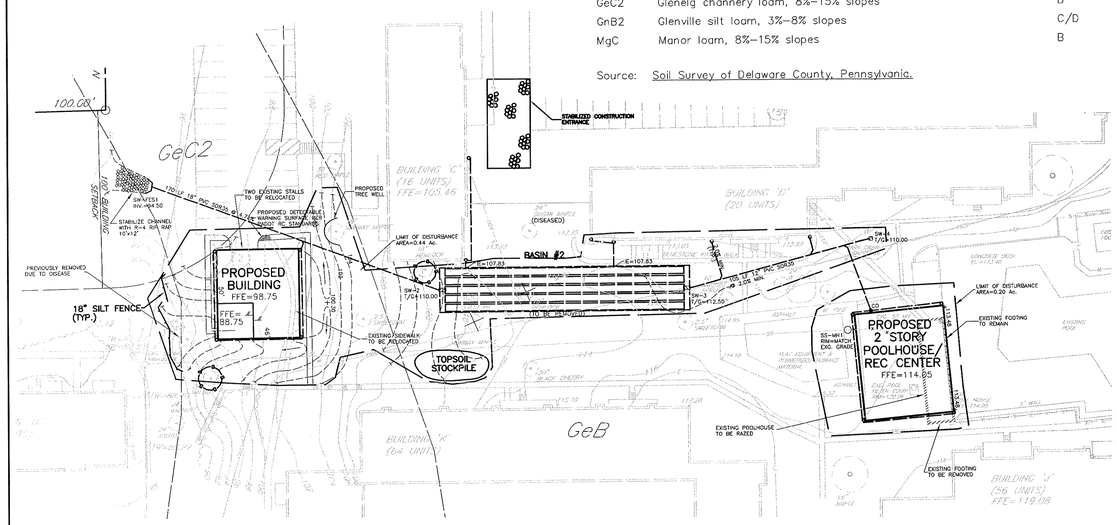
LEGEND

- EXISTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING WATER COURSE
- 270 EXISTING SURFACE CONTOUR
- 270 PROPOSED SURFACE CONTOUR
- SS EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- W EXISTING WATER SERVICE
- PROPOSED WATER SERVICE
- MnF3 SURFACE SOIL TYPE
- LIMIT OF DISTURBANCE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- SILT FENCE
- TREE PROTECTION FENCING

SOILS LEGEND

Symbol	Name, Slope	Soil Classification
GeB	Glenelg channery loam, 3%–8% slopes	B
GeC2	Glenelg channery loam, 8%–15% slopes	B
GnB2	Glenville silt loam, 3%–8% slopes	C/D
MgC	Manor loam, 8%–15% slopes	B

Source: Soil Survey of Delaware County, Pennsylvania.



PROPOSED STORAGE BUILDING and POOLHOUSE

1"=40'

PLANNED SEQUENCE OF CONSTRUCTION

BASIN 1

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER AND ALL APPROPRIATE MUNICIPAL OFFICIALS, A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT (IF REQUIRED) FOR AN ON SITE PRE-CONSTRUCTION MEETING.
OWNER CAN CHOOSE TO CONSTRUCT EITHER BASIN 1 OR BASIN 2 IN CONJUNCTION WITH STORAGE BUILDING.

1. SEVEN (7) DAYS PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONTACT RADNOR TOWNSHIP (610-688-5600) TO ARRANGE A PRE-CONSTRUCTION MEETING.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT PARKING AREA AS SHOWN. ALL ACCESS TO THE SITE TO BE FROM THIS ENTRANCE.
3. DELINEATE LIMIT OF CLEARING. CONTACT RADNOR TOWNSHIPS ARBORIST (610-688-5600) TO VERIFY CLEARING LIMIT PRIOR TO ANY OTHER TASKS.
4. PLACE TREE PROTECTION FENCING.
5. INSTALL SILT FENCE AS SHOWN ON PLANS.
6. STRIP TOPSOIL AND STOCKPILE IN AREA SHOWN.
7. CONSTRUCT SWM BASIN AS SHOWN ON PLANS AND DETAILS. NO TRUCK TRAFFIC PERMITTED WITHIN RAIN GARDEN AREA. ALL EXCAVATION TO BE DONE WITH LIGHT TRUCK EQUIPMENT.
8. CONSTRUCT EMBANKMENT IN CONJUNCTION WITH BASIN EXCAVATION.
9. INSTALL SW-EW1 TO SW-1 AS SOON AS PRACTICAL.
10. AS SOON AS PRACTICAL, RE-PAVE DRIVEWAY.
11. FINAL GRADE AND TOPSOIL LOT AS SOON AS PRACTICAL.
12. SEED, MULCH AND STABILIZE SITE UPON COMPLETION OF TOPSOILING.
13. UPON COMPLETION OF FINISH GRADING AND SEEDING, EXCAVATE AND INSTALL RAIN GARDEN WITHIN AMENDED SOILS IN BOTTOM OF BASIN. SEE BASIN DETAIL THIS SHEET FOR AMENDED SOILS MIXTURE. SEED BOTTOM OF BASIN WITH WET MEADOW MIX (SEE BASIN DETAIL). SURROUND AMENDED SOIL WITH 18" SILT FENCE UNTIL STABILIZED.
14. UPON STABILIZATION OF SITE, REMOVE PROTECTION.

PLANNED SEQUENCE OF CONSTRUCTION

BASIN 2

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER AND ALL APPROPRIATE MUNICIPAL OFFICIALS, A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT (IF REQUIRED) FOR AN ON SITE PRE-CONSTRUCTION MEETING.
OWNER CAN CHOOSE TO CONSTRUCT EITHER BASIN 1 OR BASIN 2 IN CONJUNCTION WITH STORAGE BUILDING.

1. SEVEN (7) DAYS PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONTACT RADNOR TOWNSHIP (610-688-5600) TO ARRANGE A PRE-CONSTRUCTION MEETING.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT EXISTING PARKING AREA AS SHOWN. ALL ACCESS TO THE SITE TO BE FROM THIS ENTRANCE.
3. DELINEATE LIMIT OF CLEARING.
4. PLACE TREE PROTECTION FENCING AROUND TREES TO REMAIN AND SUBSURFACE SWM INFILTRATION AREAS.
5. INSTALL SILT FENCE AS SHOWN ON PLANS.
6. STRIP TOPSOIL AND STOCKPILE IN AREA SHOWN.
7. BEGIN CONSTRUCTION OF SUBSURFACE SWM BASIN AS SHOWN ON PLANS AND DETAILS.
8. IN CONJUNCTION WITH SUBSURFACE SWM BASIN, INSTALL ROOF AND DOWNSPOUT DRAINS AS SOON AS PRACTICAL.
9. FINAL GRADE AND TOPSOIL EXCAVATION AREA AS SOON AS PRACTICAL.
10. SEED, MULCH AND STABILIZE SITE UPON COMPLETION OF TOPSOILING.
11. UPON STABILIZATION OF SITE, REMOVE EROSION AND SEDIMENT CONTROL PROTECTION.

INTENT OF CONSERVATION PROGRAM:

THE INTENT OF THIS PROGRAM IS TO PREVENT ACCELERATED EROSION OF THE EXPOSED SITE SOILS DURING THE CONSTRUCTION AND PERMANENT LIFE PERIODS OF THE DEVELOPMENT. THE PROGRAM REQUIRES RETENTION OF ALL SEDIMENTS ON THE CONSTRUCTION SITE, TO MINIMIZE THE IMPACT OF DEVELOPMENT ON EXISTING STREAMS AND ADJACENT PROPERTY OWNERS. THESE OBJECTIVES WILL BE ACHIEVED BY MINIMIZING THE EXPOSURE TIME OF POTENTIALLY EROSIVE SOILS TO RUNOFF AND INSTALLATION OF THE TEMPORARY AND PERMANENT CONSERVATION PRACTICES IN PROPER SEQUENCE WITH CONSTRUCTION. THE INTENT OF THIS PROGRAM SHOULD BE UNDERSTOOD AND IMPLEMENTED THROUGHOUT THE ENTIRE DEVELOPMENT. THE VARIOUS CONSTRUCTION TRADES SHOULD BE APPRISED OF THIS PROGRAM AND DIRECTED TO PREVENT UNDUE DISTURBANCE OF PREPARED AND PROTECTED SURFACES.

SURFACE STABILIZATION CRITERIA:

ALL DENUDED SOIL SURFACES, INCLUDING SOIL STOCKPILES, ARE SUBJECT TO EROSION AND SHALL BE STABILIZED IMMEDIATELY EITHER AS TEMPORARILY OR PERMANENT COVER IN ACCORDANCE WITH SPECIFICATIONS BELOW. CRUSHED STONE ON PAVEMENT SUBGRADES IS CONSIDERED ADEQUATE PROTECTION. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MAY BE SEEDED WITH A QUICK GROWING TEMPORARY SEEDING MIXTURE AND MULCHED AT A RATE OF 2–3 BALES/1000 SF OR 3 TONS/ACRE. DISTURBED AREAS WHICH ARE EITHER AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE SEEDED WITH A PERMANENT SEED MIXTURE AND MULCHED AT A RATE OF 2–3 BALES/1000 SF OR 3 TONS/ACRE. DURING NON-GERMINATION PERIODS, MULCH SHALL BE APPLIED AT A RATE OF 2–3 BALES/1000 SF OR 3 TONS/ACRE. GERMINATION PERIODS SHALL BE FROM APRIL 1ST TO JUNE 15TH AND AUGUST 15TH TO OCTOBER 15TH. AT THE BEGINNING OF THE NEXT GERMINATION PERIOD, MULCHED AREAS SHALL BE LIMED, FERTILIZED, SEEDED, WITH EITHER A TEMPORARY OR PERMANENT SEED MIXTURE, AND REMULCHED AT A RATE OF 2–3 BALES/1000 SF OR 3 TONS/ACRE. ALL DISTURBED AREAS SHALL BE STABILIZED AS FOLLOWS:

A. TEMPORARY COVER ON DISTURBED AREAS:
DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE YEAR MAY BE SEEDED AND MULCHED WITH A TEMPORARY COVER. PREPARATION OF THE SURFACE, FERTILIZATION AND SEEDING WITH EITHER ANNUAL OR WINTER RYE GRASS SHALL BE DONE IN COMPLIANCE WITH THE DELAWARE COUNTY SOIL CONSERVATION DISTRICT (DCCD) STANDARD FOR "TEMPORARY COVER FOR CRITICAL AREAS." GROUND LIMESTONE SHALL BE APPLIED AT THE RATE OF 190 LBS/1,000 SF FERTILIZER FOR TEMPORARY STABILIZATION SHALL BE APPLIED AT A RATE OF 50-50-50 PER ACRE. THE FERTILIZER AND LIMESTONE SHALL BE WORKED INTO THE SOIL TO A DEPTH OF FOUR (4) INCHES PRIOR TO SEEDING. ANNUAL RYEGRASSES SHALL BE APPLIED AT A RATE OF 1.5 LB/1,000 SF AND WINTER RYE AT A RATE OF 3.5 LBS/1,000 SF AND MULCHED WITH HAY OR STRAW AT A RATE OF 2–3 BALES/1000 SF OR 3 TONS/ACRE AND NON ASPHALTIC EMULSION, IN ACCORDANCE WITH THE DCCD STANDARD "MULCHING".

B. PERMANENT COVER ON DISTURBED AREAS:
DISTURBED AREAS WHICH ARE EITHER FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR MUST BE SEEDED AND MULCHED WITH A PERMANENT COVER. ALL LANDSCAPED AREAS PLANNED TO BE MAINTAINED SHOULD BE SEEDED WITH A TURFGRASS MIXTURE WHICH CONTAINS EITHER 15–20% PENN FINE OR MANHATTAN RYE GRASS, OR 2% RED TOP. GROUND LIMESTONE SHALL BE APPLIED AT THE RATE OF 190 LBS/1000 SF OR 4 TO 6 TONS/ACRE. THE FERTILIZER AND LIMESTONE SHALL BE WORKED INTO THE SOIL TO A DEPTH OF FOUR (4) INCHES PRIOR TO SEEDING. FERTILIZER 10–20–20 FOR PERMANENT STABILIZATION MINIMUM IS 930 LBS/ACRE PER PENN STATE AGRONOMY GUIDE. PERMANENT VEGETATION ON AREAS WHICH WILL NOT BE REGULARLY MAINTAINED SHALL BE SEEDED WITH A MIXTURE OF KENTUCKY 31 TALL FESCUE (88%) AND RED TOP (12%) AT RATES OF 1.5 LBS/1000 SF AND 4 LBS/1000 SF IN NORMAL LANDSCAPING AREAS AND DRAINAGEWAYS RESPECTIVELY. KENTUCKY 31 TALL FESCUE TO BE ENDOPHYTE FREE. ENDOPHYTE FREE FAWN OR JOHNSTONE TALL FESCUE MAY BE SUBSTITUTED IF K31 ENDOPHYTE FREE IS NOT AVAILABLE. PREPARATION OF THE SEEDBED, FERTILIZATION AND MAINTENANCE SHALL BE DONE IN ACCORDANCE WITH APPLICABLE DCCD STANDARDS AND THE ADVICE OF THE PENNSYLVANIA STATE UNIVERSITY AGRICULTURAL EXTENSION SERVICE. NEW SEEDINGS ON FLAT AND MILD SLOPE AREAS SHALL BE MULCHED WITH STRAW AT 2 TO 3 BALES/1000 SF OR 3 TONS/ACRE. NEW SEEDINGS ON SLOPES AND WITHIN MODERATE DRAINAGE CHANNELS, SHALL BE SIMILARLY MULCHED WITH STRAW, AND RUNOFF DIVERTED FROM THE SEED BEDS UNTIL GRASS IS ESTABLISHED. APPLICABLE DCCD STANDARDS FOR "PERMANENT SEED AND LEGUME COVER ON CRITICAL AREAS ON PREPARED SEED BED AND MULCHING", SHALL BE USED.

C. CRITICAL VEGETATION AREAS (C.V.A.):
STEEPLY GRADED AREAS WHICH ARE AT FINISHED GRADE OR WILL NOT BE REDISTURBED WITHIN ONE YEAR SHALL BE SEEDED AS IN PARAGRAPH "B" ABOVE, IMMEDIATELY. JUTE NETTING SHALL BE USED TO HOLD SEED AND MULCH IN PLACE, PER PARAGRAPH B, UPON FINAL GRADING OR AFTER COMPLETION OF PUBLIC IMPROVEMENTS. C.V.A. ARE DELINEATED ON THE CONSERVATION PLANS. IN GENERAL, JUTE NETTING SHALL BE USED ON ALL CUT SLOPES STEEPER THAN 3:1, ALL FILL SLOPES STEEPER THAN 4:1 AND IN ALL DRAINAGE SWALES.

MAINTENANCE OF TEMPORARY SEDIMENTATION CONTROL STRUCTURES:
MAINTENANCE OF ALL TEMPORARY SEDIMENTATION CONTROL STRUCTURES SHALL BE IN ACCORDANCE WITH THESE PLANS. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE:
THE STABILIZED CONSTRUCTION ENTRANCES ARE TO BE CONSTRUCTED PER THE DETAIL. THE STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED SO THAT TIRE SCRUBBING ACTIVITY DOES NOT BECOME INEFFECTIVE. ANY BUILDUP OF MUD OR SOIL ON THE STREET SHALL BE CLEANED AT THE END OF EACH WORKING DAY.

SILT FENCE:
SILT FENCE SHALL BE INSTALLED PER THE DETAIL. SILT FENCE TO BE INSTALLED PARALLEL TO THE GROUND CONTOUR. A MINIMUM OF 10 FOOT ANGLE STRIP TO BE INSTALLED AT EACH END OF SILT FENCE RUN. SEDIMENT SHALL BE REMOVED FROM SILT FENCES WHEN IT REACHES 1/2 THE FENCE HEIGHT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER. SILT FENCING WHICH HAS BEEN UNDERMINED, TOPPED, OR BREACHED SHALL BE REPLACED WITH ROCK FILTER OUTLETS IMMEDIATELY.

INLET SILT TRAPS:
INLET SILT TRAPS SHALL BE CONSTRUCTED PER THE DETAIL ON SHEET SP-6 AND CLEANED AFTER EACH STORM EVENT OR AS DIRECTED BY THE CONSERVATION DISTRICT OR TOWNSHIP ENGINEER.

DUST CONTROL:
DUST AND OTHER PARTICULATES SHALL BE KEPT WITHIN TOLERABLE LIMITS BY USING WATER. APPLICATION SHALL BE AS NEEDED OR AS DIRECTED BY THE TOWNSHIP ENGINEER OR THE CONSERVATION DISTRICT.

PLANNED SEQUENCE OF CONSTRUCTION

STORAGE BUILDING
ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER AND ALL APPROPRIATE MUNICIPAL OFFICIALS, A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT (IF REQUIRED) FOR AN ON SITE PRE-CONSTRUCTION MEETING.

1. SEVEN (7) DAYS PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONTACT RADNOR TOWNSHIP (610-688-5600) TO ARRANGE A PRE-CONSTRUCTION MEETING.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT EXISTING PARKING AREA AS SHOWN. ALL ACCESS TO THE SITE TO BE FROM THIS ENTRANCE.
3. PLACE TREE PROTECTION FENCING AROUND TREES TO REMAIN. PLACE ORANGE CONSTRUCTION FENCING AROUND SWM.
4. INSTALL SILT FENCE AS SHOWN ON PLANS.
5. STRIP AND GRADE PAD FOR PROPOSED BUILDING.
6. IN CONJUNCTION WITH BUILDING CONSTRUCTION, INSTALL EITHER BASIN 1 OR BASIN 2 UNDER SEPARATE SEQUENCE.
7. BEGIN BUILDING CONSTRUCTION.
8. UPON COMPLETION OF FOUNDATION AND FRAMING, BACKFILL FOUNDATION.
9. INSTALL ROOF AND DOWNSPOUTS AS SOON AS PRACTICAL.
10. FINAL GRADE AND TOPSOIL CONSTRUCTION AREA AS SOON AS PRACTICAL.
11. SEED, MULCH AND STABILIZE SITE UPON COMPLETION OF TOPSOILING.
12. UPON STABILIZATION OF SITE, REMOVE EROSION AND SEDIMENT CONTROL FEATURES.

PLANNED SEQUENCE OF CONSTRUCTION

POOL/RECREATION BUILDING
ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES INCLUDING, BUT NOT LIMITED TO: THE LANDOWNER AND ALL APPROPRIATE MUNICIPAL OFFICIALS, A REPRESENTATIVE FROM THE DELAWARE COUNTY CONSERVATION DISTRICT (IF REQUIRED) FOR AN ON SITE PRE-CONSTRUCTION MEETING.

1. SEVEN (7) DAYS PRIOR TO START OF CONSTRUCTION, CONTRACTOR TO CONTACT RADNOR TOWNSHIP (610-688-5600) TO ARRANGE A PRE-CONSTRUCTION MEETING.
2. INSTALL TEMPORARY CONSTRUCTION ENTRANCE AT EXISTING PARKING AREA AS SHOWN. ALL ACCESS TO THE SITE TO BE FROM THIS ENTRANCE.
3. PLACE TREE PROTECTION FENCING AROUND TREES TO REMAIN. PLACE ORANGE CONSTRUCTION FENCING AROUND SWM.
4. INSTALL SILT FENCE AS SHOWN ON PLANS.
5. STRIP AND GRADE PAD FOR PROPOSED BUILDING.
6. IN CONJUNCTION WITH BUILDING CONSTRUCTION, INSTALL EITHER BASIN 1 OR BASIN 2 UNDER SEPARATE SEQUENCE.
7. BEGIN BUILDING CONSTRUCTION.
8. UPON COMPLETION OF FOUNDATION AND FRAMING, BACKFILL FOUNDATION.
9. INSTALL ROOF AND DOWNSPOUTS AS SOON AS PRACTICAL.
10. FINAL GRADE AND TOPSOIL CONSTRUCTION AREA AS SOON AS PRACTICAL.
11. SEED, MULCH AND STABILIZE SITE UPON COMPLETION OF TOPSOILING.
12. UPON STABILIZATION OF SITE, REMOVE EROSION AND SEDIMENT CONTROL FEATURES.

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN

GENERAL CONSERVATION NOTES

1. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES AND RESTORE ALL PROPERTY TO ORIGINAL CONDITIONS.
2. UNDERLYING GEOLOGIC FORMATION FOR THE ENTIRE SITE IS WISSAHICKON SCHIST.
3. INSOFAR AS PRACTICAL AND TO THE FULLEST EXTENT POSSIBLE, ALL UTILITIES SHALL BE INSTALLED UNDERGROUND.
4. LIMITS OF DISTURBANCE ARE SET FROM CONSTRUCTION IMPROVEMENT PLANS PREPARED BY NEPO ASSOCIATES, INC. THE CLEARING OF TREES SHALL BE WITHIN THE LIMITS OF CLEARING SHOWN ON THE PLAN, IT IS PROPOSED TO CLEAR THE EXISTING VEGETATION, INCLUDING WOODED AREAS, IN ACCORDANCE WITH THE CONSTRUCTION IMPROVEMENT PLAN. CONTRACTOR TO MARK IN FIELD ALL TREES TO BE REMOVED AND LIMITS OF CLEARING FOR INSPECTION BY RADNOR TOWNSHIP PRIOR TO ANY REMOVAL.
5. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE OPERATOR SHALL ASSURE AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY DELAWARE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
6. AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE DELAWARE COUNTY CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
7. THE OPERATOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
8. THE OPERATOR SHALL ASSURE THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
9. BEFORE INITIATING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE DELAWARE COUNTY CONSERVATION DISTRICT.
10. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
11. THE PROJECT'S RECEIVING WATERCOURSE IS FINN RUN CREEK, AND THE CHAPTER 93 CLASSIFICATION IS COLDWATER FISHERY (CWF).
12. EROSION AND SEDIMENT BEST MANAGEMENT PRACTICES (BMP'S) MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMP'S.
13. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
14. WHERE BMP'S ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL INCLUDE THE FOLLOWING INFORMATION:

    THE LOCATION AND SEVERITY OF THE BMPS FAILURE AND ANY POLLUTION EVENTS.

    ALL STEPS TAKEN TO REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.

    THE TIME FRAME TO CORRECT THE NON-COMPLIANCE, INCLUDING THE EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.
15. UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. THE OPERATOR SHALL MAINTAIN AND MAKE AVAILABLE TO DELAWARE COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING, RENETTING AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED REPLACEMENT BMP'S OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
16. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMP'S MUST BE STABILIZED IMMEDIATELY.
17. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE (1) YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
18. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN ONE (1) YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WHICH WILL NOT BE REDISTURBED WITHIN ONE (1) YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
19. A ROUTINE END-OF-DAY CHECK TO BE MADE DURING CONSTRUCTION TO MAKE CERTAIN ALL CONTROL MEASURES ARE WORKING PROPERLY.
20. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. EACH STAGE SHALL BE COMPLETED BEFORE ANY FOLLOWING STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
21. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
22. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BEST MANAGEMENT PRACTICE (BMP), SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
23. SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
24. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
25. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
26. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
27. SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
28. FILL TO BE COMPACTED IN LAYERS TO MINIMIZE SLIDING, SLUMPING, AND EROSION OF SOIL.
29. ALL NEWLY GRADED AREAS TO BE STABILIZED IMMEDIATELY THROUGH TEMPORARY OR PERMANENT SEEDING. SLOPES 3:1 OR OVER SHALL BE STABILIZED WITH EROSION CONTROL NETTING PRIOR TO SEEDING.
30. THERE SHALL BE NO ADVERSE DISCHARGE OF SEDIMENT OR DEBRIS FROM A SITE AS A RESULT OF STORMWATER RUNOFF.
31. NO SEDIMENT-LADEN RUNOFF SHALL BE ALLOWED TO FLOW OVER THE INFILTRATION AREAS. TEMPORARY SWALES SHOULD BE PROVIDED TO DIRECT RUNOFF AROUND THESE AREAS IF NECESSARY.

RADWYN APARTMENTS

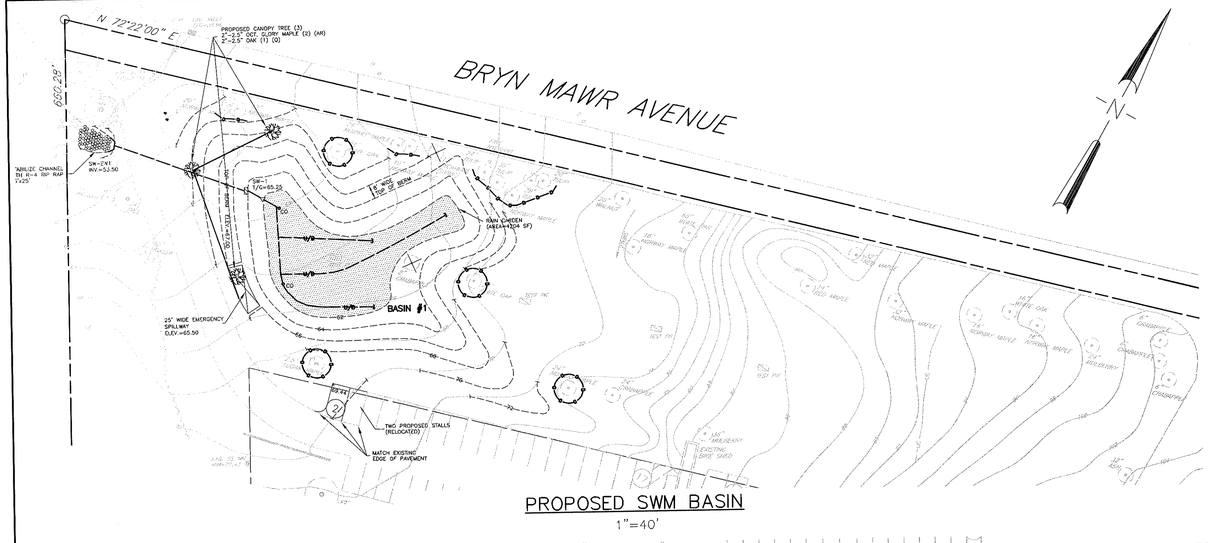
Radnor Township, Delaware County, Pennsylvania

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER DANIEL P. POPPLEWELL No. 39244E

PE -39244-E

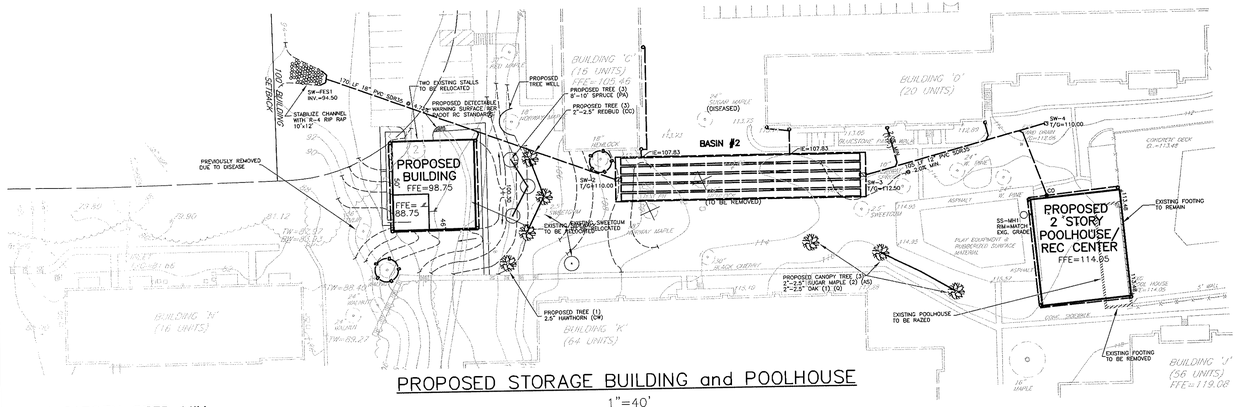
CONSERVATION PLANS

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(



PROPOSED SWM BASIN

1"=40'



PROPOSED STORAGE BUILDING and POOLHOUSE

1"=40'

RAIN GARDEN SEED MIX

RAIN GARDEN SEED MIX INSTALLATION:

NEW RAIN GARDEN

1. DELINEATE THE LIMIT OF THE NEW RAIN GARDEN AS SHOWN ON THE ENGINEERING AND LANDSCAPE PLANS.
2. EXCAVATE THE SOIL WITHIN THE LIMITS OF THE RAIN GARDEN AND RIP THE SOIL AT THE BOTTOM OF THE EXCAVATED AREA WITH A RUBBER TRACKED MACHINE (FOR THE LEAST AMOUNT OF COMPACTION) TO LOOSEN THE SOIL.
3. BACKFILL THE EXCVATED AREA WITH SOIL MIX OF 50% SOIL AND 50% COMPOST. INSTALL IN 1 FOOT LIFTS. TILL THE SOIL AFTER EACH LIFT. TOTAL DEPTH OF SOIL MIX IS TO BE 1'-6".
4. AFTER THE SOIL PLACMENT AND TILLING ARE COMPLETE, HAND RAKE AND INSTALL THE RAIN GARDEN SEED MIX ACCORDING TO THE SPECIFICATIONS BELOW. MULCH AS NEEDED WITH WEED-FREE MATERIAL, SUCH AS SALT MARSH HAY OR CLEAN STRAW.
5. EVERY EFFORT SHOULD BE MADE TO MINIMIZE COMPACTION WITHIN THE RAIN GARDEN AREA.

RAIN GARDEN SEED MIX – ERNMX – 180
SEED MIX SUPPLIER: ERNST SEEDS, MEADVILLE, PA. WWW.ERNSTSEED.COM

20.00%	PANICUM RIGIDULUM	REDTOP PANIC GRASS
20.00%	SCHIZACHYRIUM SCOPARIUM	LITTLE BLUE STEM
10.00%	ELYMUS VIRGINICUS	VIRGINIA WILD RYE
5.00%	CAREX VULPINOIDEA	FOX SEDGE
5.00%	CHASMANTHIUM LATIFOLIUM	RIVER OATS
5.00%	ECHINACEA PURPUREA	PURPLE CONEFLOWER
5.00%	LIATRIS SPICATA	MARSH (DENSE) BLAZING STAR
5.00%	RUDBECKIA HIRTA	BLACK EYED SUSAN
3.00%	MONARDA FISTULOSA	WILD BERGAMOT
3.00%	PENSTEMON DIGITALIS	TALL WHITE BEARD TONGUE
2.00%	ANDROPOGON GERARDII	BIG BLUESTEM
2.00%	ASCLEPIAS INCARNATA	SWAMP MILKWEED
2.00%	ASTER NOVAE-ANGLIAE	NEW ENGLAND ASTER
2.00%	BAPTISIA AUSTRALIS	BLUE FALSE INDIGO
2.00%	GEUM LACINIATUM	ROUGH AVENS
2.00%	SENNA HEBECARPA	WILD SENNA
2.00%	TRADESCANTIA OHIENSIS	OHIO SPIDERWORT
2.00%	VERBENA HASTATA	BLUE VERVAIN
2.00%	ZIZIA AUREA	GOLDEN ALEXANDERS
1.00%	AGROSTIS PERENNANS	AUTUMN BENTGRASS

SEEDING RATE: 15 LB. PER ACRE OR 1/3-1/2 LB. PER 1,000 S.F.

RAIN GARDEN SEED MIX MAINTENANCE:

1. APPROXIMATELY FIVE TIMES PER YEAR (MAY, JUNE, JULY, AUGUST, SEPTEMBER), THE FOLLOWING MUST BE DONE:
   - LITTTIER PICK/UP/ REMOVAL
   - SPOT TREATMENT OF INVASIVE SPECIES
   - SLECTIVE WEED TRIMMING
2. THE HERBICIDE MUST BE PRE-APPROVED BY THE OWNER/OWNER'S REPRESENTATIVE PRIOR TO ANY APPLICATION IN THE RAIN GARDEN. THE HERBICIDE MUST BE AN APPROVED PRODUCT FOR USE NEAR WATER SOURCES.
3. COMMON PROBLEM WEEDS INCLUDE:
   - ATEMESIA VULGARIS – CHRYSANTHEMUM WEED
   - CLEASTRUS ORBICULATUS (ORIENTAL BITTERSWEET)
   - CIRISIUM ARVENSE (CANADA THISTLE)
   - LONICERA JAPONICA (JAPANESE HONEYSUCKLE AND AMUR HONEYSUCKLE)
   - LYTHRUM SALICARPA (PURPLE LOOSESTRIFE)
   - PHYTOLACCA AMERICANA (POKE WEED)
   - ROSA MULTIFLORA (MULTIFLORA ROSE)
   - SOLIDAGO CANADENSIS (CANADA GOLDENROD)
   - RUSSIAN OLIVE
   - PERAGMITES
   - POLYGONUM VINE

POST CONSTRUCTION MAINTENANCE:

1. THE RAIN GARDEN MUST BE INSPECTED TWO TIMES PER YEAR FOR SEDIMENT BUILD-UP, EROSION AND VEGETATIVE CONDITIONS.
2. ANY DEBRIS OR SEDIMENT BUILD-UP MUST BE REMOVED AND SENT TO A DEP-APPROVED FACILITY. IF DE-WATERING IS NECESSARY, THE WATER MUST BE DIS-CHARGED INTO A DEP-APPROVED DE-WATERING FACILITY. (DIRT BAG)
3. MULCH SHOULD BE RE-SPREAD WHEN EROSION IS EVIDENT AND REPLENISHED AS NEEDED.
4. IF THE SYSTEM DOES NOT DRAIN FOR SEVERAL DAYS FOLLOWING A RAIN EVENT, THE BOTTOM MUST BE RE-TILLED TO LOOSEN THE SOIL. FOLLWING THE TILLING THE AREAS MUST BE RE-SEEDED WITH THE SEED MIX SPECIFIED FOR THE RAIN GARDEN.

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN

1. OUTBOUND PROPERTY MONUMENTATION INFORMATION TAKEN FROM ACTUAL FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. IN OCTOBER 2015. THE MOST RECENT DEED TO THE RADWYN APARTMENTS, L.P. IS RECORDED IN DELAWARE COUNTY RECORDER OF DEEDS IN DEED BOOK 2461, PAGE 0777. PROPERTY TAX PARCEL IS FOLIO # 36-0502956-00. CLOSURE ERROR IS 0.11 FT. IN 20,000 FT. TOTAL PROPERTY CONSISTS OF 37.83 ACS. PLAN BEARINGS BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH. PLAN PREPARED BASED ON THE PENNSYLVANIA STATE PLANE GRID AZIMUTH.
2. PLANIMETRIC INFORMATION TAKEN FROM PLANS PREPARED BY YERKES ASSOCIATES, INC. TITLED "RADWYN APARTMENTS ALTA/ACSM LAND TITLE SURVEY" DATED MARCH 6, 1991.
3. PLANIMETRIC AND TOPOGRAPHIC INFORMATION, CHECKED AND UPDATED IN A FIELD SURVEY PERFORMED BY NEPO ASSOCIATES, INC. DURING MAY 2016. AN EXISTING SANITARY SEWER MANHOLE LOCATED NORTHEAST OF BUILDING 'N' WITH AN ASSUMED ELEVATION OF 89.94.
4. WATERS OF THE COMMONWEALTH AND WETLANDS LIMITS SHOWN WERE DELINEATED BY DELVAL SOIL & ENVIRONMENTAL CONSULTANTS, INC. IN A FIELD INVESTIGATION DURING FEBRUARY 2016. NO WETLANDS WERE FOUND ON THE PROPERTY.
5. NO 100 YEAR FLOODPLAIN EXISTS ON THE PROPERTY AS SHOWN FROM FEDERAL EMERGENCY MANAGEMENT AGENCY MAP # 42045C0039F DATED NOVEMBER 18, 2009.
6. PROJECT LISTED WITH PENNSYLVANIA ACT 287, SERIAL NUMBER 20152383085.

   THE FOLLOWING UTILITY COMPANIES WERE NOTIFIED:
   - WINDSTREAM
   - AQUA PA
   - COMCAST CABLE COMMUNICATIONS
   - COMCAST CABLE
   - PECO
   - RADNOR TOWNSHIP
   - VERIZON PENNSYLVANIA
7. ANY INFORMATION APPEARING ON THESE DRAWINGS AS TO THE UNDERGROUND LINES OF A USER, SUCH AS A PUBLIC UTILITY, HAVE BEEN INCORPORATED HEREON PURSUANT TO PENNSYLVANIA GENERAL ASSEMBLY ACT NO. 172. THIS INFORMATION HAS BEEN PROVIDED BY THE RESPECTIVE USERS LISTED BY THE RECORDER OF DEED OF DELAWARE COUNTY, PENNSYLVANIA. NEPO ASSOCIATES, INC. HAS NOT MADE AN INDEPENDENT DETERMINATION WITH RESPECT TO THE ACCURACY OR COMPLETENESS OF SUCH INFORMATION AND SPECIFICALLY DISCLAIMS ANY WARRANT OR REPRESENTATION AS TO THE ACCURACY OF SUCH INFORMATION. ANYONE UTILIZING THESE DRAWINGS FOR CONSTRUCTION IS ADVISED TO CALL 811 OR 1-800-242-1776 FOR UNDERGROUND UTILITIES PRIOR TO EXCAVATION IN ACCORDANCE WITH PENNSYLVANIA ACT NO. 172.
8. ANY SCALED DIMENSION FROM THIS PLAN SHALL NOT BE USED FOR CONSTRUCTION WITHOUT CONFIRMATION BY NEPO ASSOCIATES, INC. (610-429-0605).
9. PUBLIC WATER SERVICE IS PROVIDED TO THE SITE BY AQUA PA. NO NEW WATER SERVICES ARE PROPOSED BY THIS APPLICATION.
10. PUBLIC SANITARY SEWER SERVICE IS PROVIDED TO THE SITE BY RADNOR TOWNSHIP. NO NEW SEWER CONNECTIONS ARE PROPOSED BY THIS APPLICATION.
11. A GRADING PERMIT SHALL BE OBTAINED FRM THE TOWNSHIP BEFORE ANY GRADING OR CLEARING HAS COMMENCED OR A BUILDING PERMIT HAS BEEN ISSUED.
12. PRIOR TO START OF INSTALLATION, CONTRACTORS ARE TO ACCURATELY FIELD MEASURE THE LOCATIONS AND ELEVATIONS OF EXISTING UTILITY LINES AT PROPOSED CONNECTIONS. CONTRACTORS ARE TO IMMEDIATELY NOTIFY NEPO ASSOCIATES, INC. (610-429-0605) OF ANY DEVIATIONS FROM PLAN INFORMATION.
13. EARTHWORK CRITERIA:

    FILL SOILS:

    FILL MATERIALS SHALL BE IN ACCORDANCE WITH ASTM D-2487. THE MAXIMUM PARTICLE SIZE FOR THE FILL IS THREE (3) IN. WHERE FILL CONSISTS OF ROCKY MATERIAL SUCH MATERIAL SHALL BE WELL DISTRIBUTED THROUGHOUT THE FILL. FILL CONTAINING TOPSOIL, BRUSH, SOD, PEAT, ROOTS OR OTHER ORGANIC, PERISHABLE OR DELETERIOUS MATTER, INCLUDING, BUT NOT LIMITED TO SNOW, ICE OR FROZEN SOILS, SHALL BE CONSIDERED UNSUITABLE MATERIAL FOR USE IN THE REINFORCED ZONE AND SHALL BE REMOVED.

    FILL MATERIALS SHALL BE OBTAINED FROM ON-SITE EXCAVATIONS, AND SHALL BE WELL GRADED WITH A MAXIMUM PARTICLE SIZE OF THREE INCHES, AND SHALL CONFORM TO ASTM D-2487 GROUP SYMBOL ML, CL, SM, OR SC. FILL SHALL HAVE A MAXIMUM PLASTICITY INDEX OF 30.

    FILL PLACEMENT:

    PRIOR TO FILL PLACEMENT, THE CONTRACTOR SHALL CLEAR AND GRUB THE FILL ZONE AREA, REMOVING TOPSOIL, STUMPS, BRUSH, SOD OR OTHER ORGANIC OR DELETERIOUS MATERIALS.

    PLACE AND COMPACT FILL MATERIAL IN EQUAL CONTINUOUS LAYERS NOT EXCEEDING THICKNESS OUTLINED BELOW AND COMPACT TO 95% MAXIMUM DRY DENSITY, STANDARD PROCTOR, IN ACCORDANCE TO ASTM D698. MAINTAIN OPTIMUM MOISTURE CONTENT OF FILL MATERIALS TO ATTAIN REQUIRED COMPACTION DENSITY. FILL SHALL BE COMPACTED USING SHEEP'S FOOT ROLLER.

    ONLY HAND-OPERATED COMPACTION EQUIPMENT SHALL BE ALLOWED WITHIN THREE FEET OF CULVERT AND OTHER STRUCTURES.

    FILL MATERIAL SHOULD BE PLACED AT THE FOLLOWING THICKNESS AND COMPACTED AS SPECIFIED:

    FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING EIGHT (8) INCHES IN COMPACTED THICKNESS FOR HEAVY COMPACTION EQUIPMENT.

    FOR ZONES COMPACTED WITH HAND-OPERATED EQUIPMENT, FILL SHALL BE PLACED IN HORIZONTAL LAYERS NOT EXCEEDING FOUR (4) INCHES IN COMPACTED THICKNESS. SELECT FILL SHALL BE COMPACTED WITH THREE PASSES OF A VIBRATORY PLATE COMPACTOR.

    WHERE EXISTING SLOPES ARE 4H:1V OR STEEPER, THE EXISTING SLOPE SHALL BE BENCHED TO PROVIDE HORIZONTAL FILL SUBGRADES. BENCH HEIGHTS SHOULD NOT EXCEED FOUR (4) FEET.

    TESTING METHODS AND FREQUENCY, AND VERIFICATION OF MATERIAL SPECIFICATIONS AND COMPACTION SHALL BE THE RESPONSIBILITY OF THE OWNER.
14. MUNICIPAL REGULATIONS, POLICIES AND STANDARDS MUST BE MET AND SUPERSEDE ALL CONTRACT DOCUMENTS UNLESS OTHERWISE NOTED.
15. LOCATION OF EXISTING WATER FACILITIES SHOWN ARE APPROXIMATE, ANY UTILITIES NOT SHOWN, OR NOT LOCATED AS SHOWS, SHALL NOT BE THE CAUSE OF THE CONTRACTOR TO DENY RESPONSIBILITY FOR PROTECTION AND/OR REPAIR DURING CONSTRUCTION. EXACT LOCATION SHALL BE VERIFIED IN THE FIELD.
16. CONTRACTOR SHALL MAINTAIN DRIVEWAY ACCESS AT ALL TIMES AND RESTORE ALL PROPERTY TO ORIGINAL CONDITIONS.
17. LIMITS OF DISTURBANCE ARE SET FROM CONSTRUCTION IMPROVEMENT PLANS PREPARED BY NEPO ASSOCIATES, INC. THE CLEARING OF TREES SHALL BE WITHIN THE LIMITS OF CLEARING SHOWN ON THE PLAN. IT IS PROPOSED TO CLEAR THE EXISTING VEGETATION, INCLUDING WOODED AREAS, IN ACCORDANCE WITH THE CONSTRUCTION IMPROVEMENT PLAN. CONTRACTOR TO MARK IN FIELD ALL TREES TO BE REMOVED AND LIMITS OF CLEARING FOR INSPECTION BY RADNOR TOWNSHIP PRIOR TO ANY REMOVAL.

    PROTECTION OF VEGETATION DURING CONSTRUCTION:

    ALL WOODED VEGETATION TO BE RETAINED ON A DEVELOPMENT SITE SHALL BE PROTECTED BY THE ERECTION OF A SNOW FENCE OR OTHER MEANS APPROVED BY THE TOWNSHIP ENGINEER, AT THE DRIP LINE IF LINE IS WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED DISTURBED AREAS.

    CONSTRUCTION EQUIPMENT OPERATORS SHALL MINIMIZE DAMAGE TO EXISTING TREE TRUNKS AND ROOT SYSTEMS. ROOTS SHALL NOT BE CUT OR DAMAGED WITHIN THE AREAS CIRCUMSCRIBED BY THE DRIP LINE OF ANY TREE TO BE RETAINED.

    TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY FENCING OR OTHER STRUCTURAL BARRIER. TREATMENT OF DAMAGED AREAS SHALL BE DICTATED BY THE NATURE OF THE INJURY. BARK SHALL BE CUT BACK TO A POINT WHERE IT IS INTACT AND TIGHT TO THE TREE. EXPOSED ROOTS SHALL BE CLEANED OF DEBRIS AND COVERED WITH TOPSOIL.

    TREES SHALL NOT BE USED FOR ROPING, CABLES, SIGNS, OR FENCING. NAILS OR SPIKES SHALL NOT BE DRIVEN INTO TREES.

    THE AREA AROUND THE BASE OF THE EXISTING VEGETATION TO BE RETAINED SHALL BE LEFT OPEN. NO EARTH MOVING, IMPERVIOUS COVER, OR STORAGE OF EQUIPMENT, MATERIALS, DEBRIS OR FILL SHALL BE ALLOWED WITHIN THE DRIP LINE OF ANY VEGETATION OR TREE TO BE RETAINED.

    PROTECTION OF VEGETATION FROM GRADING AND EXCAVATIONS:

    GRADING CHANGES PROPOSED FOR ANY LAND DEVELOPMENT SITE SHALL NOT RESULT IN AN ALTERATION TO SOIL OR DRAINAGE CONDITIONS WHICH WOULD ADVERSELY AFFECT VEGETATION TO BE RETAINED FOLLOWING SITE DISTURBANCE UNLESS ADEQUATE PROVISION ARE MADE TO PROTECT SUCH VEGETATION AND ITS ROOT SYSTEM.

    TRENCHES DUG FOR UTILITY LINES OR SIMILAR PURPOSES SHALL MINIMIZE DISTURBANCE TO THE ROOT ZONES OF ALL VEGETATION TO BE RETAINED ON A LAND DEVELOPMENT SITE.

    IF TRENCHES MUST BE EXCAVATED IN THE ROOT ZONE, ALL DISTURBED ROOTS SHALL BE CUT AS CLEANLY AS POSSIBLE. THE TRENCH SHALL BE BACKFILLED AS QUICKLY AS POSSIBLE, AVOIDING SOIL COMPACTION NEAR THE AFFECTED ROOTS.
18. IN ADDITION TO SEEDING SPECIFICATION REQUIRED BY DELAWARE COUNTY CONSERVATION DISTRICT, BUILDER WILL, PRIOR TO DEDICATION OF OPEN SPACE TO HOA, ESTABLISH MEADOW AREAS, INCLUDING STORMWATER MANAGEMENT BASINS, SEEDED WITH PRAIRIE NURSERY'S DEER RESISTANT SHORT PRAIRIE MIX FOR MEDIUM SOIL (OR EQUIVALENT) ACCORDING TO SUPPLIER'S RECOMMENDATIONS.
19. NO PLANTING OF TREES SHALL BE PERMITTED WITHIN TEN (10) FEET OF PROPOSED SANITARY SEWER OR STORM DRAINAGE PIPES.
20. PROPOSED PLANT MATERIALS SHALL BE LAID OUT ACCORDING TO PLAN DIMENSIONS. IN THE ABSENCE OF PLAN DIMENSIONS, CONTRACTOR SHALL LAY OUT PLANTINGS FROM SCALED MEASUREMENTS OF THE PLAN DRAWINGS. FINAL LOCATION AND LAYOUT OF ALL PROPOSED PLANTINGS SHALL BE APPROVED ON SITE BY THE OWNER'S REPRESENTATIVE AND TOWNSHIP PRIOR TO ANY INSTALLATION.
21. THE CONTRACTOR'S ATTENTION IS CALLED TO ALL PIPING AND UTILITIES. NOT ALL PIPING OR UTILITIES HAVE BEEN SHOWN ON THESE PLANS. LINES SHOWN ARE APPROXIMATE REFERENCE ONLY. CONTRACTOR SHALL CHECK WITH UTILITY REPORTING SERVICES AND/OR THE CONSTRUCTION MANAGER PRIOR TO BEGINNING PLANTING OPERATIONS.
22. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE OWNER'S REPRESENTATIVE IF INADEQUATE SOIL DRAINAGE CONDITIONS ARE ENCOUNTERED PRIOR TO PLANTING.
23. THE LANDSCAPE CONTRACTOR SHALL THOROUGHLY WATER ALL NEW PLANTINGS SO AS TO SATURATE THE ENTIRE ROOT BALL AT THE TIME OF INSTALLATION. ADDITIONAL WATERING SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED BY PLANT AND WEATHER CONDITIONS UNTIL FINAL ACCEPTANCE OF THE PLANTING INSTALLATION.
24. THE FOLLOWING PLANTING SPECIFICATIONS SHALL BE ADHERED TO:

    MULCH:
    MULCH SHALL BE TWO (2) INCHES OF SHREDDED HARDWOOD OR CEDAR BARK.

    CONTAINER PLANTS:
    THE LANDSCAPE CONTRACTOR SHALL SCARIFY THE SIDES AND BOTTOM OF THE ROOT BALL OF ANY CONTAINER GROWN PLANTS PRIOR TO PLANTING.

    PLANTING BACKFILL MIX:
    ALL PLANTING BACKFILL SHALL CONSIST OF 75% EXISTING SOIL AND 25% ORGANIC COMPOST COMPLETELY MIXED PRIOR TO BACKFILL. SEE PLANTING DETAILS FOR SUBJECT AREAS.
25. ALL PROPOSED PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF INITIAL ACCEPTANCE.
26. IN CASE OF A DISCREPANCY BETWEEN PLAN QUANTITIES SHOWN ON THE PLAN AND QUANTITIES SHOWN ON THE PLANT LIST, THE PLAN SHALL COVERN.
27. ALL WOODY VEGETATION TO BE RETAINED ON A DEVELOPMENT SITE SHALL BE PROTECTED BY THE ERECTION OF A SNOW FENCE OR OTHER MEANS, APPROVED BY THE TOWNSHIP ENGINEER, AT THE DRIP LINE IF LINE IS WITHIN TWENTY-FIVE (25) FEET OF ANY PROPOSED DISTURBED AREAS.
28. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING THE INSTALLATION PRIOR TO THE COMMENCEMENT OF THE 12 MONTH GUARANTEE PERIOD. THE CONTRACTOR MUST MAINTAIN ALL PLANT MATERIAL BY WATERING, FERTILIZING, DISEASE CONTROL, PRUNING, WEEDING, AND ANY OTHER MEANS WHICH THE CONTRACTOR DEEMS NECESSARY INCLUDING REPLACEMENT OF DEAD OR STOLEN PLANT MATERIAL AS NECESSARY IN ORDER TO MAINTAIN THE PLANT MATERIAL IN A CONDITION AS SPECIFIED AND DESCRIBED IN ANY APPLICABLE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS.
29. THE TOWNSHIP RESERVES THE RIGHT TO CONDUCT POST-INSTALLATION NIGHTTIME INSPECTIONS TO VERIFY COMPLIANCE WITH THE COMMITMENTS MADE ON THE APPROVED LIGHTING PLAN, AND IF APPROPRIATE, TO REQUIRE REMEDIAL ACTION AT NO EXPENSE TO THE TOWNSHIP.
30. INFILTRATION BMP FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES SOIL SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, BED, ETC. AND/OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
31. ALL STONE FOR THE CONSTRUCTION OF THE INFILTRATION BMP SHOULD BE UNIFORMLY GRADED AND CLEAN WASHED AGGREGATE.
32. THE BOTTOM OF ALL INFILTRATION BMPS SHALL BE UNDISTURBED OR UNCOMPACTED SUBGRADE.
33. NO TOPSOIL SHALL BE DISPOSED OF, BY SALE OR OTHERWISE, OFF THE SITE.
34. TEMPORARY VEGETATION AND/OR MULCHING SHALL BE USED TO PROTECT CRITICAL AREAS DURING DEVELOPMENT. (CRITICAL AREAS SHALL BE CONSTRUED TO MEAN THOSE PORTIONS OF THE SITE WHICH ARE EXTREMELY VULNERABLE TO SOIL EROSION).
35. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE OPERATOR SHALL ASSURE AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY DELAWARE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.

LEGEND

- EXISTING PROPERTY LINE
- BUILDING SETBACK LINE
- EXISTING TREE LINE
- PROPOSED TREE LINE
- EXISTING WATER COURSE
- EXISTING TREE TO REMAIN
- EXISTING TREE TO BE REMOVED
- TREE PROTECTION FENCING

TREE SCHEDULE

QUANTITY	SYMBOL	LATIN NAME	COMMON NAME	SIZE	ROOT	COMMENT
TREES-DECIDUOUS FLOWERING						
1	CW	Crataegus v. 'Winter King'	Winter King Hawthorn	2-2 1/2" CAL.	B&B	Matching, single trunk
3	CC	Cercis canadensis	Redbud	2-2 1/2" CAL.	B&B	Matching, single trunk
4 Total						
TREES-EVERGREEN						
3	PA	Picea Abies	Norway Spruce	8-10' HT.	B&B	Matching, full to ground
3 Total						
TREES-DECIDUOUS CANOPY						
2	AR	Acer rubrum "October Glory"	October Glory Red Maple	2-2 1/2" CAL.	B&B	Matching, single trunk
2	AS	Acer saccharum "Legacy"	Legacy Sugar Maple	2-2 1/2" CAL.	B&B	Matching, single trunk
2	Q	Quercus phellos	Willow Oak	2-2 1/2" CAL.	B&B	Matching, single trunk
6 Total						

REPLACEMENT TREES

Requirements
6"-18" DBH tree removed requires 1 tree replacement
19"-29" DBH tree removed requires 3 tree replacements with 2 being canopy trees
30"+ Heritage tree removed requires 6 tree replacements with 4 being canopy trees

Trees Removed
1 – 8" DBH Crabapple (Malus sp.) = 1 tree replacement
1 – 12" DBH Sycamore Maple (Acer pseudoplatanus) = 1 tree replacement
1 – 18" DBH Hemlock (Tsuga canadensis) = 1 tree replacement
1 – 18" DBH Norway Maple (Acer platanoides) = 1 tree replacement
1 – 24" DBH Sugar Maple (Acer saccharum) = 3 tree replacements with 2 being canopy trees
1 – 36" DBH Tulip (Liriodendron tulipifera) = 6 tree replacements with 4 being canopy trees

Replacement Trees
7 Trees (4 flowering + 3 evergreen)
6 Canopy Trees
Total Trees – 13

Street Trees
Existing vegetation to remain to satisfy tree requirements

Buffer Plantings
Existing vegetation to remain to satisfy tree requirements

RADWYN APARTMENTS
Radnor Township, Delaware County, Pennsylvania

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER DANIEL P. POPPLEWELL No. 39244-E
PE -39244-E

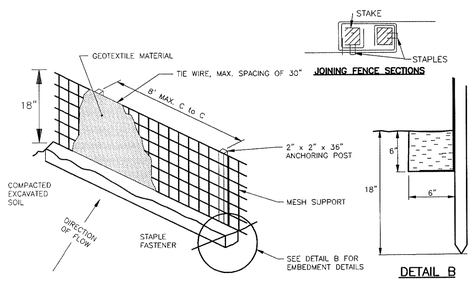
LANDSCAPE PLANS

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

Date:	6/27/16
Scale:	AS NOTED
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SP5
Issued:	

SHEET
SP-5
OF 6

Revision	Description	Date	By
1.	REVISED PER TOWNSHIP ENGINEER COMMENTS	9/21/16	MWN
2.	REVISED PER SHADE TREE COMMISSION COMMENTS	10/20/16	MWN
3.	REVISED PER TOWNSHIP ENGINEER COMMENTS	11/2/16	MWN



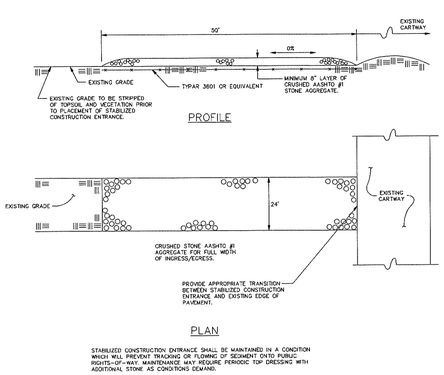
18" SILT BARRIER FENCE

N.T.S.

NOTES:
SILT FENCE MUST BE PLACED AT LEVEL GRADE BOTH ENDS OF THE BARRIER MUST BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT

SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE FENCE

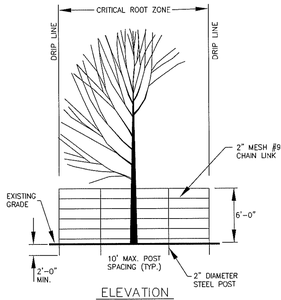
ANY SECTIONS OF FILTER FABRIC FENCE WHICH HAS BEEN UNDERMINED OR TOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET. (SEE ROCK FILTER OUTLET DETAIL)



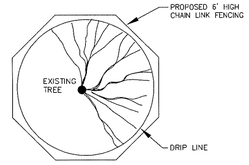
STABILIZED CONSTRUCTION ENTRANCE

N.T.S.

STABILIZED CONSTRUCTION ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. MAINTENANCE MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND.



DO NOT:
1. ALLOW RUN OFF OF SPILLAGE OF DAMAGING MATERIALS INTO THE AREA BELOW ANY TREE CANOPY.
2. STORE MATERIALS, STOCKPILE SOIL, OR PARK OR DRIVE VEHICLES WITHIN THE TPZ.
3. CUT, BREAK, SKIN, OR BRUISE ROOTS, BRANCHES, OR TRUNKS WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
4. ALLOW FIRES UNDER AND ADJACENT TO TREES.
5. DISCHARGE EXHAUST INTO FOLIAGE.
6. SECURE CABLE, CHAIN, OR ROPE TO TREES OR SHRUBS.
7. TRENCH, DIG, OR OTHERWISE EXCAVATE WITHIN THE DRIPLINE OR TPZ OF THE TREES WITHOUT FIRST OBTAINING AUTHORIZATION FROM THE CONSULTING ARBORIST.
8. APPLY SOIL STERILANTS UNDER PAVEMENT NEAR EXISTING TREES.



TREE PROTECTION SPECIFICATIONS
1. A 4" LAYER OF COARSE MULCH OR WOODCHIPS IS TO BE PLACED BENEATH THE DRIPLINE OF THE PROTECTED TREES. MULCH IS TO BE KEPT 12" FROM THE TRUNK.
2. A PROTECTIVE BARRIER OF 6' CHAIN LINK FENCING SHALL BE INSTALLED AROUND THE DRIP LINE OF PROTECTED TREES. THE FENCING CAN BE MOVED WITHIN THE DRIP LINE IF AUTHORIZED BY THE CONSULTING ARBORIST BUT NOT CLOSER THAN 2' FROM THE TRUNK OF ANY TREE. FENCE POSTS SHALL BE 2" IN DIAMETER AND ARE TO BE DRIVEN 2' INTO THE GROUND. THE DISTANCE BETWEEN THE POSTS SHALL NOT BE MORE THAN 10'. THIS ENCLOSED AREA IS THE TREE PROTECTION ZONE.
3. MOVABLE BARRIERS OF CHAIN LINK FENCING SECURED TO CEMENT BLOCKS CAN BE SUBSTITUTED FOR "FIXED" FENCING IF THE CONSULTING ARBORIST AGREE THE FENCING WILL HAVE TO BE MOVED TO ACCOMMODATE CERTAIN PHASES OF CONSTRUCTION. THE BUILDER MAY NOT MOVE THE FENCE WITHOUT AUTHORIZATION FROM THE CONSULTING ARBORIST.
4. WHERE THE CONSULTING ARBORIST HAS DETERMINED THE TREE PROTECTION FENCING WILL INTERFERE WITH THE SAFETY OF WORK CREWS, TREE WRAP MAY BE USED AS AN ALTERNATIVE FORM OF TREE PROTECTION. WOODEN SLOTS AT LEAST 1" THICK ARE TO BE BOUND SECURELY, EDGE TO EDGE, AROUND THE TRUNK. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE OUTSIDE OF THE WOODEN SLOTS. MAJOR SCAFFOLD LIMBS MAY REQUIRE PROTECTION AS DETERMINED BY THE CONSULTING ARBORIST. STRAW WADDLE MAY ALSO BE USED AS A TRUNK WRAP BY COILING THE WADDLE AROUND THE TRUNK UP TO A MINIMUM HEIGHT OF SIX FEET FROM GRADE. A SINGLE LAYER OR MORE OF ORANGE PLASTIC CONSTRUCTION FENCING IS TO BE WRAPPED AND SECURED AROUND THE STRAW WADDLE.

TREE PROTECTION DETAIL

N.T.S.

NOTES:
WATERING

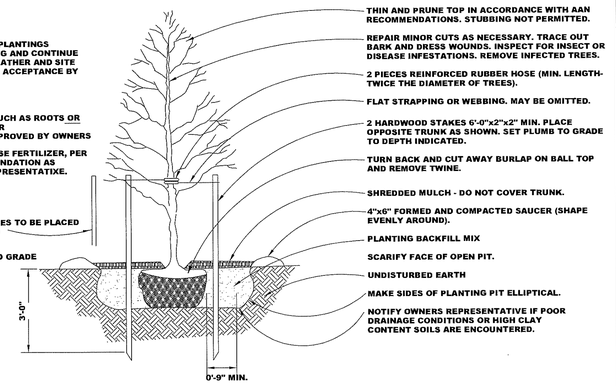
THROUGHLY WATER ALL NEW PLANTINGS IMMEDIATELY AFTER PLANTING AND CONTINUE COMPLETE WATERING PER WEATHER AND SITE CONDITIONS UNTILL PROJECT ACCEPTANCE BY OWNERS REPRESENTATIVE.

FERTILIZING

1) APPLY ROOT STIMULANT SUCH AS ROOTS OR EQUAL PER MANUFACTURER RECOMMENDATIONS AS APPROVED BY OWNERS REPRESENTATIVE.
2) APPLY INITIAL TIME RELEASE FERTILIZER, PER MANUFACTURER RECOMMENDATION AS APPROVED BY OWNERS REPRESENTATIVE.

STAKES FOR EVERGREEN TREES TO BE PLACED OUTSIDE OF BRANCH SPREAD MAY BE OMITTED.

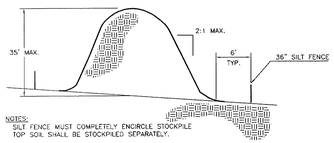
THIN AND PRUNE TOP IN ACCORDANCE WITH AAN RECOMMENDATIONS. STUBBING NOT PERMITTED.
REPAIR MINOR CUTS AS NECESSARY. TRACE OUT BARK AND DRESS WOUNDS. INSPECT FOR INSECT OR DISEASE INFESTATIONS. REMOVE INFECTED TREES.
2 PIECES REINFORCED RUBBER HOSE (MIN. LENGTH-TWICE THE DIAMETER OF TREES).
FLAT STRAPPING OR WEBBING. MAY BE OMITTED.
2 HARDWOOD STAKES 6'-0"x2"x2" MIN. PLACE OPPOSITE TRUNK AS SHOWN. SET PLUMB TO GRADE TO DEPTH INDICATED.
TURN BACK AND CUT AWAY BURLAP ON BALL TOP AND REMOVE TWINE.
SHREDDED MULCH - DO NOT COVER TRUNK.
4"x6" FORMED AND COMPACTED SAUCER (SHAPE EVENLY AROUND).
PLANTING BACKFILL MIX
SCARIFY FACE OF OPEN PIT.
UNDISTURBED EARTH
MAKE SIDES OF PLANTING PIT ELLIPTICAL.
NOTIFY OWNERS REPRESENTATIVE IF POOR DRAINAGE CONDITIONS OR HIGH CLAY CONTENT SOILS ARE ENCOUNTERED.



TYPICAL TREE PLANTING DETAIL

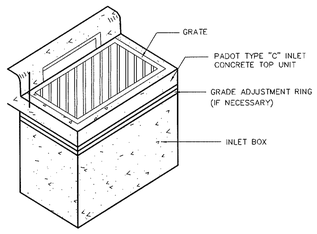
NOT TO SCALE

IMPORTANT, SEE GENERAL NOTES/PLANT MATERIALS



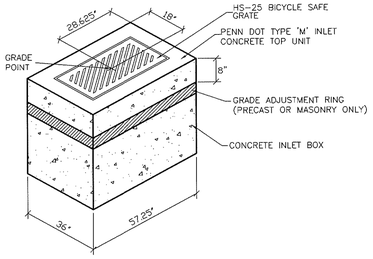
TYPICAL STOCKPILE – CROSS SECTION

N.T.S.



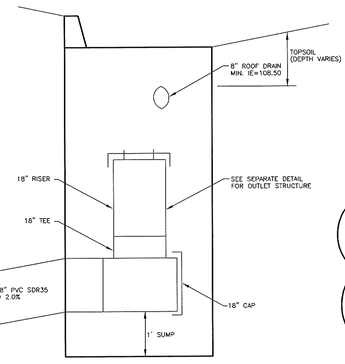
TYPE 'C' INLET

N.T.S.



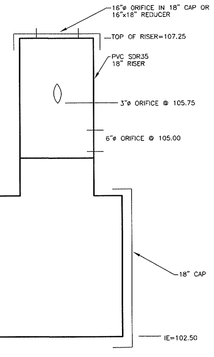
TYPE 'M' INLET

N.T.S.



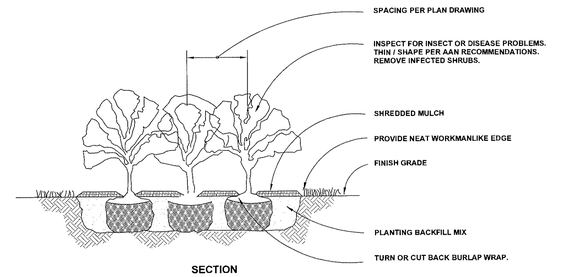
INLET DETAIL

N.T.S.



OUTLET STRUCTURE DETAIL

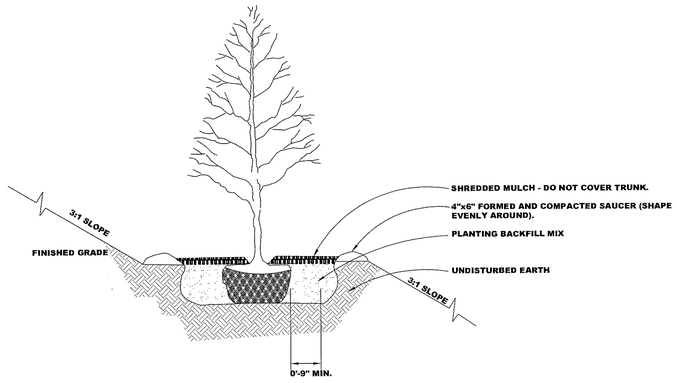
N.T.S.



IMPORTANT, SEE GENERAL NOTES/PLANT MATERIALS

MASSED SHRUB PLANTING DETAIL

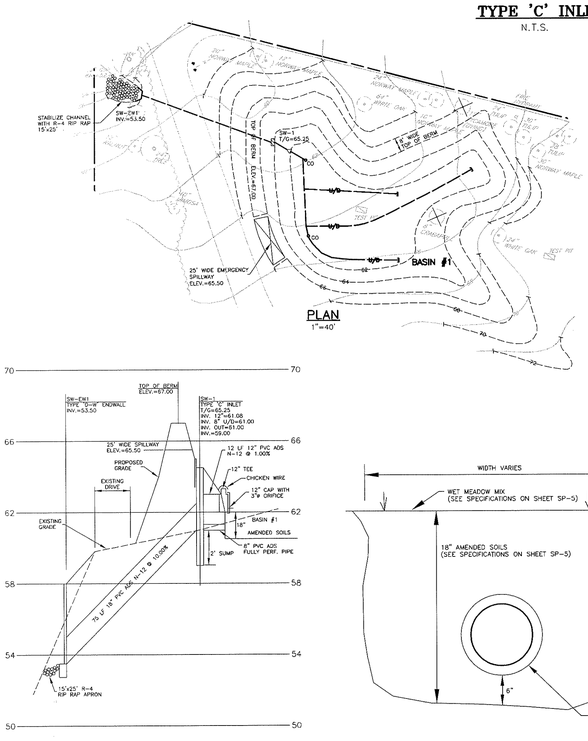
N.T.S.



SLOPE PLANTING DETAIL

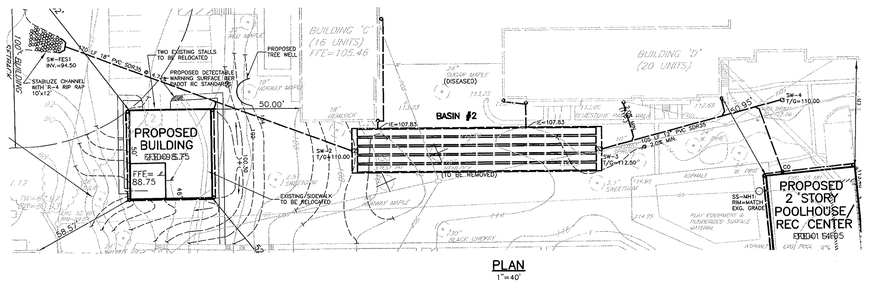
NOT TO SCALE

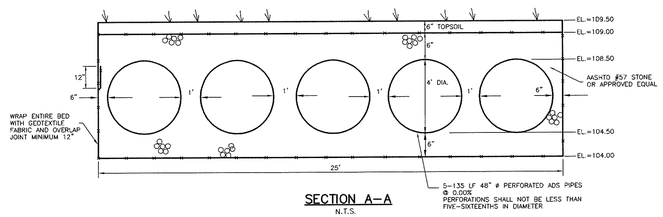
NOTE: FOR OTHER DETAILS SEE TYPICAL PLANTING DETAIL



BASIN #1 DETAIL

AS NOTED





BASIN #2 DETAIL

AS NOTED

NOTE: FOR OTHER DETAILS SEE TYPICAL PLANTING DETAIL

RADWYN APARTMENTS

Radnor Township, Delaware County, Pennsylvania

COMMONWEALTH OF PENNSYLVANIA PROFESSIONAL DANIEL P. POPPLEWELL ENGINEER
PE -39244-E

SITE DETAILS

NePo ASSOCIATES, INC.
Engineers, Surveyors & Environmental Scientists
458 E. KING ROAD MALVERN, PA. 19355
(610) 429-0605 FAX(610) 296-3146

Date:	8/27/16
Scale:	AS NOTED
Drawn By:	MWN
Checked By:	D.P.P.
Project Eng.:	D.P.P.
Project No.:	004-12
Dwg. No.:	004-12-SP6
Issued:	

SHEET
SP-6
OF 6

From: Don Curley, Ward 6 Commissioner

TO: BOC
Via: Radnor Township

Date: 11/2/16

Subj: Stormwater Ordinance

The Township has discussed modifying its stormwater (SW) ordinance for years. As I see it, the goal for revision is to propose changes to the ordinance to address inefficient, counterproductive, ineffective, or incomplete applications of the ordinance.

If we proceed, it is important that we move from general to particular and that we select manageable and tangible changes. Accordingly, I propose that:

1. The BOC (by motion) adopt goals to shape the prospective changes that the Township may select. Alternatively, the BOC could choose no action.
2. The BOC (by motion) task the SWMAC to identify zero (no action) to three or four ways that the Township could modify its Stormwater ordinance to achieve those goals.
3. The SWMAC (by motion) propose its recommendations to the BOC. There commendations should be in paragraph form, received NLT December 2016, conceptual in nature, and limited to a few sentences or short paragraph per recommendation.
4. In January 2017; the Commissioners should review the recommendations from the SWMAC as well as any other recommendations it sees as appropriate and propose up to four conceptual changes.
5. In January or February2017; the BOC (by motion) shall direct the staff to prepare text changes to the ordinance to reflect the conceptual changes that the BOC identified as suitable.

Obviously, we can set the schedules we see fit or set no schedule all.

Here are the four most common concerns that I have heard during my seven years as Commissioner. Accordingly, I propose the following goals:

1. **Premise 1** – The existing ordinance ensures that post construction conditions match pre construction conditions (aka maintain status quo) but citizens want improvement (increase WQ, reduce peak rate, reduce runoff, reduce flooding). **Goal 1** - Evaluate and identify ways to make the ordinance improves management instead of maintaining SW conditions in the current form. For example, if the Township used meadow conditions (or a percentage of meadow conditions) as a baseline instead of existing conditions then each SW facility constructed would provide SW benefit instead of maintaining the status quo.
2. **Premise 2** – Some citizens complain about the inefficiencies of the ordinance (ex: $3000 patio with $6000 and 4 months for engineering approval). Others complain that "pits" and rain gardens cost a fortune to homeowners yet provide little benefit. **Goal 2**- Evaluate if there are inefficiencies in the current ordinance (a.k.a.

where and how do the Township, citizens, and land owner apply resources without sufficient benefit to justify the expenditure) and propose remedies.

3. **Premise 3** – My observation is that the ordinance incents activity in greenspace and does not reward reuse or recycling of footprint or impervious cover. For example, a resident proposing1501 SF of new construction has expensive new SW obligations even if that resident proposes no new IC. **Goal 3** - Evaluate if the ordinance incents activity in greenspace and does not reward reuse or recycling of footprint or impervious cover and identify ways to make the ordinance increase the incentive to reuse existing IC rather than replace existing pervious cover.
4. **Premise 4** – Some citizens have indicated that the ordinance does not adequately support the Township's compliance with its MS4 permit. **Goal 4**- Evaluate if the ordinance does not support our current or expected MS4 permit and identify ways to make the ordinance more supportive of MS4 permit requirements than it currently is.

At the first meeting in November, I will propose that the Township adopt these goals and this schedule.

Radnor Township

PROPOSED LEGISLATION

INTRODUCTION

FROM: **Kevin W. Kochanski,** Community Development Director
SUBJECT: Bamboo Ordinance Amendment - #2016-14
DATE: November 9, 2016

LEGISLATION: The Ordinance creates a new chapter that provides regulations for the planting, maintenance and removal of bamboo plants.

LEGISLATIVE HISTORY: None. This is a new Ordinance that has not yet been reviewed with the Board of Commissioners.

FISCAL IMPACT: This ordinance is not expected to have a negative impact on the Township Budget.

RECOMMENDED ACTION: The Staff would respectfully recommend that this Amendment be introduced and forwarded to the Township Shade Tree Commission for review and comment.

Thank you for your consideration.

TOWNSHIP OF RADNOR

DELAWARE COUNTY, PENNSYLVANIA

ORDINANCE NO. 2016-14

AN ORDINANCE OF THE TOWNSHIP OF RADNOR, DELAWARE COUNTY, PENNSYLVANIA PROVIDING FOR THE AMENDMENT OF THE RADNOR TOWNSHIP CODE OF ORDINANCES BY AMENDING PART 2, GENERAL LEGISLATION CREATING A NEW CHAPTER 224, ADOPTING REGULATIONS FOR THE PLANTING, CONTROLLING, AND REMOVAL OF BAMBOO, INCLUDING PENALTIES AND OTHER REMEDIES FOR VIOLATIONS.

WHEREAS, non-native plant species are damaging to indigenous plant material and the health, safety and welfare of the community; and

WHEREAS, the planting and cultivation of invasive bamboo grasses are damaging to both public and private property.

NOW THEREFORE, be it, and it is hereby ENACTED and ORDAINED by the Board of Commissioners of the Township of Radnor, Delaware County, Commonwealth of Pennsylvania, as follows:

ARTICLE I.

The Radnor Township Code is hereby amended by adding a new Chapter 224 to Part2, General Legislation which shall read as follows:

Chapter 224

BAMBOO

§224.1 PURPOSE AND INTENT

The purpose of this Chapter is to preserve and protect private and public property from the damaging spread of certain bamboo grasses, protect indigenous plant materials from the invasive spread of bamboo, and maintain the general welfare of residents of Radnor Township.

§224.2 GENERAL PROVISIONS

A. Definitions:

(1) Bamboo – Any monopodial (running) tropical or semi-tropical grasses from the genera Phyllostachys or Pseudosasa, including, but not limited to,

Phyllostachys aureosulcata – Yellow Groove Bamboo. In addition, this definition includes Common Bamboo, Golden Bamboo and Arrow Bamboo.

(2) Bamboo Owner – Any person who has planted and/or grows Bamboo on their property; who maintains Bamboo on their property; or who permits Bamboo to grow or remain on their property, even if the Bamboo has spread from an adjoining property.

(3) Person – Any individual, corporation, partnership, joint venture, unincorporated association, municipal corporation or agency, other group acting as a unit, or combination thereof.

(4) Township – The Township of Radnor, County of Delaware, Commonwealth of Pennsylvania.

B. Applicability. For purposes of this Part, Bamboo found growing upon a property shall constitute presumptive evidence that the Bamboo was planted and/or grown by and/or with the consent of the Bamboo Owner.

C. Prohibition. Upon the effective date of this Part, the planting or growing of Bamboo shall be prohibited within the Township, unless:

(1) the root system of such bamboo plant is entirely contained within a planter, barrier, or other vessel, located entirely above ground-level, and of such design, material, and location as to entirely prevent the spread/growth of the Bamboo's root system beyond the container in which it is planted; or

(2) The root system is contained within a barrier, constructed in accordance with the following specifications, and only after a permit is issued by the Township:

- the barrier shall be composed of high density polypropylene or polyethylene, 40 mil or heavier;
- portions or sheets of the barrier shall be secured or joined together by the use of stainless steel clamps or stainless steel closure strips designed for such barriers;
- the entire perimeter of the barrier shall be more than 30 inches below ground level and more than 3 inches above ground level; and
- when installed, the barrier shall slant outward from the bottom to the top.

Any person who hereafter plants or grows, or causes to be planted or grown, Bamboo within the Township, except as under the conditions set forth in subparagraph (1) and (2) above, shall be deemed to be in violation of this Part, and shall be subject to such penalties as are set forth herein.

D. Regulation.

(1) Bamboo shall not be planted, maintained, or otherwise be permitted to exist within 40 feet of the edge of the pavement or traveled portion of any public roadway in the Township. Any Bamboo Owner whose property contains Bamboo shall remove and abate the growth of the Bamboo within 40 feet of edge of the pavement or traveled portion of a public road in the Township.

(2) Whether planted or growing in a container or contained within a barrier, all bamboo plants shall be located, trimmed, and maintained so that no part of the plant (including stalks, branches, leaves, and/or roots) shall extend nearer than ten feet to any property line.

(3) When removing and destroying Bamboo, all rhizome disposal must be by incineration only. No composting or trash disposal of rhizomes shall be allowed.

E. Pre-Existing Bamboo.

(1) Any Bamboo that has been planted or otherwise permitted to grow on any property within the Township prior to the effective date of this Part may remain on such property, subject to compliance with this Part.

(2) Each Bamboo Owner shall be responsible to ensure that the Bamboo planted or growing on the property prior to the effective date of this Section does not encroach or grow upon any adjoining or neighboring property, including all public property and right-of-ways. Such Bamboo Owners shall be required to take such measures as are reasonably expected to prevent such invasion or encroachment, including, but not be limited to, the installation of sheathing compromised of metal or other material impenetrable by Bamboo at a sufficient depth within the property line or lines where the Bamboo is planted or is growing to prevent the growth or encroachment upon adjoining or neighboring property by the Bamboo. Upon request by the Township, such Bamboo Owner shall provide written documentation of all bamboo remediation efforts and /or compliance with this ordinance to the satisfaction of the Township.

(3) Replanting Prohibited. Any Bamboo existing on a property prior to the effective date of this Part may not be replanted or replaced in kind once such Bamboo is or has become, for any reason, dead, destroyed, uprooted,

or otherwise removed, except in compliance with the provisions of this Part.

F. Removal from Township Property.

(1) Encroachment. In the event that Bamboo growing on a Bamboo Owner's property invades or grows onto Township property, including, but not limited to right-of-ways, the Township shall notify the Bamboo Owner in writing that Bamboo has invaded the Township property and that the Bamboo Owner is responsible for the removal of such Bamboo from the Township property. This Encroachment Notice shall be sent by certified mail, return receipt requested and by regular mail to the last known address of the Bamboo Owner, and a copy of the Notice shall also be posted in a conspicuous location on the Bamboo Owner's property.

(2) In the event that the Bamboo Owner does not remove the Bamboo from the Township property, or does not make an arrangement with the Township for removal of such Bamboo within thirty (30) days from the date the Encroachment Notice, the Township, at its discretion, may remove such Bamboo from the Township property. The Bamboo Owner shall be liable and responsible to the Township for all costs incurred in removing the Bamboo from the Township property. Such costs may be assessed against the property of the Bamboo Owner, and in the event that the costs remain unpaid more than thirty (30) days after the demand of payment has been made by the Township on the Bamboo Owner, the Township may lien the property of the Bamboo Owner for these costs, plus interest, fees, and expenses, as allowed by law.

(3) In the event that the Township is compelled to undertake the removal of Bamboo, as provided for above, neither the Township nor its employees, contractors, or agents shall have any liability to the Bamboo Owner for any damages or other claims arising out of the removal of such Bamboo. In the event such removal entails or causes damages to the property of any other person or entity other than the Bamboo Owner, the Bamboo Owner shall be responsible for such damages.

§224-3 VIOLATIONS AND REMEDIES

A. Notice of Violation

(1) Each Bamboo Owner shall be responsible to ensure that any Bamboo on their property does not violate the provisions of this Part. In the event that there is any Bamboo growing in violation of the provisions of this Part, the Township shall notify the Bamboo Owner in writing of the existence of such violation. Said Notice of Violation shall be served by handing it

directly to the Bamboo Owner; by mailing it to the last known address of the Bamboo Owner; or by posting the property at a conspicuous location.

(2) Any Bamboo Owner receiving a Notice of Violation shall bring their property into compliance with this Part within thirty (30) days of the Owner's receipt of said Notice. If the Bamboo Owner fails to bring their property into compliance with the Notice and this Part, then the Township may issue a non-traffic citation against the Bamboo Owner.

(3) In addition, where a Bamboo Owner does not remedy and correct the violations set forth in any Notice of Violation issued to them, the Township may remove any Bamboo that is in violation of this Part located upon the Bamboo Owner's property; take all reasonable action to eradicate its re-growth; and/or restore any real property to its natural condition prior to such removal and eradication. Any costs incurred by the Township in removing any Bamboo and/or remedying any violation of this Ordinance shall be at the expense of the Bamboo Owner, and in the event that the costs remain unpaid more than thirty (30) days after the demand of payment has been made by the Township on the Bamboo Owner, the Township may lien the property of the Bamboo Owner for these costs, plus interest, fees, and expenses, as allowed by law.

B. Violations, Penalties, and Remedies

(1) Upon summary conviction before any Magisterial District Judge, any person violating any of the provisions of this Part shall, in addition to the other charges hereinbefore provided for each offense, pay a fine not exceeding $1,000.00, plus all court costs, including reasonable attorney's fees, incurred as a result of the prosecution. Each and every day in which a person shall be in violation of this Part shall constitute a separate offense.

(2) In addition, the Township Board of Commissioners may institute suits, in equity or at law, to restrain, prevent, or abate a violation of this Part. Such proceedings may be initiated before any court of competent jurisdiction. The expense of such proceedings shall be recoverable from the violator in any manner as may now or hereafter be provided by law.

ARTICLE III. Repealer

All ordinances or parts of ordinances which are inconsistent herewith are hereby repealed.

ARTICLE IV. **Severability**

If any section, paragraph, subsection, clause or provision of this Ordinance shall be declared invalid or unconstitutional by a court of competent jurisdiction, such decision shall not affect the validity of this Ordinance as a whole or any part thereof other than that portion specifically declared invalid.

ARTICLE V. **Effective Date**

This Ordinance shall become effective in accordance with the Home Rule Charter of Radnor Township.

ENACTED and ***ORDAINED*** this _____ day of _____, 2016.

RADNOR TOWNSHIP
BOARD OF COMMISSIONERS

Attest: _____

_____
Name: Phil Ahr
Title: President

Recommendation from the Radnor Township Board of Health October 17, 2017

The Radnor Township Board of Health has discussed the safety of artificial turf fields, also known as crumb rubber turf surfaces. . Current consensus is that these fields are safe for the youth in our township to use for practice and play. While the EPA(Enviornmental Protection Agency), CDC(Centers for Disease Control) and CPSC (Consumer Product Safety Commission) embark on a more complete study on the safety of these playing surfaces, the board has reviewed the current literature and had guest speakers inform us about the current science and studies.

We propose that the township install signage that indicates hand washing after playing on these fields is the safest way to prevent exposure to any harmful chemicals. We also propose that more accessible hand washing stations be available at the parks where these fields are located.

We will continue to keep the township updated as further studies and conclusions are released on the federal level.

Recommendation from the Radnor Township Board of Health October 17, 2017

The Radnor Township Board of Health has discussed the safety of animals and people in the leash free parks of Radnor township. Current consensus is that unneutered male dogs often display more aggressive responses around other dogs and may be more at risk for unpredictable behavior. We propose that the township install signage that indicates *unneutered male dogs* over 8 months of age be leashed while outdoors.

And as always the Radnor Township Board of Health encourages sterilization of all male and female dogs by age 6-8 months to prevent breeding and pet overpopulation.